

**COURSE CURRICULUM FOR THIRD PROFESSIONAL B.S.M.S  
(PRESCRIBED BY NCISM)**



**Varmam, Puramaruthuvam and Sirappumaruthuvam  
(Varmam, External Therapy and Special Medicine)**

**(SUBJECT CODE : SIDUG-VPS)**

(Applicable from 2021-22 batch, from the academic year 2024-25 onwards for 5 batches or until further notification by NCISM, whichever is earlier)



**BOARD OF UNANI, SIDDHA AND SOWA-RIGPA  
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE  
NEW DELHI-110026**



### III Professional SIDDHA MARUTHUVA ARIGNAR (Bachelor of Siddha Medicine and Surgery (B.S.M.S))

#### **Subject Code : SIDUG-VPS**

Varmam, Puramaruthuvam and Sirappumaruthuvam  
(Varmam, External Therapy and Special Medicine)

#### **Summary**

<b>Total number of Teaching hours: 460</b>			
<b>Lecture (LH) - Theory</b>		<b>160</b>	<b>160(LH)</b>
Paper I	80		
Paper II	80		
<b>Non-Lecture (NLHT)</b>		<b>90</b>	<b>300(NLH)</b>
Paper I	45		
Paper II	45		
<b>Non-Lecture (NLHP)</b>		<b>210</b>	
Paper I	105		
Paper II	105		

<b>Examination (Papers &amp; Mark Distribution)</b>					
<b>Item</b>	<b>Theory Component Marks</b>	<b>Practical Component Marks</b>			
		<b>Practical</b>	<b>Viva</b>	<b>Elective</b>	<b>IA</b>
Paper I	100	100	20	10 (Set-TB)*	20
Paper II	100				
<b>Sub-Total</b>	200	150			
<b>Total marks</b>	350				

**Important Note :-** The User Manual III B.S.M.S is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual III before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. In case of difficulty and questions regarding curriculum write to [syllabus24sid@ncismindia.org](mailto:syllabus24sid@ncismindia.org)

# **PREFACE**

The National Commission for Indian System of Medicine (NCISM) has introduced a competency-based curriculum for Siddha Medicine undergraduate students, specifically tailored for final-year students in *Varmam*, *Pura Maruthuvam*, and *Sirappu Maruthuvam*. This curriculum is crafted to equip students with the skills, knowledge, and self-confidence necessary to excel as capable Siddha practitioners, marked by a distinct sense of individuality and professional self-efficacy.

The syllabus places a strong emphasis on External Medicine and procedural management techniques, with detailed protocols for comprehensive disease management. Students will deepen their understanding of Siddha methodologies as outlined in *Varmam*— which provides precise approaches to treating conditions related to bones, joints, and nerves through *Varmam* therapy alone. Additionally, the curriculum integrates contemporary advancements, enhancing student expertise in the management of bone and joint disorders, fractures, and neuromuscular issues, thereby fostering a holistic approach to therapeutic strategies and problem-solving skills.

Addressing the growing need for mental health care amid modern stressors, the curriculum also explores parallels with psychotherapeutic principles in Siddha, offering students critical insights into managing psychiatric conditions. In recognition of the challenges associated with geriatric care, it also includes preventive approaches and treatments for age-related illnesses, utilizing *varmam* techniques and specialized medicine to deliver an integrative care framework.

***“Thottanaith thoorum manarkeni maandharkkuk***

***katranaith thoorum arivu” - Kural 396***

Reflecting the philosophy of *Kural 396*, “*The more you learn, the freer streams of wisdom flow*” this curriculum is structured to foster knowledge, flexibility, and skill development, allowing students to achieve their fullest potential.

***“Arivatrang kaakkung karuvi seruvaarkkum***

***Ullazhikka laakaa aran” – Kural 421***

As *Kural 421* reminds us, “*Wisdom is a fortress impenetrable to destruction,*” this syllabus equips students with wisdom and expertise, aligning with the Siddha tenet,

***“Noyatra vazhve kuraivatra selvam”***

According to the above proverb “*A disease-free life is an infinite wealth.*”

Interest in yogic practices and rejuvenation therapies for a healthy body, mind, and soul continues to grow daily. *Kayakarpam* (rejuvenation therapies) and yogic techniques are essential tools for disease prevention, effective management, and promoting longevity. This curriculum is crafted to nurture practitioners capable of advancing health and well-being. With this strong foundation, it is anticipated that students will emerge as confident Siddha physicians, ready to share the healing potential of Siddha Medicine with the global community.

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## Course Code and Name of Course

<b>Course code</b>	<b>Name of Course</b>
SIDUG-VPS	Varmam, Puramaruthuvam and Sirappumaruthuvam

**Table 1 : Course learning outcomes and mapped PO**

<b>SR1 CO No</b>	<b>A1 Course learning Outcomes (CO) SIDUG-VPS At the end of the course SIDUG-VPS, the students should be able to-</b>	<b>B1 Course learning Outcomes mapped with program learning outcomes.</b>
CO1	Comprehend and apply fundamental ethical principles such as confidentiality, informed consent, and reporting obligations applicable to medical practice.	PO1,PO12
CO2	Apply a holistic approach to manage various disorders by integrating Kayakalpam medicines and yoga practices, with a focus on preventive care and well-being.	PO6,PO7,PO8
CO3	Describe and perform external therapy procedures in Siddha therapeutics, that aims at balancing the three humours Vali, Azhal, and Iyyam.	PO3,PO5,PO6
CO4	Understand and apply the anatomical and physiological principles related to Varma points, enabling the effective practice of specialized Varmam techniques.	PO6,PO9,PO10,PO11
CO5	Conduct comprehensive physical, cognitive, and psychosocial evaluations to diagnose and treat Geriatric conditions, including Musculoskeletal and Neurological disorders.	PO1,PO2,PO4,PO5,PO9
CO6	Perform mental health assessments and gain knowledge of various treatment approaches for psychiatric disorders within the siddha system of medicine.	PO1,PO2,PO11
CO7	Apply skills required to maintain comprehensive and accurate medical documentation in accordance with established standards for medical record.	PO1,PO12

**Table 2 : Contents of Course**

Paper 1 (Varmam,Puramaruthuvam and Sirappumaruthuvam)						
Sr. No	A2 List of Topics	B2 Term	C2 Marks	D2 Lecture hours	E2 Non-Lecture hours Theory	F2 Non-Lecture hours Practica I
1	<p><b>PURA MARUTHUVAM -I (EXTERNAL THERAPY)</b></p> <p>External therapy procedures are as important as internal treatments in managing overall health and vitality. Most of these therapies aim to maintain a healthy balance of the three humors, <i>vatham</i>, <i>pitham</i>, and <i>kabam</i>, as well as the seven udalthathukkal of the body. According to the Siddha system of medicine, 32 external therapies can be classified into several categories: topical applications, nasal applications, ophthalmic treatments, bloodletting, bone setting, physical therapy, and heat therapy. The <i>puramaruthuvam I</i> primarily focus on physical therapy, heat therapy, and topical applications.</p> <p><b>1.1 Introduction to <i>puramaruthuvam</i></b>            Definition, ethics in <i>pura maruthuvam</i> treatment, types of <i>puramaruthuvam Kattu</i> (bandage), <i>Patru</i> (Poultice), <i>Poochu</i> (Liquid poultice / Anointing), <i>Kalimbu</i> (Ointment), <i>Seelai</i> (Medicated gauze), <i>Varthy</i> (Medicated wick), <i>Pasai</i> (Medicated cream), <i>Kali</i> (Medicated paste), <i>Podi</i> (Dusting powder), <i>Neer</i> (Medicated liquid), <i>Nasiyam</i> (Liquid nasal application), <i>Nasikaparanam</i> ( Powder nasal application), <i>Suttigai</i> (Cautery), <i>Ottradam</i> (Fomentation), <i>Pugai</i> (Fumigation), <i>Salaagai</i> (Probe application), <i>Oodhal</i> (Medicated blowing), <i>Mai</i> (Collyrium), <i>Kalikkam</i>, <i>Anjanam</i> (Liquid ophthalmic applications), <i>U rinchal</i> (Suction), <i>Attai vidal</i> (Leech ), <i>Kuruthi vangal</i> (Blood letting ), <i>Murichal</i> (Bone resetting / Surgical correction of malunited fracture), <i>Kombukattal</i> (Bone setting by supporting / <i>Seelikattumurai</i>), <i>Thokkanam</i> (Physical manipulation), <i>Podithimirthal</i> (Powder massage), <i>Vedhu</i> (Steam inhalation / Steam exposure therapy), <i>Pottanam</i> (Medicated pouch), <i>Aruvai</i> (Surgical procedures), <i>Kaaram</i> (Caustic</p>	1	12	12	6	15

	<p>ablation), <i>Keeral</i> (Incision), <i>Peechu</i> (Enema / Douche) and analyse their therapeutic applications shelf life of external medicine, classification of siddha external therapies, topical application, nasal application, ophthalmic application, bloodletting, bone setting, physical therapy, heat therapy, other than 32 therapies <i>Thalam</i> (Poultice), <i>Kuliyalneer</i> (Medicated bath), <i>Thuvalai</i> (Paste massage), <i>Ennai ozhukku</i> (Oil pouring), <i>Tharai</i> (Oil dripping), <i>Ennai kattal</i> (Oil pooling)</p> <p><b>1.2 Thokkanam (Physical manipulation)</b> Description, types, methods of <i>thokkanam</i>, clinical conditions,therantharu-poem, room specifications, processing materials, duration, suitable/unsuitable conditions</p> <p><b>1.3 Vedhu maruthuvam (Steam therapy)</b> Description, types, manpower, room specifications, processing materials, leaves/raw drugs used, procedure, clinical conditions</p> <p><b>1.4 Pugai maruthuvam (Medicated fumigation)</b> Description, types, suitable/unsuitable conditions, procedure, processing materials, clinical conditions</p> <p><b>1.5 Kattu ( Compress / Bandages)</b> Description, types, suitable/unsuitable conditions, procedure, processing materials, clinical conditions</p> <p><b>1.6 Patru (Semi - solid poultice)</b> Description, types, procedure, processing materials, clinical conditions</p> <p><b>1.7 Ottradam (Fomentation)</b> Description, types, leaves / raw drugs used, procedure, suitable/unsuitable conditions, processing materials, clinical conditions</p> <p><b>1.8 Poochu (Liquid poultice / Anointing)</b> Description, types, procedure, processing materials, clinical conditions</p> <p><b>1.9 Podithimirthal (Powder massage/ Massage with herbal grains and paste)</b> Description, types, manpower, suitable/unsuitable conditions, procedure, processing materials, clinical conditions</p>					
2	<p><b>PURAMARUTHUVAM-2 (EXTERNAL THERAPY)</b></p> <p>Traditional siddha medicine uses knowledge, skills, and practices based on theories and beliefs to maintain health. According to their route of application, siddha medicines could be categorized into two classes: Internal medicine and external medicine. This <i>puramaruthuvam-II</i> topic mainly</p>	1	08	7	3	10

	<p>deals with nasal, ophthalmic, and bone applications in external medicine.</p> <p><b>2.1 Kalikkam- Anjanam (Liquid ophthalmic applications)</b> Description, types, drugs used, manpower, procedure, processing materials, clinical conditions</p> <p><b>2.2 Nasikaparanam (Powder nasal application)</b> Description, manpower, procedure, suitable / unsuitable conditions, processing materials, clinical conditions,</p> <p><b>2.3 Nasiyam (Liquid nasal application)</b> Description, procedure, suitable / unsuitable conditions, processing materials, clinical conditions</p> <p><b>2.4 Murichal (Bone resetting / Surgical correction of malunited fracture)</b> Description, procedure, processing materials, suitable / unsuitable conditions, clinical conditions</p> <p><b>2.5 Kombu kattal (Bone setting by supporting / Splint / Seelikattumurai)</b> Description, types, procedure, traditional processing materials, manpower, suitable / unsuitable conditions, clinical conditions</p> <p><b>2.6 Peechu (Enema / Douche )</b> Description, types, apparatus used, procedure, suitable / unsuitable conditions, processing materials, clinical conditions</p> <p><b>2.7 Oothal (Medicated aerosol)</b> Description, routes of blowing, apparatus used, manpower, procedure, suitable / unsuitable conditions, processing materials, clinical conditions.</p>					
3	<p><b>MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY</b></p> <p><i>Varmam therapy</i> management in neurodegenerative disorders is essential for alleviating pain, enhancing nerve function, and promoting healing. This topic underscores the prevalence of diseases linked to neuron degeneration, outlines their clinical presentations, and details the effective <i>varmam</i> procedures employed to manage these specific conditions.</p> <p><b>3.1 Saganavatham (Cervical spondylosis)</b> Definition, causes, signs and symptoms, varmam therapy for management</p> <p><b>3.2 Thandagavatham (Lumbar spondylosis)</b> Definition, causes, signs and symptoms, varmam therapy for management</p>	1	10	5	5	6



	<p><b>3.3 Erbs palsy (<i>Arugu kai Narambu pinnal Seyalilzhappu</i>)</b> Definition, causes, signs and symptoms, varmam therapy for management</p> <p><b>3.4 Foot drop (<i>Patha Veezhchi</i>)</b> Definition, causes, signs, and symptoms, varmam therapy for management</p> <p><b>3.5 Cauda equina syndrome (<i>Kuthiraival vagai seyalilzhappu</i>)</b> Definition, causes, signs and symptoms, varmam therapy for management</p>					
4	<p><b>INTRODUCTION AND CLASSIFICATION OF VARMAM</b></p> <p><i>Varmam</i> is a non-invasive therapeutic procedure in the Siddha system of medicine, primarily utilized for treating orthopedic and neuromuscular diseases. <i>Varmam</i> can be classified in several ways, traumatic, channels, <i>aatharam</i>, humoral classification, five elements, numerical, and regional. This discussion focuses specifically on the traumatic classification, which includes <i>paduvarmam</i> (12) and <i>thoduvarmam</i> (96), totaling 108 types of varmam</p> <p><b>4.1 Introduction and classification of <i>varmam</i></b> Definition, synonyms, types, and <i>varmam</i> classification based on 1. Anatomical location, 2. Signs and symptoms, 3. Injury, 4. <i>Aatharam</i> 5. Three humours 6. Five elements 7. Numerical classification 8. <i>Naadi</i> <i>Vaasi / saram</i>, origin of <i>varmam</i>, ethics in <i>varmam</i> teaching, Importance of <i>varmam</i>, difference between <i>adangal</i> and <i>varmam</i></p> <p><b>4.2 Basics of <i>varmam</i></b> Aetiology of <i>varmam</i> with poem reference, basic philosophies related to the formation of <i>varmam</i> points <i>varmam</i> physiology, <i>varma kaayathalangal</i> (<i>varma</i> trauma site), <i>varmam</i> and other traditional systems of medicine, <i>pulse diagnosis</i> in <i>varmam</i>, important <i>varmam</i> centers (bladder, brain, heart), main <i>paduvarmam</i> centers</p> <p><b>4.3 Measurements in <i>varmam</i></b> a. <i>Varma maathirai / irai</i> ( Force and depth of pressure) b. Measurements in <i>varmam</i> application (<i>Viralalavu</i> - finger breadth)</p>	2	22	23	6	4

c. Manipulating techniques in varmam- *Thadaval, pinnal, amarthal, thattal, thoduthal*

d. Stimulating methods-objects / body parts,

e. Thread measurement techniques in varmam (*Nool alavai*)

f. *Avathi* (Time limit)

#### **4.4 Diet / dietetics of varmam**

Intake of food items and duration, *elagu pathiyam* and *kadum pathiyam*, bathing process

#### **4.5 Properties used in varmam therapy**

Room specifications, list of equipment

#### **4.6 Paduvarmam (12)**

Location, signs and symptoms, necessary manipulating techniques along with diet & medical management of

1) *Thilartha Varmam* 2) *Natchathira Varmam* 3) *Sevikuttri Varmam* 4) *Pidari Varmam* 5) *Urakka Kaalam*

6) *Thummi Kaalam* 7) *Ner Varmam / Koombu Varmam* 8) *Adappa Varmam* 9) *Urumi Kaalam / Pandri Varmam* 10) *Periya Athisurikki Kaalam* 11) *Siriya Athisurikki Varmam* 12) *Kallidai Kaalam*

#### **4.7 Thoduvarmam (96)**

Location, signs and symptoms, and necessary manipulating techniques of the following varmam points.

Varma points located in head & neck (22)

1) *Pootellu varmam* 2) *Mun Chuvadi varmam* 3) *Nettri Kaalam* 4) *Pin Chuvadi varmam* 5) *Porichal varmam* 6) *Puruva Kaalam* 7) *Kanna Kaalam* 8) *Kumbidum Kaalam* 9) *Bala varmam* 10) *Chuliyadi varmam* 11) *Moorthi Kaalam / Laada varmam / Laada Maiyam* 12) *Aayama Kaalam* 13) *Nadi varmam / Naasi Varmam* 14) *Chenni Varmam* 15) *Poigai Kaalam* 16) *Kurunthkuttri Kaalam* 17) *Alavattukona Chenni Varmam* 18) *Vettu Varmam* 19) *Kokki Varmam* 20) *Manthira Kaalam* 21) *Kannu varmam* 22) *Arugu Kaalam*

Varma Points Located In Trunk : (37)

23) *Malar varmam* 24) *Vilangu varmam* 25) *Kulir varmam* 26) *Arangu varmam* 27) *Maattraan Kaalam* 28) *Thivalai varmam* 29) *Kaareeral varmam* 30) *Velleeral Varmam* 31) *Kombu Varmam* 32) *Nenchadaippan Varmam* 33) *Munnvillu Varmam* 34) *Mundellu Varmam* 35) *Kutri Varmam* 36) *Urumi Varmam* 37) *Kakattai Kaalam* 38) *Chippi Varmam* 39) *Changuthiri Kaalam* 40) *Vaayu Kaalam* 41) *Manthira Kaalam* 42) *Chiriyathichuriki Varmam* 43) *Iruppu Varmam*

<p>44) Pinvillu Varmam 45) Andakkaalam 46) Kaccha Varmam 47) Thandu Varmam 48) Thandinadi Varmam 49) Pandri Varmam 50) Ada Varmam 51) Mothira Kaalam 52) Vaanthi Kaalam 53) Valamburi Kaalam 54) Chorutheenda Kaalam 55) Naabi Varmam 56) Hanuman Varmam 57) Pushti Kaalam 58) Chuli Varmam 59) Kurunthukuthi Kaalam.</p> <p>Varma Points Located In The Extremities: (37) 60) Dhakshana Kaalam 61) Kavali varmam 62) Peruviralmayya varmam 63) Manikattu varmam 64) Kannu varmam 65) Muzhankai varmam 66) Muttu varmam 67)Thuthikai varmam 68) Kocchu varmam 69) Chulukku varmam(Kai) 70) Puja varmam71) Mozhi varmam 72) Aani varmam 73) Pathakkala varmam 74) Chulukku varmam(Kaal) 75) Kochu varmam 76) Aaama Kaalam 77) Thundu varmam 78) Chirattai varmam 79) Muttu varmam 80) Channi varmam 81) Naai Thalai varmam 82) Visha varmam 83) Uppu Kuttri varmam 84) Kaal Kannu varmam85) Kuthikaal varmam 86) Nadai varmam 87) Kulachu varmam 88) Mudichu varmam 89) Boomi Kaalam 90) Naduviral Chulukku varmam 91) Kaal Kavali 92) Peruviral Mayya varmam 93) Adakka varmam 94) Konachanni varmam 95) Komberi Kaalam 96) Paathachakkaram.</p>					
<p>5 <b>VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL</b></p> <p><i>Varmam</i> points are the vital areas where the life energy, known as <i>pranan</i>, is concentrated. <i>Varmam therapy</i>, when combined with internal and external medications, is highly effective for both emergency and therapeutic situations, particularly for conditions like <i>odivu murivu</i>. This therapy is especially beneficial for pain management, stress reduction, improving circulation, enhancing flexibility, and promoting overall well-being.</p> <p><b>5.1 Varmam odivu / murivu (Varmam therapeutic applications in pathological conditions)</b></p> <p>Oil for bone fracture management, joint pain relieving oil, joint tightening oil, nerve strengthening oil, <i>pochu, thuvalai, otradam, kizhi, thaarai, pasai</i>.</p> <p><b>5.2 Varma marunthugal (Varmam therapeutics)</b></p> <p><b>5.2.1 Therapeutic properties and specific applications</b> of plants and raw drugs in</p>	2	07	4	5	4

<p><i>varmam</i> medicine list of leaves, raw drugs, medicines used</p> <p><b>5.2.2 Varmam formulations for varmam conditions.</b> Decoction for <i>varma pidippu</i>, medicine for <i>moola vaayu</i> / diarrhea, medicine for rectal hemorrhage, medicine for <i>mega noi</i>, medicine for dysuria, medicine for fall from palm tree.</p> <p><b>5.2.3 Internal medicines</b> <i>Oil, kanji, powder, kavalam, kirtham, adai, ilagam, rasayanam, vaatru, nei</i></p> <p><b>5.2.4 Supportive therapy</b> <i>Puramaruthuvam</i> <i>Oil, powder, thalam, poochu, tharai, kizhi/ pottanam, pasai, kulineer, nasiyam</i> <i>Varma thokkanam</i> <i>Thadaval</i> (Massage), <i>Azhuthal</i> (Pressing), <i>Ezhuthal</i> (Traction)</p> <p><b>5.2.5 Preparation of varmam medicines</b> A. <i>Krisathu kiyalam, china thirumeni thylam, theethylam, varmani kuligai</i>, medicine for cough, pachilai for constipation, B. <i>Varmam</i> medicine 1. <i>Aalampaal ennai</i> 2. Decoction for fever 3. Medicine for treating epistaxis, constipation, burning micturition and hematuria.</p>					
<p>6 <b>VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES)</b></p> <p><i>Varmam therapy</i> is an exceptional drugless, non-invasive healing method that targets specific points where vital energy accumulates. This effective therapy is simple and time-efficient, offering remarkable, long-lasting results when practiced regularly. Rooted in the traditional siddha system healing, <i>varmam therapy</i> has skillfully developed siddhars to enhance physical and cognitive well-being by applying pressure and manipulation to designated <i>varma</i> points on the body. This topic mainly focusing therapeutic applications in specific clinical conditions.</p> <p><b>6.1 Varma ilakkumurai ( Varmam manipulating techniques)</b> <i>kai saarntha varma ilakkumurai, kaal saarntha varma ilakkumurai, thalai - kazhuthu varma ilakkumurai, kazhuthu - muthugu varma ilakkumurai.</i></p>	2	11	5	7	34

	<p><b>6.2 Varma thadaval (Varmam massage techniques)</b>  <i>Sarvaanga thadaval</i></p> <p><b>6.3 Varmam application in specific clinical conditions</b>  Musculoskeletal disorders (<i>Thasai kootu noigal</i>), neuromuscular disorders, respiratory illness, gynaecological, paediatric conditions, gastrointestinal tract disorders (GIT), ear nose and throat (ENT) diseases, eye diseases,</p> <p><b>6.4 Precautionary steps</b>  Nonsuitable conditions patient survival criteria-alive or not, identification of <i>pranic flow</i>, (<i>Vaali oli</i>, <i>Veeman oli</i>, <i>Meitheendakaalam</i>, <i>Ullamkaal</i>, <i>Peruviral</i>), complications of any illness, adverse effects after therapy,</p> <p><b>6.5 Mechanism of varmam</b>  Physiology of pain (Gate control theory), signalling pathway / Neurotransmitters, importance of <i>varmam</i> in religious aspect</p> <p><b>6.6 Adangal</b>  Definition, types and location of <i>Adangal</i> ( 9 types,13 types)  <i>Therapeutic adangal</i>  <i>Amarthadangal, agatharai adangal, puratharai adangal, panchathattu adangal, pulimuthu adangal, nagakan adangal</i></p>					
7	<p><b>DISORDERS OF CENTRAL NERVOUS SYSTEM</b></p> <p>This comprehensive caption delves into the intricate and multifaceted aspects of central nervous system disorders, including cerebrovascular disorders, movement disorders, motor neuron disorders, and brain tumours, highlighting the importance of understanding these critical health challenges.</p> <p><b>7.1.Cerebrovascular disorders</b>  <b>7.1.1 Classification of cerebrovascular disease</b>  <b>7.1.2 Hemiplegia (<i>Pakkavatham</i>)</b>  Definition, aetiology, pathophysiology, risk factors, clinical presentation, differential diagnosis, investigations, siddha aspect of treatment, management, prevention</p> <p><b>7.2. Motor system disorders</b>  <b>7.2.1. Quadriplegia (<i>Astatantira vatham</i>)</b>  Definition, aetiology, sites of lesions, clinical features, investigations, treatment, management</p> <p><b>7.2.2 Paraplegia (<i>Aruna vatham</i>)</b>  Definition, aetiology, sites of lesions, clinical</p>	3	30	24	13	32

<p>features investigations, treatment, management</p> <p><b>7.3 Poliomyelitis (<i>Ilampillai vatham</i>)</b>  Definition, causes, pathophysiology, clinical manifestations, diagnosis, conservative treatment, prevention</p> <p><b>7.4. Motor neuron disorders</b>  Definition, causes, classification, clinical presentation, investigations, treatment</p> <p><b>7.5. Movement disorders</b>  Parkinson's disease (<i>Nadukku vatham / Panikkampa vatham</i>)  Definition, causes, clinical features, pathophysiology, staging of parkinson's disease, hoehn and yahr stage, differential diagnosis, siddha aspect of treatment</p> <p><b>7.6. Disorder of balancing</b></p> <p><b>7.6.1.Types of ataxia</b></p> <p><b>7.6.2. Cerebellar ataxia</b>  Definition, causes, clinical features, investigations, management</p> <p><b>7.7. Neuropathies</b>  Peripheral neuropathy (<i>Vatha karsanam</i>)  Definition, pathophysiology, types, symptomatology of peripheral nerve disease, diagnosis and management</p> <p><b>7.8. Myopathy</b>  Definition, classification,  Muscular dystrophy - Duchenne's muscular dystrophy  Definition, aetiology, pathogenesis, clinical features, treatment, management</p> <p><b>7.9. Cranial nerve disorders</b>  Causes, disorders, clinical manifestation, and examination of olfactory nerve, optic nerve, oculomotor nerve, trochlear nerve, trigeminal nerve, abducent nerve, facial nerve, vestibulocochlear nerve, glossopharyngeal nerve, vagus nerve, accessory nerve, hypoglossal nerve</p> <p><b>7.10 Central nervous system tumours</b>  Classification and grading of nervous system tumours, aetiopathogenesis of brain tumour. Pathophysiology, clinical features, investigations, conservative treatment</p> <p><b>7.11. Alzheimer's disease</b>  Definition, aetiology, pathogenesis, clinical features, investigations, management</p>				
<b>Total Marks</b>	<b>100</b>	<b>80</b>	<b>45</b>	<b>105</b>

**Paper 2 (Varmam,Puramaruthuvam and Sirappumaruthuvam)**

Sr. No	A2 List of Topics	B2 Term	C2 Marks	D2 Lecture hours	E2 Non-Lecture hours Theory	F2 Non-Lecture hours Practical
8	<p><b>KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU</b></p> <p><i>Kayakarpam</i> is a unique branch of the Siddha system focused on rejuvenation and longevity. It detoxifies the body, restores vitality, and reverses aging effects through herbal treatments, dietary practices, and regular yoga exercises. This topic covers rejuvenation methods, classifications of <i>kayakarpam</i>, benefits, and regimens, and provides an overview of the basic concepts, uses, and types of <i>Muppu</i>.</p> <p><b>Kayakarpam (Juvenilization Therapy)</b> Definition, description, regimen, uses, <i>kayakalpa</i> medicine - classification, general <i>Karpam</i>, special <i>karpam</i></p> <p><b>8.1 Mooligai Karpam – (Herbal Origin)</b> <b>8.1.1 Pothukarpam</b> <i>Injithaen, nelmanei, ponnanganni, vembu, katraazhai, manathakkali, vila, vaatkorai kizhangu, amukkinan kizhangu, kodivasalai, perungaal, urulai kizhangu, kalyana Poosani, kaiyan, kaliparrattai</i></p> <p><b>8.1.2. Sirappu Karpam</b> <i>Erukku, azhinjil, seedheviyar sengazhuneer, keezhanelli samoolam, surai, kanjavirai, karchoor, kadukkai, naanal, seeragam, aalampaal, puliyaarai, notchi, vallaikodi, mookirattai, kuppaimeni, thoodhuvalai, serankottai, panaiver, thetran, nelli, oridhazh thamarai, elam,thulasi, vilvam, kittikizhangu, koraikizhangu, sirukeerai, nannari, uthamani, aal, ayilpattai, elumitcham pazham,thaamarai magaranthapodi, brammathandu magaranthapodi, malattuku karpam, sukkilathambanam,panja karpam</i></p> <p><b>8.2. Thathu Karpam (Mineral Origin)</b> <i>Ayasambeera karpam, ayabringaraja karpam, poornachandhroodhayam</i></p> <p><b>8.3.Jeeva Karpam (Animal origin)</b> <i>Pachchai pasumpal, kaaichina paal, indhirakoba</i></p>	1	12	9	2	7

	<p><i>poochi</i></p> <p><b>8.4. Muppu</b> Definition, philosophies, classification, description, and uses of <i>muppu</i></p>					
9	<p><b>ATTANGA YOGAM</b></p> <p>This topic explores the principles of <i>Attangayogam</i>, the eight-limbed path to spiritual enlightenment, step-by-step methods for changing lifestyles, <i>Pranayama</i> and <i>Yoga</i> principles and description.</p> <p><b>Attangayogam</b> <i>Iyamam</i> (purity of thoughts / Temperance), <i>Niyamam</i> ( Purity of action), <i>Asanam</i> ( Yogic posture), <i>Pranayamam</i> (Yogic breathing ), <i>Prathiyakaram</i> (Withdrawal of senses), <i>Thaaranai</i> (Focused thoughts), <i>Thiyanam</i> (Meditation), <i>Samadhi</i> (Eternal bliss)</p> <p><b>9.1 Pranayamam (Yogic breathing )</b> Definition, Philosophy, Method, Regimen, Uses</p> <p><b>9.2 Yogam</b> Definition, Principles of <i>yoga</i> practice, Types, <i>Yoga</i> postures, Explanation, Philosophy and Uses</p>	1	8	6	8	15
10	<p><b>GERIATRICS</b></p> <p>Geriatrics is a medical specialty that focuses on the health care of the elderly. It aims to address common ailments, systemic illnesses, management, and palliative care.</p> <p><b>10.1 Introduction</b> The postulated mechanism for aging, physiological effects of aging, signs, and symptoms of age-related physiological changes and their consequences and diseases in the elderly, characteristics of diseases in old age, principles and management of geriatric diseases.</p> <p><b>10.2 General illness of old age</b></p> <p><b>10.2.1. Urinary incontinence</b> Definition, causes, clinical presentation, management.</p> <p><b>10.2.2. Postural hypotension</b> Causes of postural hypotension.</p> <p><b>10.2.3. Falls and collapse</b> Mechanism, risk factors, management.</p> <p><b>10.2.4. Delirium</b> Definition, clinical presentation, clinical assessment, management.</p> <p><b>10.3 Systemic illness</b></p> <p><b>10.3.1</b> Factors, causes, pathophysiology, signs and</p>	1	10	9	4	10



	<p>symptoms, differential diagnosis, investigations and management of chronic cardiac failure, hypertension, chronic mitral regurgitation, chronic obstructive pulmonary diseases, migraine, inflammatory myopathy (myositis).</p> <p><b>10.3.2</b> Definition, causes, pathogenesis, clinical features and management of spondyloarthropathy and osteomalacia.</p> <p><b>10.3.3</b> Risk Factors, clinical presentation, pathology, diagnosis, stages, and treatment of prostate cancer in the elderly, list the principles of breast cancer management.</p> <p><b>10.3.4</b> Definition, risk factors, pathophysiology, clinical testing, clinical evaluation, diagnosis, and treatment of constipation and fecal incontinence in old age.</p> <p><b>10.3.5</b> Sleep and circadian rhythm disturbances in older adults and changes in sleep architecture during the age of non-rapid and rapid eye movement sleep.</p> <p><b>10.4 Nutrition</b> Nutritional deficiency in old age and its management.</p> <p><b>10.5 Care and preventive geriatrics</b> Care of patients with chronic illness and terminal illnesses, health education for preventing diseases, and promoting health in old age.</p>					
11	<p><b>INTRODUCTION TO ORTHOPAEDICS</b></p> <p>This topic emphasizes the description and terminology related to orthopedics, congenital deformities, developmental disorders, infectious conditions, and metabolic diseases of bones.</p> <p><b>11. Introduction to orthopaedics and congenital deformities</b></p> <p><b>11.1 Definition and common terminologies in orthopaedics</b> Congenital deformities definition, aetiology, clinical features of congenital talipes equinovarus, winging of scapula, Sprengel shoulder.</p> <p><b>11.2 Developmental disorders of bone</b> Definition, aetiology and clinical features of osteogenesis imperfecta and neurofibromatosis.</p> <p><b>11.3 Infections of the bones and joints</b></p> <p><b>11.3.1 Osteomyelitis and its classification</b> Definition, aetiology, pathology, clinical features, differential diagnosis, investigations, treatment, complications</p>	2	13	12	4	12

	<p><b>11.3.2 Tuberculosis of the spine, hip joint, and knee joint</b> Definition, sites of lesions, stages, deformities, pathology, clinical features, physical findings, investigations, radiography, differential diagnosis, management.</p> <p><b>11.4 Metabolic, endocrine, and miscellaneous bone disease</b> Definition, aetiology, pathology, clinical features, classification, investigations, radiography, differential diagnosis and treatment of rickets, scurvy, osteomalacia, osteoporosis, paget disease and acromegaly.</p>					
12	<p><b>DISEASES OF THE BONES AND JOINTS</b></p> <p>Diseases of the bones and joints are significant health concerns that impact the musculoskeletal system's structure and functionality. Understanding these conditions is crucial, as they encompass common joint diseases and their various types, autoimmune disorders that affect bones, and neoplasms. Understanding and addressing these issues is imperative for improving health outcomes and ensuring proper prevention and treatment strategies.</p> <p><b>12. Diseases of the bones and joints</b></p> <p><b>12.1 Infective arthritis (pyogenic arthritis / septic arthritis)</b> Definition, aetiology, pathology, clinical features, radiological features, investigations of gonococcal arthritis, syphilitic arthritis, rheumatic arthritis.</p> <p><b>12.2 Rheumatic disease</b> Definition, aetiology, pathology, clinical features, orthopedic deformities, investigations, radiological features, differential diagnosis, management, and siddha aspect of treatment of rheumatoid arthritis, ankylosing spondylitis and monosodium urate arthropathy (gout).</p> <p><b>12.3 Degenerative disorders</b></p> <p><b>12.3.1 Osteoarthritis</b> Definition, contributing factors, groups, pathology, clinical features, radiological features, differential diagnosis, siddha aspect of treatment.</p> <p><b>12.3.2. Osteoarthritis knee and hip joint</b> Osteoarthritis knee: Definition, types, pathology, clinical features including criteria, classification, investigations, radiological grading, differential diagnosis, conservative treatment.</p>	2	11	9	4	14

	<p>Osteoarthritis hip: Aetiology, types, clinical features, radiological features, conservative management.</p> <p><b>12.4. Epiphyseal osteochondritis</b></p> <p><b>12.5 Bone neoplasia</b></p> <p><b>12.5.1 Tumours of bone</b> Definition, classification, and diagnosis of bone tumours.</p> <p><b>12.5.2 Osteochondroma</b> Definition, sites of involvement, pathogenesis, clinical features, complications, radiological findings.</p> <p><b>12.5.3 Osteoblastoma</b> Definition, clinical features, radiological features, histological features, treatment.</p> <p><b>12.5.4 Osteosarcoma</b> Definition, pathology, classification, clinical features, radiological features, laboratory findings.</p> <p><b>12.5.5 Giant cell tumour</b> Definition, common sites, pathology, clinical features, radiological features, differential diagnosis.</p> <p><b>12.5.6 Ewing sarcoma</b> Definition, pathology, clinical features, radiological features.</p> <p><b>12.5.7. Bone metastasis.</b> Sites of metastasis, mode of spread, clinical features, radiological features and laboratory findings.</p>					
13	<p><b>REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES</b></p> <p>This topic decisively focuses on diseases of the extremities, the various types of fractures and their management, regional traumatic conditions, and injuries to the vertebrae, skull, and soft tissues.</p> <p><b>13.1 Regional conditions of Bones and Joints diseases in the Upper limb and lower limb</b></p> <p><b>13.1.1 Periarthritis shoulder( Kumbavatham)</b> Definition, causes, pathology, clinical features, clinical stages (Reeves), investigations, management, siddha aspect of treatment.</p> <p><b>13.1.2 Tennis elbow</b> Definition, aetiology, clinical features, clinical tests, investigations, management, treatment.</p> <p><b>13.1.3 Cubitus valgus</b> Definition, causes, clinical features, radiological features, conservative treatment.</p> <p><b>13.1.4 Carpel tunnel syndrome</b></p>	2	16	11	10	16

Causes, clinical stages, clinical tests, clinical examinations, investigations.

### **3.1.5 Dupuytren's contracture**

Definition, causes, pathogenesis, clinical features, investigations.

### **13.1.6 Coxa vara**

Definition, classification, clinical features, radiography.

### **13.1.7 Genu valgum**

Definition, types, clinical features, associate deformities of genu valgum, radiography, treatment.

### **13.1.8 Flat foot**

Definition, associated deformities, types, clinical features, radiological features, treatment.

### **13.1.9 Calcaneal spur**

Definition, causes, clinical features, radiograph, treatment.

## **13.2 Vertebral column**

### **13.2.1 Scoliosis**

Definition, types, causes, clinical features, investigations.

### **13.2.2 Kyphosis**

Definition, types, causes, clinical features, investigations.

### **13.2.3 Intervertebral disc prolapse**

Definition, anatomical factors, clinical features, radiological features, treatment.

## **13.3 General principles of fractures and dislocations**

### **13.3.1 Fracture**

Definition, types, classification, complications of fracture (non-union, avascular necrosis, malunion), radiological findings.

### **13.3.2 Indications for surgical Treatment**

External and open reduction internal fixation.

### **13.3.3 Fracture of childhood**

### **13.3.4 Splints and reduction procedure**

### **13.3.5 Plaster of paris (POP) and modern techniques**

Chemical formula, POP types, various forms, stages of plastering, complications of POP.

### **13.3.6 Traction**

Uses, methods

## **13.4 Regional traumatology**

### **13.4.1. Dislocation of shoulder joint**

Classification, pathology, clinical features, radiological features, treatment.

	<p><b>13.4.2 Dislocation of temporomandibular joint</b> Pathology, clinical features, radiological features, treatment.</p> <p><b>13.4.3 Colle’s Fracture</b> Definition, displacements, mechanism of injury, clinical features, radiological features, treatment, complications.</p> <p><b>13.5 Injuries to vertebrae, skull, and it's complication.</b></p> <p><b>13.5.1 Cervical spine injuries</b> Causes, mechanism of injury, allen’s classification, clinical features, examinations, investigations, treatment, indications.</p> <p><b>13.5.2 Thoracic and lumbosacral spine injuries</b> Mechanism of injury, mcate’s classification-3 column, clinical features, investigations, management.</p> <p><b>13.5.3 Skull fracture</b> Mechanism of injury, types, signs and symptoms, diagnosis, complications</p> <p><b>13.6 Soft tissue injuries including sports injuries.</b> Strain, sprain - definition</p> <p><b>13.6.1 Injuries to ligament</b> A) Ankle joint- medial and lateral collateral ligament injury Mechanism of injury, clinical features, radiographic features, treatment B) Knee joint- Medial and lateral Collateral ligament injury Mechanism of injury, types, clinical features, clinical tests, investigations, treatment Anterior cruciate ligament injury Mechanism of injury, clinical features, clinical examinations, investigations, treatment Posterior cruciate ligament injury Aetiology, clinical features, clinical examinations, investigations, treatment</p> <p><b>13.6.2. Injuries to tendon</b> Biceps brachii, supraspinatus, quadriceps femoris, achilles tendon Causes, clinical features, clinical tests, investigations, treatment, complications</p> <p><b>13.6.3 Injuries to Semilunar Cartilage</b> Medial &amp; lateral Menisci injury Mechanisms, clinical features, clinical tests, investigations, differential diagnosis, and treatment</p>					
14	<p><b>PSYCHIATRY DISORDERS</b></p> <p>Impairment of personal functioning, and disordered</p>	3	30	24	13	31

behavioral and mental patterns are termed psychiatric disorders which occur due to biopsychosocial illness. Siddha psychiatry is based on the mind (*Manam*), thought (*Buddhi*), mood (*Ahangaram*), and physical behavior (*Siddham*) this subject mainly deals with siddha and the modern perspective of psychiatric problems like mania (*Veri noi*), *serukku noi* (Psychosomatic illness), *paithiyam noi* (Mental disorder), *unmatham* (Psychosis), *manathalarchi* (Depression), *manapei* (Hallucination), *manamayakkam* (Delusion), *kirigai* varieties (Schizophrenia / Catatonic withdrawal / Excitement, mania).

#### **14.1 Introduction- Psychiatric disorder**

Definition, classification, and aetiology of psychiatric disorders.

#### **14.2 Mental Status Examination**

Identification: Personal details.

Chief complaints: Main symptoms.

History of present Illness: Current issues, onset, progression, triggers/relief factors.

Past history: Previous medical conditions, treatment history, and trauma

Family history: Mental illness in the family.

Personal history: lifestyle, habits, and premorbid personality

Social and marital status: Relationship and social support

Developmental history

Puberty, menstrual / Obstetric history.

Pre-natal and natal history.

History of delayed milestones.

Physical examination: General health assessment.

Mental Status Examination: Evaluation of cognitive and emotional state.

#### **14.3 Investigations in psychiatry**

Biological investigation, medical screening, brain imaging, psychological test, scales.

#### **14.4 Delusion (*Manamayakkam*) / Hallucinations (*Manapei*)**

Definition, types, causes, and treatments of delusion and hallucination.

#### **14.5 Anxiety / depression / Deliberate Self-Harm and Suicidal Ideation**

Definition, causes, symptoms, types, diagnosis and treatment for anxiety, depression, and deliberate self-harm definition, behaviour pattern, and warning signs of suicidal ideation.

#### **14.6 Schizophrenia**

Definition, types, positive symptoms, negative symptoms, pathogenesis, complications, management, treatment

#### **14.7 Mood disorders**

Definition- mood

/ affect, classification, aetiology, diagnosis, and treatment

#### **14.8 Neurotic, stress-related, and somatoform disorders**

Specific (Isolated) phobias, panic attack, OCD- obsessive compulsive disorder, conversion disorder, adjustment disorder, somatoform disorders: definition, types, conversion disorder, hypochondriasis, somatization disorder, body dysmorphic disorder, pain disorder

#### **14.9 Disorders of Adult personality and behaviour**

Definition, classification, treatment

#### **14.10 Paithiyam noi - 18 (Mental disorders)**

Definition, types, treatment of paithiyam noi *aavesa paithiyam, abikasa paithiyam, mavuna paithiyam, suronithapaithiyam, vihaarapaithiyam, thaaga paithiyam, azhal paithiyam, murka paithiyam, naduku paithiyam, visha paithiyam, pralaaba paithiyam, pitha paithiyam, aankaara paithiyam, gnana paithiyam, kaivisha, paithiyam, kama paithiyam, vishathagapaithiyam, siddha paithiyam*

#### **14.11 Kirigainoi**

Definition, aetiology, types, *kirigaikalin gunankal* (clinical features), maruthuvam, *kirigai sigichai* (common treatments), 18

*kiriigaikku kulambu, muzhukku thylam*

#### **14.12 Unmathamnoi and Brammainoi**

Definition, types, and maruthuvam of *unmathamnoi* and *brammainoi*

#### **14.13 Mathanoi and Mathathiyamnoi**

Definition, premonitory symptoms, types, clinical features, and treatment of *mathanoi* and *mathathiyamnoi*

#### **14.14 Soothikavatham**

Definition, aetiology, clinical features, and maruthuvam of *soothikavatham*

#### **14.15 Moorchai and Apasmaram –Mayakkam**

Definition, aetiology, premonitory symptom, types and maruthuvam of *moorchai* and *apasmaram* –*mayakkam*

#### **14.16 Seizure disorders**

<p><b>14.16.1 Valippunoi</b>  Definition, aetiology, premonitory symptoms, types, common signs and symptoms, <i>kutraverupadu</i> (siddha pathogenesis), <i>nadi nilai</i> (pulse conditions), <i>maruthuvam</i></p> <p><b>14.16.2 Kakkaiyalippu noi</b>  Definition, types and aetiology, clinical features, management, treatment</p>					
<b>Total Marks</b>	<b>100</b>	<b>80</b>	<b>45</b>	<b>105</b>	



**Table 3 : Learning objectives of Course**

Paper 1 (Varmam,Puramaruthuvam and Sirappumaruthuvam)										
A3 Course outcome	B3 Learning Objective (At the end of the session, the students should be able to)	C3 Domain/sub	D3 MK / DK / NK	E3 Level	F3 T-L method	G3 Assessment	H3 Assessment Type	I3 Term	J3 Integration	K3 Type
<b>Topic 1 PURA MARUTHUVAM -I (EXTERNAL THERAPY) (LH :12 NLHT: 6 NLHP: 15)</b>										
A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO3	Define <i>puramaruthuvam</i> and explain its relevance in <i>siddha</i> medicine. Discuss the ethical guidelines typically followed when treating patients using <i>puramaruthuvam</i> techniques. Describe the types of <i>puramaruthuvam-kattu</i> (Bandage), <i>patru</i> (Poultice), <i>poochu</i> (Liquid poultice / Anointing), <i>kalimbu</i> (Ointment), <i>seelai</i> (Medicated gauze), <i>varthi</i> (Medicated wick), <i>pasai</i> (Medicated cream), <i>kali</i> (Medicated paste), <i>podu</i> (Dusting powder), <i>neer</i> (Medicated liquid), <i>nasiyam</i> (Liquid nasal application), <i>nasikaparanam</i> ( Powder nasal application), <i>suttigai</i> (Cautery), <i>ottradam</i> (Fomentation), <i>pugai</i> (Fumigation), <i>salaagai</i> (Probe application), <i>oothal</i> (Medicated blowing), <i>mai</i> (Collyrium), <i>kalikkam- anjanam</i> (Liquid ophthalmic applications), <i>urinchal</i> (Suction), <i>attai vidal</i> (Leech ), <i>kuruthi vangal</i> (Blood letting ), <i>murichal</i> , (Bone resetting/surgical correction of malunited fracture), <i>kombu kattal</i> , (Bone setting by supporting splint/ <i>seeli kattumurai</i> ), <i>thokkanam</i> (Physical manipulation), <i>podu thimirthal</i> (Powder massage), <i>vedhu</i> (Steam inhalation/steam exposure therapy), <i>pottanam</i> (Medicated pouch), <i>aruvai</i> (Surgical procedures ), <i>kaaram</i> (Caustic ablation), <i>keeral</i> (Incision), <i>peeche</i> (Enema / Douche) and analyze their therapeutic applications.	CK	MK	K	L&PPT ,D	VV-Viva	F&S		-	LH

CO1, CO3	Explain the factors influencing the shelf life of external medicines. Illustrate the classification of siddha external therapies, including topical, nasal, ophthalmic, bloodletting, bone setting, physical therapy, and heat therapy. Explain additional siddha therapies beyond the traditional 32, including <i>thalam</i> (Poultice), <i>kuliyalneer</i> (Medicated bath), <i>thuvalai</i> (Paste massage), <i>ennai ozhukku</i> (Oil pouring)- <i>tharai</i> (Oil dripping), and <i>ennai kattal</i> (Oil pooling).	CC	DK	K	L_VC,L &PPT ,D	QZ ,COM, VV-Viva	F&S		-	LH
CO1, CO3	Define the term <i>thokkanam</i> and describe its various types, outlining the different techniques used and their specific health benefits. Describe the clinical conditions for which <i>thokkanam</i> therapy is indicated, recall the <i>theraiyar tharu</i> poem and list the various uses of <i>thokkanam</i> therapy.	CK	MK	K	L&PPT	CL-PR,P-R EC,S-LAQ, VV-Viva	F&S		-	LH
CO1, CO3	Describe the procedures in <i>thokkanam</i> therapy, detailing the steps, techniques, and applications used during the treatment, along with the intended therapeutic outcomes for patients.	CC	MK	K	D-BED, L&PPT	DOPS,SP,D OPS	F&S		-	NLHT1.1
CO1, CO3	Describe the specifications for the room used for <i>thokkanam</i> therapy. Describe the duration of a typical <i>thokkanam</i> session, including guidance on the frequency of treatments and total session time. Describe the conditions under which <i>thokkanam</i> therapy is suitable and unsuitable.	CK	NK	K	FV,D,L &PPT	DOAP,P-M OD,VV- Viva	F		-	LH
CO1, CO3	Define steam therapy and describe its various types, the methods used, and its specific health benefits. Describe the roles and qualifications of the person involved in administering steam therapy, the specifications for the treatment room, and the types of leaves or raw drugs used in the procedure. Describe the various clinical conditions for which steam therapy is indicated.	CK	MK	K	FV,D,L &PPT	P-VIVA,D OPS,CHK, DOPS,VV- Viva	F&S		-	LH
CO1,	Explain the procedure for <i>vedhu maruthuvam</i> (steam therapy),	CC	MK	K	D,L&G	DOPS,SP,D	F&S		-	NLHT1.2

CO3	detailing the steps involved in its administration, and outline the benefits, including its effects on respiratory health, skincare, relaxation, and detoxification.				D,SIM, L	OPS				
CO1, CO3	Explain the different types of fumigation and their applications. Explain the conditions under which fumigation is appropriate, as well as the scenarios where it may be contraindicated. Describe the materials and equipment required for fumigation.	CC	MK	K	D,L&PP T	CHK,VV- Viva	F&S		-	LH
CO1, CO3	Demonstrate the step-by-step procedure for conducting fumigation, detailing the specific techniques and precautions involved.	PSY- GUD	NK	SH	SIM,D, L&PPT	DOPS,SP,D OPS	F		-	NLHT1.3
CO1, CO3	Describe <i>kattu</i> therapy, the techniques used, and its applications. Include a discussion of its therapeutic benefits and specific clinical conditions. Describe the conditions in which <i>kattu therapy</i> is indicated and the conditions in which it is contraindicated.	CC	MK	K	L&PPT	DOPS,VV- Viva,CHK, DOPS	F&S		-	LH
CO1, CO3	Describe the materials and tools required for <i>kattu</i> therapy, including any herbal formulations, application devices, and safety equipment.	PSY- GUD	DK	SH	L&PPT ,D	CHK,VV- Viva	F		-	LH
CO1, CO3	Describe the various types of <i>patru</i> (semi-solid poultice). Describe the materials and ingredients required and the step-by-step procedure for preparing. Describe how <i>patru</i> is applied in specific clinical conditions and its therapeutic benefits.	CC	MK	K	L&GD, L&PPT ,D	VV-Viva,D OPS,DOPS, CHK	F&S		-	LH
CO1, CO3	Demonstrate the step-by-step procedure for administering <i>kattu</i> therapy, including techniques and safety precautions to be followed	PSY- GUD	DK	SH	D,L&G D	VV-Viva,D OPS,DOPS	F		-	NLHT1.4
CO1, CO3	Define <i>ottradam</i> and its types, and explain its various applications and therapeutic benefits. Describe the suitable and unsuitable conditions for <i>ottradam therapy</i> . Describe the materials and	CC	MK	K	L&PPT ,D	DOPS,VV- Viva,CHK, DOPS	F&S		-	LH

	equipment required for the <i>ottradam</i> procedure, including types of leaves, raw drugs, and other necessary tools. Explain the therapeutic benefits and the expected outcomes of this treatment.									
CO1, CO3	Demonstrate the step-by-step process for administering the <i>ottradam</i> therapy, including techniques, timing, and any necessary safety precautions.	PSY-GUD	MK	SH	L&GD, D	VV-Viva, D OPS, DOPS	F&S		-	NLHT1.5
CO1, CO3	Describe <i>poochu</i> therapy and its various types, outlining the methods of application and the specific therapeutic benefits. Describe the procedure for administering <i>poochu</i> therapy and the materials and ingredients required.	CC	MK	K	D,L&G D,L&PP T	DOPS, DOPS, CHK, VV-Viva	F&S		-	LH
CO1, CO3	Describe <i>podithimirthal</i> , its significance, and the various types. Describe the materials and ingredients required for <i>podithimirthal</i> therapy and the qualifications of the personnel involved. Describe how <i>podithimirthal</i> therapy is applied in specific clinical conditions, its therapeutic benefits, and the suitable and unsuitable conditions of <i>podithimirthal</i> therapy.	CK	MK	K	L&PPT	CHK, VV-Viva	F&S		-	LH
CO1, CO3	Demonstrate the step-by-step procedure for performing <i>podithimirthal</i> therapy, detailing the specific techniques and safety precautions to be followed during the application.	PSY-GUD	MK	SH	L&GD, D	VV-Viva, D OPS, DOPS	F&S		-	NLHT1.6
CO1, CO3	Demonstrate the various steps in <i>thokkanam muraigal</i> as per <i>theran tharu</i> references and explain the procedure with proper hands-on training.	PSY-GUD	MK	SH	SIM, CBL, D-BE D, KL	P-EXAM, D OPS, DOPS, Log book	F&S		-	NLHP1.1
CO1, CO3	Demonstrate <i>mallathuthal</i> (Slump long sitting) step for infertility patients in <i>thokkanam muraigal</i> as per <i>theran tharu</i> references and explain the procedure with proper hands-on training.	PSY-GUD	MK	SH	CBL, SIM, KL	CBA, P-EXAM, Log book	F&S		-	NLHP1.2
CO1, CO3	Demonstrate the procedure of <i>ottradam</i> therapy with proper processing materials for various clinical conditions.	PSY-GUD	MK	SH	SIM, KL, CBL	DOPS, DOPS, P-	F&S		-	NLHP1.3

						EXAM,Log book				
CO1, CO3	Demonstrate the procedure of steam therapy ( <i>Vedhu</i> ) with proper processing materials for various clinical conditions	PSY- GUD	MK	SH	CBL,K L,SIM	DOPS,P- EXAM,Log book,DOPS	F&S		-	NLHP1.4

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 1.1	Procedures of <i>Thokkanam</i> (Physical manipulation)	<p>The teacher demonstrates <i>thokkanam</i> therapy through a lecture using powerpoint and explains the importance of patient assessment, positioning, and the selection of medicated oils, elaborating on the nine core techniques—tapping, tightening, grasping, twisting, tying, pressing, pulling (or traction), supination, and shaking—while ensuring the appropriate duration and patient comfort. Post-therapy care, hydration, and follow-up recommendations are also emphasized in OPD/IPD settings.</p> <p>Steps for performing <i>thokkanam</i> therapy</p> <p><b>1. Preparation</b></p> <p>Environment: prepare a calm, clean, warm space conducive to relaxation. Ensure privacy and comfort for the patient.</p> <p>Materials required:</p> <p>medicated oil (sufficient quantity)</p> <p>apron for the practitioner.</p> <p>Stove, burner, matchstick, or lighter for heating the oil.</p> <p>Stirrer (spoon) and vessel for oil preparation.</p> <p>Medicated table (made of <i>etti</i> or similar materials) measuring 7 ft. (l) x 3 ft. (w) x 2.5 ft. (h)</p> <p>Preferred woods: <i>etti</i> (<i>strychnos nux-vomica</i>), <i>thekku</i>, <i>ayyini</i>, or <i>kadambu</i>, with <i>etti</i> being the most suitable option.</p> <p>Patient assessment-assess the patient's condition, identifying affected areas and underlying imbalanced <i>kuttram</i> (<i>doshas</i>). Obtain informed consent and explain the therapy process.</p> <p>Oil preparation: select medicated oils suitable for the patient's condition and specific therapeutic needs.</p> <p><b>2. Positioning the patient</b></p>

Ensure the patient is positioned comfortably based on the area to be treated:

Lying on the back or stomach: for full-body treatments.

Sitting upright: for head, neck, and shoulder manipulation.

Side-lying position: for specific joint or spinal manipulations. Five stages of positioning:

Standing: rarely used for head, chest, or trunk treatments.

Walking: not commonly followed currently.

Sitting: head, vertex, chest, lower back, or palm.

Prone: for soles, chest, or abdomen.

Lateral position: not commonly practiced currently.

### **3. Application of *thokkanam* techniques**

The therapy involves nine main techniques:

*Thattal*: Tapping

*Irukkal*: Tightening

*Pidithal*: Grasping

*Murukkal*: Twisting

*Kaikattal*: Tying

*Azhuthal*: Pressing

*Izhuthal*: Pulling or traction

*Mallaathuthal*: Supination or stretching

*Asaithal*: Shaking or jerking

### **4. Duration of therapy**

Each technique is applied for a specific duration within a session lasting 30–60 minutes, with 5-minute intervals if necessary.

The timing of therapy may vary based on the patient's age, gender, and environment. Ideal therapy periods are morning (6:00 am–11:00 am) and evening (4:00 pm–8:00 pm).

### **5. Post-therapy care**

Rest: advise 10–15 minutes of rest to allow the body to adjust.

Hydration: To support detoxification, recommend warm water or medicated decoctions. Based on the severity of the patient's condition, suggest follow-up sessions.

### **6. Intended therapeutic outcomes**

Relief from pain and inflammation.

Enhanced mobility and flexibility.

		<p>Improved circulation and detoxification. Stress reduction and overall relaxation.</p> <p><b>7. Safety precautions</b> Avoid therapy on open wounds, fractures, severe inflammation, infectious conditions, cellulitis, fever, pregnancy, or surgical sites. Patients with varicose veins, HIV, or hepatitis b. Ensure-monitoring of patient comfort and adjusting pressure as needed. Students will perform each step of the <i>thokkanam</i> techniques on simulated patients, emphasizing key procedures using the direct observation of procedural skills (Dops) methodology.</p>
NLHT 1.2	Procedure for <i>Vedhu Maruthuvam</i> (Steam therapy)	<p>The teacher will demonstrate an understanding of indications, relevant techniques, and knowledge about the procedure for <i>vedhu</i> therapy through a lecture with group discussion, including the preparation of the patient and materials used. The session will cover obtaining consent, performing techniques, analyzing indicated and contraindicated conditions, administering post-care therapy, and implementing safety precautions.</p> <p>Steps for Performing <i>vedhu maruthuvam</i> (Steam Therapy)</p> <p><b>1. Preparation of Material</b> Use a steam bath chamber(lying/sitting type)steam generator, vaporizer, or a simple pot of boiling water, Add medicated leaves, Raw drugs, oils, or decoctions based on the patient’s condition. Ensure the steam source is placed on a stable surface in a safe and comfortable area. Verify that the environment is calm and free from drafts. Arrange Medicine trolley, BP apparatus, and Stethoscope.</p> <p><b>2. Preparation of the Patient</b> Recommend loose, breathable clothing. Alternatively, cover the patient lightly with a towel for modesty and comfort. Seat the patient comfortably, slightly leaning forward. Ensure the steam source is positioned below or in front of the patient, maintaining a safe distance. For concentrated inhalation, cover the patient’s head and the steam source with a towel, forming a tent-like enclosure.</p> <p><b>3. Administration of Steam Therapy</b> Guide the patient to close their eyes and breathe deeply while inhaling the steam for 10–15 minutes. Maintain a safe distance (6–12 inches) between the patient and the steam source to avoid burns or</p>

		<p>discomfort. Observe for any signs of discomfort, dizziness, or overheating.</p> <p><b>4. Indications / Contraindication</b>  <b>Indications: Respiratory conditions</b> such as sinusitis, asthma, bronchitis, Anorectal diseases, Musculoskeletal discomfort or stiffness, Skin detoxification and relaxation.  <b>Contraindications:</b> Avoid cases of pregnancy, very young children, and elderly patients with frailty. Not advisable for patients with complicated health conditions (e.g., cardiovascular issues). Steam therapy should not follow vigorous exercise until the body returns to its normal temperature.</p> <p><b>5. Post-therapy care/Safety Precautions-</b> Patients did not exceed 20 minutes in a steam session. Monitor the patient throughout the procedure for any adverse reactions. Students will demonstrate their ability to perform <i>Vedhu Maruthuvam</i> on simulated patients by demonstrating competence in preparation, administration, patient management, and safety adherence using the DOPS methodology.</p>
NLHT 1.3	Procedure for conducting <i>Pugai Maruthuvam</i> (Fumigation)	<p>The teacher provides an overview of key points of <i>pugai maruthuvam</i> with the help of a lecture using PowerPoint and explains the importance of patient assessment, positioning, and the conduction of therapy on simulated patients in OPD/IPD settings, Steps for performing <i>pugai maruthuvam</i> (Fumigation therapy)</p> <p><b>1. Preparation of materials</b>  Selection of ingredients: select herbs or substances based on the therapeutic goal. Common options include medicinal leaves, powders, and substances like peacock feathers, cumin seeds, horns, nails, <i>agasthiyar kuzhambu</i>, <i>kousigar kuzhambu</i>, and charcoal. Mercurial or arsenic compounds for specific indications.  Preparation of the fumigation mixture: dry and grind the herbs or materials into fine powder or small pieces. Mix the ingredients in the required proportions to achieve the desired therapeutic effect.  Fumigation equipment: use a <i>pugai</i>/fumigation chamber(whole body-sitting/lying), clay pot, footstep stool, medicine trolley, metal vessel, or fumigation stand for burning or heating the materials. Ensure that the equipment is clean and safe to handle. Mention about ancient equipment —<i>sukkan</i>( <i>Citrullus colocynthis</i>) <i>peengan kuzhal</i>—and their uses.</p> <p><b>2. Preparation of the patient or environment</b></p>



Environment: Choose a clean, well-ventilated space for therapy.

Positioning: For personal fumigation, seat the patient comfortably near the fumigation source. Expose the affected area for localized treatment while keeping the rest of the body covered.

Protective measures: Cover sensitive areas like the eyes with a cloth or goggles if the smoke is intense.

### **3. Conducting the fumigation**

Ignition- Carefully ignite the fumigation materials using a matchstick or flame. Allow the smoke to form evenly.

Application: Use for either environmental fumigation or localized therapy.

Inhalation techniques:

Nasal or eye diseases: Smoke is inhaled through the nostrils.

Oral cavity or dental ailments: Smoke is taken by the mouth without lung inhalation.

Duration: perform fumigation for 10–15 minutes or as prescribed. Replenish the materials if needed during the session. Monitoring: Observe the patient for any signs of discomfort or adverse reactions.

Adjust the smoke intensity and duration as required.

### **4. Post-therapy care advice**

**5. Safety precautions-**Avoid overexposure, fire safety, proper ventilation, and quality of materials. For inorganic substances (e.g., mercurial or arsenic compounds), fumigation should not be performed on an empty stomach. Patients should consume rice with milk or buttermilk before the session. Avoid curd rice during such treatments.

**6. Indications-**Sinusitis, bronchitis, allergies, ear diseases, dental carries and asthma, hoarseness of voice, nonhealing ulcers, fistula, anorectal diseases, poisonous bites, stings, and skin diseases, hysteria

**7. Contraindications:** Fumigation is not recommended for infants or newborns, pregnant or lactating women, individuals under the influence of alcohol, patients with head injuries, lockjaw, or extreme dryness.

Students will perform *pugai maruthuvam*, ensuring proper preparation, correct administration, patient safety, and adherence to contraindications in simulated settings. Additionally, they will ensure that the proper duration and follow-up recommendations are emphasized through the direct observation of procedural skills (Dops) methodology.

NLHT 1.4	Procedure of <i>Kattu</i> (Compress)	<p>The teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge for <i>kattu</i>-bandages through a lecture with group discussion, including the preparation of the patient and materials used, the indicated and contraindicated conditions, the administration of post-care therapy, and the implementation of safety precautions.</p> <p>The procedural Steps are as follows-</p> <p><b>1. Preparation</b></p> <p>Preparation of the medicated leaves/oils for the patient: the therapy area is prepared with clean, warm surroundings, and the patient is positioned comfortably on a wooden plank or a massage table.</p> <p>Materials and equipment:</p> <p><i>Thokkanam</i> table-7 ft. (l) x 3 ft. (w) x 2.5 ft. (h) / wooden chair (procedure stool/table)</p> <p>Footstep stool</p> <p>Apron</p> <p>Cotton/gauze roll- small/medium/large</p> <p>Others – (vessels, heating apparatus, lighter, gas stove, scissors, enamel tray)</p> <p>The dose of medicated powder/oil depends upon age, sex, the strength of the patient, and the state of thodangal or diseases.</p> <p>Medicated oil - 50 ml(sufficient quantity)</p> <p>Medicated leaves – each bunch</p> <p>Commonly used medicines and drugs:</p> <p>Medicated oil for application (<i>kayathirumeni thailam</i>)</p> <p>Medicated herbs (<i>notchi, nuna, amanakku, erukku, mukkirattai</i>)</p> <p>Preparation:</p> <p>When compress is applied with a poultice of plants, it is better to use fresh plants and poultice just at the time of application. The plants can be stored in refrigeration for 3 days after collection.</p> <p>The bandage should be a clean, sterile cotton cloth of a dimension relevant to the area where the compress is to be applied.</p> <p>The bamboo splint should be of correct length and breadth with blunt ends so that it does not hurt adjoining parts and cause pain.</p> <p>Manpower: physician – 1, masseur – 1</p> <p><b>2. Procedure</b></p> <p>Initially, the affected parts should be analyzed through physical observation to determine whether the injury is severe or superficial. Then, the medicated leaves are fried with oil (sq) on the heating</p>
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		<p>apparatus, which is placed in a vessel for a suitable time. The fried leaves are then placed over the affected part with a cotton pad and wrapped with a gauze roll for 7-8 rolls over the site with sufficient limitation of movements. The patient is then asked to rest for 2 hours (as needed). The wrapping is then removed, and the area is washed with hot water. Finally, the patient is advised to take rest. This process is repeated for 7 days, once per day.</p> <p><i>Valaiyam vaithu kattal</i> techniques are also followed in knee joint problems.</p> <p><b>3. Safety measures:</b> choose the right bandage, apply firmly but not too tight, check circulation, avoid metal clips, cover the dressing, and assess the skin.</p> <p>Students watch the demonstration and practice under supervision using the direct observation of procedural skills (Dops) methodology. They ensure that the bandage is applied correctly and safely while monitoring circulation. With guidance, feedback, and a viva component, they refine their skills and build confidence in performing siddha bandaging techniques.</p>
NLHT 1.5	The procedure of <i>Ottradam</i> therapy (Fomentation)	<p>The teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge for <i>ottradam</i> therapy through a lecture with group discussion, including the preparation of the patient and materials used. The session will cover obtaining consent, analyzing indicated and contraindicated conditions, applying the procedure, and advising post-care therapy in OPD/IPD settings. Procedure for <i>ottradam</i> therapy is as follows</p> <p><b>1. Preparation of materials-selection of herbs or ingredients</b></p> <p>based on the patient's condition, select appropriate herbs/materials.</p> <p>Materials needed-procedure table, footstep stool, procedure stool, cloth to make a bundle, scissors, enamel tray, gas stove, frying pan, spatula or spoon, medicine trolley, materials used for <i>ottradam</i> like husk, sand, etc.</p> <p>Common leaves used-cababa leaves (<i>vizhuthi</i>), piper betle (<i>vetrilai</i>), calotropis gigantea (<i>erukku</i>), plumbago zeylanica (<i>chitramoolam</i>), cassia auriculata (<i>aavarai</i>), gynandropicgyandra (<i>thaivelai</i>), vitex negundo (<i>notchi</i>).</p> <p>Common oil used-</p> <p><i>Kayathirumenithailam, kayarajangathailam, pindathylam, vathkesarithailam, chitramuttithailam,</i></p>

*mookoottuthailam*

Other materials-salt, garlic, lemon, coconut

Preparation of poultices or compresses:

Heat, roast, or boil the chosen herbs as required.

Wrap the prepared herbs in a clean cotton cloth to form a pouch (*kizhi*).

Secure the pouch to retain warmth, ensuring it is not too hot to handle.

## **2. Preparation of the patient**

Environment: create a warm, calm, and hygienic space for the therapy.

Positioning: position the patient comfortably on a massage table or mat, exposing only the treatment area.

## **3. Application of heat**

Reheat intermittently using a hot pan, oil, or steamer to maintain effective warmth. Test the poultice temperature on your palm to avoid burns.

## **4. Application technique**

Method: gently press the warm poultice onto the affected area, use rhythmic, circular motions for joints and linear strokes along muscles. Reapply heat as necessary.

Specific sites for *ottradam*:

Head: vertex, around and below the ear, occipital region.

Thorax: neck to the umbilicus, ribcage, lumbar to the sacral region.

Upper/lower limbs: joints (avoiding overheating).

Specific herbs and conditions:

Lemon *ottral*: swelling, trauma.

Mustard *ottral*: fractures.

*Kukil ottral*: pain, muscle injury.

*Kurunthotti ottral*: contusions.

Timing: 15–30 minutes per session, depending on the condition.

## **5. Post-therapy care**

**6. Safety precautions**-Avoid certain conditions infections, open wounds, severe skin sensitivity, and ensure the poultice is not excessively hot. Continuously observe patient comfort and stop if discomfort occurs using fresh herbs and clean clothes. Maintain a sterile environment.

Students watched the demonstration and practiced under supervision, using the direct observation of procedural skills (dops) methodology while ensuring proper preparation, correct application, patient

		safety, and adherence to contraindications, and asked questions to assess their understanding.
NLHT 1.6	Procedure for performing <i>Podithimirthal</i> - <i>Podithuval</i> (Powder massage)	<p>The teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge of <i>podithimirthal</i> therapy through a lecture with a group discussion. This session will include the preparation of the patient, the materials used, obtaining consent, performing techniques, analyzing indicated and contraindicated conditions, administering post-care therapy, and implementing safety adherence.</p> <p>A. step-by-step procedure for <i>podithimirthal</i> therapy</p> <p><b>1. Preparation</b></p> <p>Preparation of herbal powder: medicated powders are finely ground and sieved for uniform application. Common herbal powders include <i>kollu podi</i> (horse gram powder), <i>thiripala choornam</i></p> <p>Preparation of the therapy area and patient: Clean, warm, and comfortable surroundings. Position the patient on a <i>thokkanam</i> table: 7 ft. (l) x 3 ft. (w) x 2.5 ft. (h). Ensure the patient is covered appropriately, exposing only the treatment areas. Materials needed: Disposable mask and cap for the therapist. Apron for hygiene, towel for post-therapy cleaning, hot water for bathing (in vessels heated on a gas stove or heating apparatus).</p> <p><b>2. Massage process</b></p> <p>Directional strokes: circular strokes on joints. Linear strokes along muscles and limbs for energy flow and detoxification</p> <p>Procedure sequence: Right leg: from lower to upper part, 10 strokes. Left leg: same pattern as the right leg. Right arm: from lower to upper part, 10 strokes. Left arm: same as the right arm. Chest region: midline to outward region, 10 strokes. Back (trunk): same technique as chest region.</p> <p><b>3. Therapy duration</b></p>

		<p>Therapy begins with 5-10 repetitions per body part and increases incrementally (e.g., 10, 11, 12 strokes) up to the 21st day. Each session lasts 45 minutes to 1 hour.</p> <p><b>4. Post-therapy care</b>  Cleaning and bathing: the patient's body is wiped with a towel, coconut oil is applied within 5 minutes of bathing to reduce irritation or heat.  Aftercare recommendations: rest for 30 minutes post-therapy. Avoid cold exposure, consume diuretic products or cooling agents if heat develops, follow a light, easily digestible diet to support detoxification.</p> <p><b>5. Safety precautions</b>  Patient safety: avoid application on sensitive, broken, or irritated skin. Monitor patient response during therapy, adjusting pressure as needed.  Therapist safety: wear disposable masks to avoid nasal irritation or ulcers. Use a disposable cap to maintain hygiene and reduce exposure to powder. Consume buttermilk or cooling food (e.g., buttermilk rice) to counteract heat generated during therapy.  Students see the demonstration and practice under supervision, ensuring adequate preparation, application, patient safety, and adherence to contraindications. Using the direct observation of procedural skills (Dops) methodology, they are then provided questions to gauge their theoretical understanding and practical abilities.</p>
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**Non Lecture Hour Practical**

S.No	Name of Practical	Description of Practical Activity
NLHP 1.1	Application of Siddha <i>thokkanam muraigal</i> (Physical manipulation techniques)	<p>The teacher will conduct case-based learning for <i>thokkanam muraigal</i> with simulated patients, review the case details, identify key symptoms, and determine the appropriate <i>siddha</i> examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria.</p> <p><b>Hour 1: Patient selection and initial assessment</b>  Patient selection (15 minutes)-identify a suitable patient based on the purpose of the clinical application. Ensure the patient meets the criteria for undergoing <i>thokkanam</i> procedures.  Patient analysis (45 minutes)  Complaints: document the patient's current symptoms.  History: Understand past illnesses and medical background.</p>

		<p>Vitals: measure and record temperature, pulse, blood pressure, and respiration, heart rate.</p> <p><b>Hour 2: Preparation</b>  Preparation of materials and environment (60 minutes)  Arrange all necessary materials, including oils, herbal pastes, towels, and other aids for thokkanam. Assign roles to the available manpower to assist with the procedure.  Clean, ventilated, and appropriately lit. Proper room temperature and accessibility for the procedure. Confirm suitability and identify any contraindications for thokkanam treatment.</p> <p><b>Hour 3: Application of thokkanam</b>  Apply <i>thokkanam</i> techniques (60 minutes)  Perform various <i>thokkanam</i> techniques based on the patient's condition:  <i>Thattal</i> (tapping), <i>irukkal</i> (tightening), <i>pidithal</i> (grasping), <i>kaikattal</i> (tying), <i>azhuthal</i> (pressing), <i>murukkal</i> (twisting), <i>izhuthal</i> (pulling), <i>mallaathuthal</i> (supination or stretching), <i>asaithal</i> (shaking or jerking)  Practice all the steps and apply them to a specific pathological condition.</p> <p><b>Hour 4: Assessment and feedback</b>  Post-procedure assessment (40 minutes)-reassess the patient's vitals and overall condition after the therapy.  Feedback and conclusion (20 minutes) discuss observations and outcomes with the patient. Guide follow-up care or lifestyle adjustments.  Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practical-oriented studies and ensures they maintain proper logbooks for future documentation.  Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches.  The total duration of the activity is 4 hours.</p>
NLHP 1.2	Application of <i>Siddha thokkanam muraigal</i>	The teacher will conduct case-based learning for <i>siddha thokkanam muraigal</i> (physical manipulation

(Physical manipulation techniques) in infertility condition

techniques)-infertility condition with simulated patients, review the case details, identify key symptoms, and determine the appropriate *siddha* examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria.

**Hour 1: patient selection and preparation**

1. Select the patient for application (10 minutes)

Identify a patient suitable for *mallathuthal* procedures.

Ensure the patient has no contraindications (e.g., severe spinal conditions or cardiovascular issues).

2. Analyze patient history and vital signs (20 minutes)

History: past illnesses and medical background.

Complaints: current issues or symptoms.

Vitals: record temperature, pulse, blood pressure, and respiration rate, heart rate.

3. Prepare materials and room setup (30 minutes)

Floor mats or cushions for comfort and safety during poses. Towels and support materials, if needed.

Ensure manpower availability for assistance or guidance. Clean and ventilated room

**Hour 2: *mallathuthal* procedure and assessment**

**4. Perform *mallathuthal* (40 minutes)**

Execute each of the four stages of *mallathuthal* systematically: *mallathuthal* (slump.

Long sitting) step for infertility patients.

1. *Mandalam* (wheel pose): bend the spine into a full circular arc, ensuring proper form and balance.

2. *Mavalai villaga* (bridge pose): create a semi-circular arc by lifting the torso and keeping the shoulders grounded.

3. *Sevi alavaaga* (fish pose): bend the spine gently at ear level, ensuring neck support.

4. *Udal valaivaaga* (camel pose): bend the spine in alignment with the body,

Maintaining stability. Ensure correct posture, alignment, and breathing during each stage.

Practice all the steps and apply them to a specific pathological condition (e.g., infertility, obesity, or *kabam* disorders).

5. Assess the patient post-procedure (20 minutes)-reassess vitals and note immediate effects, Such as improved flexibility or relief from discomfort.

Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation.

Two groups of people are divided, with one group engaging in the performance for 1 hour while the



		<p>other group observes. In the next 1 hour, the roles are reversed, and the second group performs while the first group watches.</p> <p>The total duration of the activity is 2 hours.</p>
NLHP 1.3	Application of <i>ottradam</i> (Fomentation)	<p>The teacher will conduct case-based learning for <i>ottradam</i> with simulated patients, review the case details, identify key symptoms, and determine the appropriate <i>siddha</i> examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria.</p> <p><b>Hour 1: Patient selection and initial assessment(20 minutes)</b></p> <p>Identify a suitable patient based on the indication for <i>ottradam</i> (e.g., pain relief, swelling, muscle stiffness). Verify the patient’s eligibility by screening for contraindications (e.g., open wounds, skin infections, or hypersensitivity to heat)</p> <p>Analyse patient history and vitals (40 minutes)</p> <p>patient complaints: document symptoms and discomfort areas.</p> <p>past illnesses: note any chronic or recurrent conditions.</p> <p>Vitals: record temperature, pulse, blood pressure, and respiration for baseline assessment.</p> <p><b>Hour 2: Preparation</b></p> <p>Arrange materials and room setup (60 minutes):</p> <p>Processing materials: herbal poultices, hot compress, medicated oils, or steam-based tools</p> <p>Support materials: clean towels, gloves, and protective layers. Ensure manpower availability to assist in the procedure. Room: clean, ventilated, and warm environment.</p> <p><b>Hours 3 &amp; 4: Application of <i>ottradam</i></b></p> <p>Apply the <i>ottradam</i> procedure (120 minutes):</p> <p>Warm the herbal poultices or compress them to a safe, tolerable temperature. Apply gently to the affected area, ensuring even coverage. Use rhythmic pressing or tapping techniques, if needed, based on the condition. Alternate between application and short rests to avoid overheating or discomfort.</p> <p>Monitor the patient throughout the procedure: check for signs of discomfort or adverse reactions.</p> <p>Adjust the temperature or pressure as required.</p> <p><b>Hour 5: Assessment and conclusion</b></p>

		<p>post-procedure assessment (40 minutes)-measure vital signs again to identify any physiological changes. Note visible improvements (e.g., reduced swelling, enhanced mobility, or pain relief). Provide care and guidance (20 minutes)-suggest any additional treatments, lifestyle modifications, or rest periods.</p> <p>Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation.</p> <p>Five groups of students are divided, with one group engaging in the performance for one hour while the other groups observe. In the next hour, the roles are reversed, and the second, third, and fourth groups perform one by one, just like the first group.</p> <p>The total duration of the activity is 5 hours.</p>
NLHP 1.4	Application of <i>Vedhu Maruthuvam</i> (Steam therapy)	<p>The teacher will conduct case-based learning for <i>vedhu maruthuvam</i> with simulated patients, review the case details, identify key symptoms, and determine the appropriate <i>Siddha</i> examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria.</p> <p><b>Hour 1: Patient selection and initial assessment(40 minutes)</b></p> <p>Select the patient for the application -identify a patient based on the indications for <i>vedhu maruthuvam</i> (e.g., detoxification, pain relief, or treating specific ailments).</p> <p>Analyze the history of patients-( 40 <b>minutes</b>)</p> <p>Patient complaints: document symptoms or discomfort.</p> <p>Past illnesses: understand chronic or recurrent conditions.</p> <p>Vitals: record baseline measurements, including temperature, pulse, respiration, and blood pressure, heart rate.</p> <p><b>Hour 2: Preparation of therapy ( 40 minutes)</b></p> <p>Collection of medicines, room arrangements, and patient preparation</p> <p><b>Hour 3: Application of <i>vedhu maruthuvam</i> (60 minutes)</b></p> <p>Prepare the patient by explaining the process and ensuring their comfort.</p> <p>Apply steam or medicated vapor to the appropriate body areas.</p> <p>Monitor the temperature to ensure it is tolerable and safe.</p>

Adjust the exposure time based on the patient's condition and tolerance.

**Hour 4: Post-procedure assessment and care**

Assess the patient post-therapy (30 minutes) reassess vital signs and monitor the patient for immediate effects. Relaxation or any visible physical changes.

Provide care and guidance (30 minutes)-advise rest and hydration to aid recovery. Provide recommendations for diet or additional therapies if required.

Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation.

Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches.

The total duration of the activity is 4 hours.

**Topic 2 PURAMARUTHUVAM-2 (EXTERNAL THERAPY) (LH :7 NLHT: 3 NLHP: 10)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO3	Describe the <i>kalikkam</i> procedure detailing the specific techniques involved and any safety precautions that should be taken during the application. Describe the materials and ingredients, manpower required for the <i>kalikkam</i> procedure. Describe how <i>kalikkam</i> is applied in specific clinical conditions, its therapeutic benefits, and suitable, and unsuitable conditions.	CK	MK	K	D,L&PP T	CHK,DOP S,DOPS,V V-Viva	F&S		-	LH
CO3	Describe the <i>nasikaparanam</i> procedure, the materials used, and the health benefits. Explain the roles and qualifications of the personnel involved and the materials and ingredients required. Explain the suitable and unsuitable conditions for <i>the naasikabaranam</i> procedure.	CK	DK	K	D,L&PP T	DOPS,DOP S,VV-Viva	F		-	LH
CO1,	Demonstrate the procedure of <i>peechu</i> therapy with proper	PSY-	MK	SH	CBL,D,	Log book,P	F&S		-	NLHP2.1

CO3	processing materials for various clinical conditions	GUD			SIM	-EXAM,D OPS,DOPS				
CO3	Describe the <i>nasiyam</i> procedure, including the materials and ingredients required, as well as the techniques for application. Explain the suitable and unsuitable conditions for the procedure. Explain how <i>nasiyam</i> is applied in clinical conditions and its health benefits.	CC	MK	K	L&PPT ,D	DOPS,DOP S,CHK,VV- Viva	F&S		-	LH
CO3	Describe the <i>murichal</i> procedure, including the materials used and the techniques for application. Explain the suitable and unsuitable conditions for the procedure. Explain how <i>murichal</i> is applied in specific clinical conditions and its therapeutic benefits.	CC	MK	K	L&PPT ,D	CHK,VV- Viva	F&S		-	LH
CO3	Demonstrate the procedure for performing <i>murichal</i> , the specific techniques involved, and any safety precautions that should be observed during the application.	PSY- GUD	MK	SH	D,L&G D	VV-Viva,D OPS, C- VC,DOPS	F&S		-	NLHT2.1
CO3	Describe the <i>kombu kattal</i> procedure and its types.	CK	DK	K	L&PPT	VV-Viva	F		-	LH
CO3	Demonstrate the suitable/unsuitable conditions, manpower, procedure, processing materials, and application in clinical conditions.	PSY- GUD	DK	SH	L&GD, D,L_VC	CL-PR,VV- Viva	F		-	NLHT2.2
CO3	Describe the <i>peechu</i> procedure, its types, and the application technique. Explain the ingredients, tools, and equipment required, as well as the suitable and unsuitable conditions for performing the <i>peechu</i> procedure. Explain how <i>peechu</i> is applied in clinical conditions, discussing its therapeutic benefits.	CK	MK	K	L&PPT ,D	CHK,VV- Viva	F&S		-	LH
CO3	Demonstrate the step-by-step procedure for performing the <i>Peechu therapy</i> , detailing the specific techniques involved and any safety precautions that should be observed during the application.	PSY- GUD	MK	SH	D,L&G D	DOPS,VV- Viva,DOPS	S		-	NLHT2.3

CO3	Describe the <i>oothal</i> procedure, the routes of blowing, the apparatus used, suitable/unsuitable conditions, the procedure of processing materials, and application in clinical conditions.	CK	NK	K	L&PPT	DOPS,VV-Viva,DOPS	F		-	LH
CO1, CO3	Demonstrate the procedure of <i>nasiyam</i> therapy with proper processing materials for various clinical conditions.	PSY-GUD	MK	SH	SIM,CB L	Log book,D OPS,DOPS, P-EXAM	F&S		-	NLHP2.2
CO1, CO3	Demonstrate the procedure of <i>patti kattal</i> (Bandaging) techniques with proper processing materials for various clinical conditions	PSY-GUD	DK	SH	SIM,KL	DOPS,DOP S,Log book ,P-EXAM	F		-	NLHP2.3
CO1, CO3	Demonstrate the procedure of <i>seelikaatumuraigal</i> with proper processing materials for <i>puya enbupin thandu paguthu murivugal</i> (Fracture of the shaft of the humerus), <i>keelalavu vilagal</i> (Dislocation of the jaw)	PSY-GUD	NK	SH	KL,SIM	Log book,P -EXAM,D OPS,DOPS	F		-	NLHP2.4

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 2.1	Procedure for <i>Murichal</i> (Bone resetting / Surgical correction of malunited fracture)	<p>The teacher aids students in visualizing <i>murichal</i> therapy through clinical video cases. By observing video scenarios, the teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge of therapy through a lecture and group discussion.</p> <p><b>1. Murichal therapy procedure demonstration:</b>  <i>Murichal</i> techniques include the use of splints, bandages, herbal applications, and pain management techniques.            Therapeutic outcomes: emphasis is placed on bone realignment, pain relief, and functional restoration.            Types- resetting the dislocated joints, rebreaking, and resetting the malunited.            Safety precautions- ensure minimal harm during the procedure.</p> <p><b>A. Analysis of suitable vs unsuitable conditions:</b>            Suitable: malunion fractures, chronic pain due to improper bone healing, deformities.            Unsuitable: fresh fractures, open fractures, severe soft tissue damage, neurovascular complications.</p> <p><b>B. Manpower required:</b></p>

		<p>Qualified <i>siddha</i> practitioners and support teams (including assistants and clinical staff) are essential for the successful administration of the therapy.</p> <p><b>C. Materials used in <i>murichal</i> therapy:</b>  <i>Seeli</i>/splints/braces: made from bamboo, palm stems, or wood.          Splints(herbals)- <i>aleo vera</i>, <i>kariabolam</i>,<i>ulunthu</i>, egg white  <i>Kanaikal/ambu</i>: heated mud pot pieces, cotton cloth for wrapping.  <i>Thottil</i> (sling): small and large arm slings designed for different handling needs.          Oils and sterile instruments: used in conjunction with the therapy for healing and care.</p> <p><b>D. Step-by-step procedure:</b>          First aid management: address immediate needs such as pain relief and initial immobilization.          Closed reduction: manipulation (<i>Kaieetham seithal</i>) to reset bones, followed by splinting for immobilization (<i>Asaiya kattidal</i>) with the medicated oil application of <i>vasaennai</i> / <i>murivuvennai</i> as a <i>tharai</i> (Oil dripping) procedure.          Open reduction: if needed, re-breaking and repositioning the bone, ensuring proper alignment and fixation.          Indication- <i>konal enbugal</i>( malunited),<i>koodaa enbugal</i>(non union)          Contraindication-coronary heart disease.osteomyelitis,parathyroidism, surgical places.  <b>E.post-treatment care:</b> followed by medicated applications, rest, and rehabilitation. Monitoring and patient comfort are essential during recovery.  <b>F.safety precautions:</b> proper technique must be followed to prevent complications like infection, improper bone healing, and additional fractures.          Students can develop clinical management skills and practice articulating their care plans in response to various <i>murichal</i> techniques by viewing clinical case videos using dops methods and refining their skills to improve assessment questions.</p>
NLHT 2.2	Procedures of <i>Kombu Kattal</i> ( Bone setting by supporting / Splint / <i>Seeli kattumurai</i> )	<p>The teacher will explain <i>kombukattal</i> therapy through a lecture and group discussion, precisely using instructional video clips to demonstrate how to perform <i>kombukattal</i> therapy.</p> <p><b>A. Introduction</b></p>

Definition and context-*kombu kattal (seeli kattumurai)* is a traditional *siddha* method used for bone stabilization, leveraging splints and supports to aid in the natural healing of fractures and dislocations.

Purpose: to minimize movement, promote alignment, and facilitate recovery.

Historical significance: rooted in *Siddha* medicine(*theraiyar tharu*), emphasizing natural materials and holistic care.

Indications and contraindications

Suitable conditions: fractures (simple/closed), dislocations, sprains, strains, and post-trauma rehabilitation.

Unsuitable conditions: open fractures, severe soft tissue damage, infections, sepsis, and osteomyelitis.

Qualified practitioner: a trained *Siddha* physician or therapist for proper assessment and

treatment. Supportive staff: to assist with immobilization, material preparation, and patient monitoring.

### **B. Main points: procedure for *kombu kattal* therapy**

Patient assessment and preparation-

Assess injury severity and type through visual inspection and patient history.

Advise the patient to remain still; ensure preliminary immobilization.

Bone realignment (reduction)-Gently restore bone or joint to its original position. Precision is key to avoiding further complications. Use *Siddha* remedies like herbal oils, hot compresses, or mild anesthesia for pain.

Preparation of splints and supports

Materials: bamboo plates or *pirambu*( rattan), coconut stems, cloth, palm stem.

Medicated herbs/medicated drugs- *pyllanthus reticulata*, *aleo vera*, *acacia arabica*, calx of a conch shell, *albizzia amara*.white yolk of egg.

Specific tools:

*Cheeli* (splints): wooden or bamboo splints of varied sizes.

*Achchu* (brace): used for upper limb /lower limb and vertebral stabilization.

Thottil (sling): collar or arm slings for mobility. (long, short arm sling)

*Pandhu* (pad): cotton-based pads for cushioning.

Application of splints (*seeli kattumurai*)

Placing: align the splint securely along the injured site.

Securing: use bandages, slings, or braces to maintain immobilization without excessive pressure.

Monitoring and post-care

Observe for 24-48 hours to ensure stability and address complications like swelling.

		<p>Regular follow-up, wound care, and gradual rehabilitation exercises.  Retain the <i>kombu kattal</i> on the site for a period of 3 Or 7 Or 21 days.  <b>C. Conclusion</b> – clinical applications, safety precautions, and therapeutic outcomes  Students observe the demonstration and practice under supervision, analyzing the topics through class presentations, which cover preparation, correct application, patient safety, adherence to contraindications, and post-care therapy.</p>
NLHT 2.3	Procedure for <i>Peechu</i> therapy	<p>The teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge of <i>peechu</i> therapy through a lecture and group discussion, including patient preparation and material selection. The session will cover obtaining consent, analyzing indications and contraindications, administering post-care therapy, and implementing safety precautions.</p> <p><b>Step-by-step procedure for <i>peechu</i> ( Enema / Douche) therapy</b></p> <p><b>1. Preparation of materials</b></p> <p>Selection of medicinal preparations: the type of enema depends on the patient’s condition and <i>mukkutram</i>.</p> <p>Enema equipment:  Ensure the kit is clean, sterile, and functioning properly before use.</p> <p>Apparatus includes:  Cylindrical flask connected with rubber tubes and an anal knob.  Animal bladder or polythene bag with nozzle (gold, silver, copper).  Enema bulb or a specialized enema kit (usually made of rubber or silicone).  Approximate capacity of <i>peechu</i> apparatus: 1.5 liters.</p> <p>Additional requirements: nozzle – 1 unit, lavatory facilities, towel, hot water for bathing, vessel, and heating apparatus; procedure table, footstep stool, enema stand, bp apparatus, stethoscope, rubber sheet, and medicine trolley.</p> <p>Preparation of medicinal decoction or oil:  Boil selected herbs in water, strain the mixture, and warm it to a tolerable temperature.</p> <p>Examples of medicated oils:</p>



*Thokkanam*: vatha kesari thylam or notchithylam (50ml).

*Peechu*: castor oil (100ml), milk (200ml), honey (300ml).

Anal cleaning decoction: *tripala choornam decoction* (30ml) or *padigara neer* (10ml).

## **2. Patient preparation**

Evaluate the patient's condition, focusing on *vatha* disorders.

Ensure there are no contraindications (e.g., rectal infections or acute inflammation).

Common positions include lateral positions (lying on the left side) with knees bent. Knee-chest position for deeper penetration in chronic conditions.

## **3. Administration of the *peechu* therapy**

3.1. Preparation of the enema equipment:

Fill the enema bulb or kit with the prepared medicinal liquid.

Ensure the nozzle is free from blockages and test the liquid flow on a clean surface.

3.2. Positioning and insertion:

Perform the *thokkanam* procedure on the head, lower abdominal area, and back using *vatha kesari thylam* (50ml) for 20 minutes with mild pressure (1/4 *mathirai*). Steps include *thadaval* (rubbing) and *pidithal* (grasping).

Clean the anal area with *tripala choornam* decoction (30ml) or *padigara neer* (10ml).

Apply castor oil inside the anal orifice as a soothing agent.

Insert the apparatus and administer the liquid slowly. Position the apparatus at a specific height to ensure a smooth flow. After administration, ask the patient to lie supine with raised legs and waist until the urge to excrete occurs.

3.3. Monitoring the administration:

Administer the liquid slowly for proper absorption.

Monitor the patient's response and ensure they are comfortable.

Retain the liquid for 10–20 minutes, depending on the patient's condition.

## **4. Post-therapy care**

Ensure the patient has evacuated the content fully.

Maintain proper hydration and advise rest.

Schedule follow-up appointments until full recovery.

Students watch the demonstration and practice under supervision using the direct observation of procedural skills (Dops) methodology, while ensuring proper preparation, correct administration, patient safety, and adherence to contraindications.

Non Lecture Hour Practical		
S.No	Name of Practical	Description of Practical Activity
NLHP 2.1	Application of <i>Peechu maruthuvam</i> ( Enema / Douche)	<p>The teacher will conduct case-based learning for <i>peeche maruthuvam</i> therapy with simulated patients, review the case details, identify key symptoms, and determine the appropriate <i>siddha</i> examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria.</p> <p><b>1. Patient selection (10 minutes)</b>-medical history and condition.current health status and therapy indications. Exclusion of contraindications (e.g., pregnancy, dehydration).</p> <p><b>2. Patient assessment (15 minutes)</b> Analyse history and complaints: document symptoms, duration, and triggers. Review past illnesses and treatments. <i>Siddha</i> examination- <i>Kanmentriyam, gnanenthriyam, urithathukal, udalthathukal</i> <i>Envagai thervu</i> <i>Naadi</i> (pulse), <i>niram</i> (complexion), <i>mozhi</i> (voice), <i>vizhi</i> (eyes), <i>malam</i> (stool), <i>moothiram</i> (urine), <i>sparisam</i> (skin texture), and <i>naa</i> (tongue). Vitals monitoring: Record blood pressure, heart rate, respiratory rate, and temperature, pulse rate.</p> <p><b>3. Preparation and setup (15 minutes)</b> Materials: medicated oils, decoctions, sterile enema apparatus, gloves, castor oil, and spirit. Room: private, ventilated, with adjustable examination tables. Confirm the patient is fasting and has avoided non-vegetarian or spicy foods. Provide a brief overview of the procedure to ensure comfort and cooperation.</p> <p><b>4. Pre-therapy procedure (15 minutes)</b> Apply gentle <i>thadaval</i> (mild -massage) to the head, lower abdomen, and back of the trunk. Instruct the patient to undress and assume the left lateral position. Clean the anal region using spirit.</p>

		<p><b>5. Procedure execution (30 minutes)</b>  Mix the prescribed formulation in a container. Stir thoroughly, heat to a lukewarm temperature, and pour into the enema apparatus.  Apply castor oil to the anal opening and the apparatus knob using sterile gloves. Gradually insert the enema device into the rectum while maintaining the device at an appropriate height. Ensure the liquid flows slowly through the rectum into the lower gastrointestinal system. After administration, advise the patient to lie in the supine position with legs elevated to raise the waist. Fecal content is evacuated depending on the patient's condition.</p> <p><b>6. Post-therapy care (15 minutes)</b>-encourage the patient to remain relaxed for 10-30 minutes until bowel movement occurs.</p> <p><b>7. Evaluation and monitoring (10 minutes)</b></p> <p><b>8. Post-therapy guidance (10 minutes)</b>  prescribe necessary follow-up medications and dietary recommendations. Advise on hydration and a light, easily digestible diet for the next 24 hours.  Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (dops) methodology. This prepares them for practical-oriented studies and ensures they maintain proper logbooks for future documentation.  The total duration of the activity is 2 hours.</p>
NLHP 2.2	Application Of <i>nasiyam</i> ( Liquid nasal application)	<p>The teacher will conduct case-based learning for <i>nasiyam</i> ( liquid nasal application) with simulated patients, review the case details, identify key symptoms, and determine the appropriate <i>siddha</i> examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria.</p> <p><b>Hour 1: patient selection, assessment, and preparation</b>  Select the patient for the application (10 minutes)-identify the patient based on suitability for the <i>nasiyam</i> maruthuvam procedure.  Analyze patient history and conduct siddha examination (30 minutes):  History: past illnesses, current complaints, and medical history.</p>

		<p>Vitals: record vital signs (temperature, pulse, blood pressure, respiratory rate, heart rate).  <i>Siddha</i> examination-<i>uyirthathukkal, udalthathukkal, gnanendriyam, kanmendriyam, envagaitervu, neikuri</i></p> <p>Prepare materials and setup (20 minutes)  Arrange appropriate materials (medicated oils, crushed leaf juices, etc.)  Prepare the room: ensure it is clean and well-ventilated, and set up the <i>nasiyam</i> applicator, procedure table or stool, footstep stool, and medicine trolley.  Verify suitable and unsuitable conditions for the procedure.</p> <p><b>Hour 2: procedure and post-treatment assessment</b>  Perform <i>nasiyam maruthuvam</i> procedure (30 minutes)- administer the treatment using medicated oil or crushed leaf juices based on the patient's condition.  Evaluate patient pre and post-therapy (20 minutes) - reassess vital signs to evaluate the immediate effects of the procedure. Compare pre and post-therapy observations to document any changes.  Conclude with medication and advice (10 minutes)  Students perform the therapy under supervision and are encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practical examinations and ensures they maintain accurate logbooks for future documentation.  The total duration of the activity is 2 hours.</p>
NLHP 2.3	Application of <i>patti kattal</i> (Bandaging)	<p>The teacher explains and demonstrates <i>kattu</i> bandages in simulated scenarios of bandage techniques, showing how to prepare the patient, select materials, and apply the bandage safely. Post-care procedures and essential precautions are also covered, with kinesthetic learning integrated into the session.</p> <p><b>Hour 1: patient selection and initial analysis</b>  Select the appropriate patient (15 minutes)-screen and select the patient based on the application's purpose and suitability for the procedure.  Analyze patient history (20 minutes):  History: past illnesses, current complaints, and medical background.  Vitals: assess vital signs (temperature, pulse, respiration, heart rate, blood pressure).</p>

		<p><i>Siddha</i> examination (25 minutes):<i>Kanmenthiriyam</i> and <i>vidayangal</i>, <i>Uyir thathukal</i>, <i>Udal thathukal</i>, <i>Envagai thervu</i>,<i>Neerkuri/neikuri</i></p> <p><b>Hour 2: preparation and consent</b>  Preparation (30 minutes):  Processing materials: proper bandaging cloths, medications, etc.  Manpower: assistants to support the procedure.  Room specification: clean, well-ventilated, suitable lighting, appropriate temperature.  Confirm diagnosis and inform patient (15 minutes)  Finalize the diagnosis and ensure chosen materials and medications are appropriate. Explain the treatment protocol to the patient and obtain verbal consent.  Special bandaging technique (15 minutes) - <i>valaiyam vaithu kattal</i></p> <p><b>Hour 3: procedure and follow-up</b>  Apply <i>kattumurai</i> procedure (40 minutes)-proper measures., precise tying techniques, setting dates for tying and removal.  Observation and documentation (20 minutes)-document findings and explain follow-up care for the 7 days.  Students watch the demonstration and practice under supervision. They ensure the bandage is applied correctly and safely while checking circulation. With guidance and feedback, they improve their skills and confidence in performing <i>Siddha</i> bandaging techniques.  Three groups of students are divided, with one group engaging in the performance for one hour while the other groups observe. In the next hour, the roles are reversed, and the second and third groups perform one by one, just like the first group.  The total duration of the activity is 3 hours.</p>
NLHP 2.4	Application of <i>Kombu Kattal</i> ( Bone setting by splinting / <i>seeli kattumurai</i> )	<p>The teacher will explain the application of <i>kombu kattal</i> (Bone setting by splinting / <i>Seeli kattumurai</i>) in the simulated environment and the application module using kinesthetic learning.</p> <p><b>Hour 1: patient selection and initial assessment</b>  Patient selection (15 minutes): confirm patient suitability for the procedure through initial screening.  Comprehensive analysis (45 minutes): review patient history, complaints, past illnesses, and vitals.</p>

Perform *Siddha* examination orderly-*kanmentriyam*, *gnanenthriyam urithathukal*, *udalthathukal envagai thervu*, *neerkuri/neikuri*.

**Hour 2: preparation and application of splinting (*kombu kattal*)**

Preparation (30 minutes): arrange materials (bamboo/wooden sticks, cloth, supports, etc.).prepare the room (clean, ventilated, proper lighting, appropriate temperature). Ensure availability of manpower and verify conditions (suitable and unsuitable).

Application of *kombu kattal* (30 minutes):

Utilize traditional methods (supportive frame).*aapu* (adjustments).*thottil* (cradle-like support).*kanaikal* (alignment).*seeli* (securing mechanism).

Examples-

A.*puya enbupin thandu paguthu murivugal* (fracture of the shaft of the humerus)-manipulation techniques should be performed to realign the dislocated part. After proper realignment, eight splints wrapped in cotton cloth should be placed over the injured area and secured with gauze and a cotton roll.

B.*alavenbu murivu (fracture of the mandible) – seeli kattu murai*

For a mandible fracture, the dislocated bone should then be manually realigned. Before performing this procedure, bamboo sticks wrapped tightly in cotton cloth should be prepared for *seeli kattu murai*.

**Hour 3: post-procedure assessment and management**

Assessment and follow-up (30 minutes): reassess the patient post-procedure using clinical methods. Confirm alignment, functionality, and patient comfort. Document observations and outcomes.

Advising and planning (30 minutes): provide detailed guidance for further management (e.g., lifestyle modifications, medication, follow-ups). Address patient or caregiver concerns.

Students can perform the therapy under supervision and also emphasized using the direct observation of procedural skills (Dops) methodology and prepare them for practical-oriented studies and maintain proper log books for future documentation.

Three groups of students are divided, with one group engaging in the performance for one hour while the other groups observe. In the next hour, the roles are reversed, and the second and third groups perform one by one, just like the first group.

The total duration of the activity is 3 hours.

Topic 3 MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY (LH :5 NLHT: 5 NLHP: 6)										
A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO4, CO5	Define <i>saganavatham</i> (Cervical spondylosis)	CK	MK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs and symptoms of <i>saganavatham</i> (Cervical spondylosis). Demonstrate the varmam therapy techniques, for the effective management of <i>saganavatham</i> (Cervical Spondylosis).	PSY- GUD	MK	SH	DIS,CB L,L&G D,REC	P-RP,DOP S,OSCE,D OPS,CBA	F&S		H-MM	NLHT3.1
CO1, CO4	Demonstrate <i>varmam</i> therapy for the management of <i>saganavatham</i> (cervical spondylosis).	PSY- GUD	MK	SH	D-BED, CBL,K L	P-EXAM	F&S		-	NLHP3.1
CO4, CO5	Demonstrate <i>varmam</i> therapy for the management of <i>thandagavatham</i> (Lumbar spondylosis).	PSY- GUD	MK	SH	CBL,K L,D- BED	P-EXAM	F&S		-	NLHP3.2
CO4, CO5	Define <i>thandagavatham</i> (Lumbar spondylosis).	CK	MK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs and symptoms. of <i>thandagavatham</i> (Lumbar spondylosis). Demonstrate the varmam therapy techniques, for the effective management of <i>thandagavatham</i> (Lumbar spondylosis).	PSY- GUD	MK	SH	CBL,L &GD,D IS	SP,DOPS,O SCE,DOPS, CBA	F&S		H-MM	NLHT3.2
CO1, CO4, CO5	Define <i>arugu kai narambu pinnal seyalilzhappu</i> (Erb's palsy).	CK	NK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs and symptoms of <i>arugu kai narambu pinnal seyalilzhappu</i> (Erb's palsy). Demonstrate the varmam therapy techniques, for the effective management of <i>arugu kai</i>	PSY- GUD	DK	SH	L&GD, PBL,DI S	OSCE,DOP S,CBA,SP, DOPS	F&S		-	NLHT3.3

	<i>narambu pinnal seyalilzhappu</i> (Erb's palsy).									
CO4, CO5	Define <i>patha veezhchi</i> (Foot drop).	CK	DK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs, and symptoms of <i>patha veezhchi</i> (Foot drop). Demonstrate the <i>varmam</i> therapy techniques, for the effective management of <i>patha veezhchi</i> (Foot drop).	PSY-GUD	MK	SH	CBL,L &GD,DIS	OSCE,CBA,SP,DOPS,DOPS	F&S		-	NLHT3.4
CO4, CO5	Define <i>kuthiraival vagai seyalilzhappu</i> (Cauda equina syndrome).	CK	DK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs, and symptoms of <i>Kuthiraival vagai seyalilzhappu</i> (Cauda equina syndrome). Demonstrate the <i>varmam</i> therapy techniques, for the effective management of <i>kuthiraival vagai seyalilzhappu</i> (Cauda equina syndrome).	PSY-GUD	MK	SH	L&GD, CBL	DOPS,SP,CBA,DOPS, OSCE	F&S		-	NLHT3.5
CO4, CO5	Demonstrate <i>varmam</i> therapy for the management of <i>patha veezhchi</i> (Foot drop).	PSY-GUD	DK	SH	CBL,D-BED,KL	P-EXAM	F&S		-	NLHP3.3

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 3.1	<i>Varmam therapy</i> for the management of <i>Saganavatham</i> (Cervical Spondylosis).	<p>The teacher will explain <i>varma</i> therapy for the management of <i>saganavatham</i> (Cervical spondylosis) by using lectures and group discussion / case based learning.</p> <p><b>1. Introduction to <i>varmam</i> therapy</b> discuss the relevance of <i>varmam</i> therapy in managing musculoskeletal disorders, especially <i>saganavatham</i> (cervical spondylosis)</p> <p><b>2. Case study presentation</b> present a detailed case study of a patient suffering from <i>saganavatham</i> (cervical spondylosis),</p> <p><b>3. Group discussion</b> divide students into small groups to discuss the case each group should identify the key issues and propose how <i>varmam</i> therapy could be beneficial.</p>



		<p><b>4. Demonstration of <i>varmam</i> points</b>  demonstrate the specific <i>varmam</i> points that are used in the management of <i>saganavatham</i> (cervical spondylosis).  Show how to locate these points on an anatomical model or volunteer.  Explain the method of stimulation and expected outcomes.</p> <p><b>5. Role play</b>  students take turns role-playing as the practitioner and patient.  They will practice locating and stimulating the relevant <i>varmam</i> points based on the case study.</p> <p><b>6. Worksheet completion</b>  each student completes a worksheet detailing:  the <i>varmam</i> points were used.  The technique for stimulation.  Expected physiological effects and outcomes.</p> <p><b>7. Group presentations</b>  each group presents their findings and approach to managing the case using <i>varmam</i> therapy.</p> <p><b>8. Assessment criteria</b>  knowledge application: understanding the theoretical aspects of <i>varmam</i> therapy.  Practical skills: accuracy in identifying <i>varmam</i> points and correct application of therapy.  Critical thinking: ability to analyze the case and propose an appropriate treatment plan.  Communication: clarity and effectiveness in presenting their approach.  Students are evaluated for proficiency in applying <i>varmam</i> therapy techniques by practical roleplay/ dops/ simulated patient / OSCE / case-based assessment for managing symptoms associated with <i>saganavatham</i> (Cervical spondylosis).  The total duration of the activity is 2 hours.</p>
NLHT 3.2	<p><i>Varmam</i> therapy for the management of <i>Thandagavatham</i> (Lumbar Spondylosis).</p>	<p>The teacher will explain <i>varma</i> therapy for the management of <i>thandagavatham</i> (lumbar spondylosis) by using lectures and group discussion/case-based learning.</p> <p><b>1. Introduction to <i>varmam</i> therapy</b>  Discuss the relevance of <i>varmam</i> therapy in managing musculoskeletal disorders, especially <i>thandagavatham</i> (Lumbar spondylosis).</p> <p><b>2. Case study presentation</b></p>

		<p>Present a detailed case study of a patient suffering from <i>thandagavatham</i> (lumbar spondylosis).</p> <p><b>3. Group discussion</b> Divide students into small groups to discuss the case. Each group should identify the key issues and propose how <i>varmam</i> therapy could be beneficial.</p> <p><b>4. Demonstration of <i>varmam</i> points</b> Demonstrate the specific <i>varmam</i> points that are used in the management of <i>thandagavatham</i> (Lumbar spondylosis). Show how to locate these points on an anatomical model or volunteer. Explain the method of stimulation and expected outcomes.</p> <p><b>5.Roleplay</b> students take turns role-playing as the practitioner and patient. They will practice locating and stimulating the relevant <i>varmam</i> points based on the case study.</p> <p>Worksheet completion each student completes a worksheet detailing: The <i>varmam</i> points were used. The technique for stimulation. Expected physiological effects and outcomes.</p> <p>Group presentations Each group presents their findings and approach to managing the case using <i>varmam</i> therapy.</p> <p><b>Assessment criteria:</b> Knowledge application: understanding the theoretical aspects of <i>varmam</i> therapy. Practical skills: accuracy in identifying <i>varmam</i> points and correct application of therapy. Critical thinking: the ability to analyze the case and propose an appropriate treatment plan. Communication: clarity and effectiveness in presenting their approach. Students are evaluated for proficiency in applying <i>varmam</i> therapy techniques by dops/ simulated patient/ OSCE/case-based assessment for managing symptoms associated with <i>thandagavatham</i> (Lumbar spondylosis).</p>
NLHT 3.3	Varmam therapy for the management of <i>Arugu kai Narambu pinnal Seyalilzhappu</i> (Erb's palsy).	The teacher will explain <i>varma</i> therapy for the management of <i>arugu kai narambu pinnal seyalilzhappu</i> (Erb's palsy). By using lecture and group discussion / case based learning. Briefly explain the definition, causes, and clinical features of <i>arugu kai narambu pinnal seyalilzhappu</i>

		<p>(Erb's palsy) as a type of brachial plexus injury.  List and describe specific <i>varmam</i> points related to the brachial plexus.  Explain how stimulating <i>varmam</i> points may help to restore nerve function.  Elucidate the techniques used to stimulate <i>varmam</i> points, including a short video or animated sequence if possible.  Outline a step-by-step protocol for applying <i>varmam</i> therapy in <i>arugu kai narambu pinnal seyalilzhappu</i> (Erb's palsy). The potential benefits, such as improved mobility and reduced pain.  Discuss any limitations or contraindications.  Dops assessment criteria for students  <b>1. Preparation and communication</b>  explain the procedure clearly to the patient.  Ensures patient comfort and consent  <b>2. Technical proficiency</b>  accurately identifies and locates relevant <i>varmam</i> points.  Applies appropriate pressure and techniques with proper hand positioning.  <b>3. Clinical judgment</b>  demonstrates understanding of <i>arugu kai narambu pinnal seyalilzhappu</i> (erb's palsy) and modifies therapy accordingly.  Adapts techniques based on patient response and feedback.  <b>4. Professionalism</b>  communicates effectively with empathy and respect.  Maintains patient dignity and confidentiality.  <b>5. Post-therapy care</b>  monitors and assesses patient reaction to the therapy.  Provide aftercare advice and document the session accurately.  Students are evaluated for proficiency in applying <i>varmam</i> therapy techniques by dops/ simulated patient / OSCE/case-based assessment for managing symptoms associated with <i>arugu kai narambu pinnal seyalilzhappu</i> (Erb's palsy).</p>
NLHT 3.4	Varmam therapy for the management of <i>Patha</i>	The teacher will explain <i>varmam</i> therapy techniques, for the effective management of <i>patha veezhchi</i>

*Veezhchi* (Foot Drop).

(Foot drop) by using lecture and group discussion / case based learning.

Materials needed:

Anatomical model or diagrams illustrating *varmam* points

Comfortable therapy table or mat.

Gloves and hand sanitizer.

Written consent form (for real patients).

Feedback and evaluation form.

Procedure:

Introduction:

Explain *patha veezhchi* (Foot drop), its symptoms, and the role of *varmam* therapy in its management.

### **1. preparation**

Demonstrate proper hygiene practices, ensure patient comfort, explain the procedure to the patient, and obtain informed consent.

### **2. Identification of *varmam* points**

Identify and describe the *varmam* points relevant to *patha veezhchi* (Foot drop) (e.g., points around the lower back, sacrum, and lower limbs).

Explain the location and significance of each point.

Use anatomical references or models.

### **3. Application of *varmam* techniques**

Demonstrate the techniques used to stimulate the identified *varmam* points (E.g., gentle pressure, circular motions, rhythmic tapping).

Use appropriate pressure and techniques.

Maintain communication with the patient to ensure comfort.

Monitor for any adverse reactions.

### **4. Post-procedure care**

Provide aftercare instructions, including rest, hydration, and follow-up.

### **5. Feedback and reflection**

Provide constructive feedback based on observation. Encourage student reflection on their performance.

Assessment criteria:

Knowledge of *patha veezhchi* (Foot drop) and *varmam* therapy.

Identification and stimulation of appropriate *varmam* points.

		<p>Patient communication and care.  Hygiene and procedural preparation.  Professionalism and adherence to safety protocols.  students are evaluated proficiency in applying <i>varmam</i> therapy techniques by dops/ simulated patient/  OSCE / case based assessment for managing symptoms associated with <i>patha veezhchi</i> (Foot drop).</p>
NLHT 3.5	<p><i>Varma</i> therapy for the management of <i>kuthiraival Vagai seyalilzhappu</i> (Cauda equina syndrome)</p>	<p>The teacher will explain <i>varma</i> therapy for the management of <i>kuthiraival vagai seyalilzhappu</i> (Cauda equina syndrome) by using lecture and group discussion / case based learning.</p> <p>Materials needed:  Anatomical models or diagrams illustrating <i>varmam</i> points.  Comfortable therapy table or mat.  Gloves and hand sanitizer.  Written consent form (For real patients).  Feedback and evaluation form.</p> <p>Procedure:  Introduction:  Explain <i>kuthiraival vagai seyalilzhappu</i> (Cauda equina syndrome), its symptoms, and the role of <i>varmam therapy</i> in its management.</p> <p><b>1. Preparation</b>  demonstrate proper hygiene practices, ensure patient comfort, explain the procedure to the patient, and obtain informed consent.</p> <p><b>2. Identification of <i>varmam</i> points</b>  identify and describe the <i>varmam</i> points relevant to <i>kuthiraival vagai seyalilzhappu</i> (cauda equina syndrome) (e.g., points around the lower back, sacrum, and lower limbs).  Explain the location and significance of each point.  Use anatomical references or models.</p> <p><b>3. Application of <i>varmam</i> techniques</b>  demonstrate the techniques used to stimulate the identified <i>varmam</i> points (e.g., gentle pressure, circular motions, rhythmic tapping).  Use appropriate pressure and techniques.  maintain communication with the patient to ensure comfort.</p>

		<p>Monitor for any adverse reaction</p> <p><b>4. Post-procedure care</b> -provide aftercare instructions, including rest, hydration, and follow-up</p> <p><b>5.Feedback and reflection</b>-provide constructive feedback based on observation. Encourage student reflection on their performance assessment criteria:</p> <p>Knowledge of <i>kuthiraival vagai seyalilzhappu</i> (Cauda equina syndrome) and varmam therapy.</p> <p>Identification and stimulation of appropriate <i>varmam</i> points.</p> <p>Patient communication and care.</p> <p>Hygiene and procedural preparation.</p> <p>Professionalism and adherence to safety protocols.</p> <p>students are evaluated for proficiency in applying varmam therapy techniques by dops/ simulated patient / OSCE/ case-based assessment for managing symptoms associated with <i>kuthiraival vagai seyalilzhappu</i> (Cauda equina syndrome)</p>
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**Non Lecture Hour Practical**

S.No	Name of Practical	Description of Practical Activity
NLHP 3.1	Application of <i>Varmam</i> therapy for the management of <i>Saganavatham</i> (Cervical Spondylosis).	<p>The teacher will explain <i>varma</i> therapy for the management of <i>saganavatham</i> (cervical spondylosis) by using lectures and group discussion / case based learning.</p> <p><b>1. Introduction to <i>varmam</i> therapy</b> discuss the relevance of <i>varmam</i> therapy in managing musculoskeletal disorders, especially <i>saganavatham</i> (cervical spondylosis).</p> <p><b>2. Case study presentation</b> present a detailed case study of a patient suffering from <i>saganavatham</i> (cervical spondylosis),</p> <p><b>3. Group discussion</b> divide students into small groups to discuss the case each group should identify the key issues and propose how <i>varmam</i> therapy could be beneficial.</p> <p><b>4. Demonstration of <i>varmam</i> points</b> demonstrate the specific <i>varmam</i> points that are used in the management of <i>saganavatham</i> (cervical</p>

		<p>spondylosis).  Show how to locate these points on an anatomical model or volunteer.  Explain the method of stimulation and expected outcomes.  <b>5. Role play</b>  students take turns role-playing as the practitioner and patient.  They will practice locating and stimulating the relevant <i>varmam</i> points based on the case study.  <b>6. Worksheet completion</b>  each student completes a worksheet detailing:  the <i>varmam</i> points were used.  The technique for stimulation.  Expected physiological effects and outcomes.  <b>7. Group presentations</b>  each group presents their findings and approach to managing the case using <i>varmam</i> therapy.  <b>8. Assessment criteria</b>  knowledge application: understanding the theoretical aspects of <i>varmam</i> therapy.  Practical skills: accuracy in identifying <i>varmam</i> points and correct application of therapy.  Critical thinking: ability to analyze the case and propose an appropriate treatment plan.  Communication: clarity and effectiveness in presenting their approach.  Students are evaluated for proficiency in applying <i>varmam</i> therapy techniques by practical roleplay/ dops/ simulated patient/ osce/case-based assessment for managing symptoms associated with <i>saganavatham</i> (cervical spondylosis).  The total duration of the activity is 2 hours.</p>
NLHP 3.2	Application of <i>varma</i> therapy for management of <i>thandagavatham</i> (Lumbar Spondylosis).	<p>The teacher will conduct case-based learning / Demonstration on the Bedside for Varmam therapy for the management of <i>Thandagavatham</i> (Lumbar Spondylosis). Analyse the <i>varmanaadi, saraootam, kanmenthirium and its vidayangal, uyir thathukal, udal thathukal, and envagai thervu</i> of the patient. After confirming the diagnosis, and choosing the needed <i>varmam</i> points, specific to the patient, inform them about the treatment protocol by getting verbal consent from them.  Apply <i>varma ilakkumurai</i> techniques with proper maathirai/irai measurement.  Practical Exam Assessment Structure:  1. Introduction (15 minutes)</p>

		<p>Students provide a brief overview of <i>Thandagavatham</i> (Lumbar Spondylosis) and <i>varmam</i> therapy. Explain the causes and symptoms of <i>Thandagavatham</i> (Lumbar Spondylosis).</p> <p>2. Case Study Analysis (20 minutes) Assess the student's ability to analyse a case and suggest a treatment plan. Present a case study of a patient with <i>Thandagavatham</i> (Lumbar Spondylosis). Students identify key issues and propose a <i>Varmam</i> therapy-based management plan.</p> <p>3. Practical Demonstration (45 minutes) Evaluate the students' practical application of <i>Varmam</i> therapy techniques. Demonstration of locating and stimulating key <i>Varmam</i> points related to <i>Thandagavatham</i> (Lumbar Spondylosis). Students perform therapy under supervision, focusing on accuracy and technique. Use of any tools or supportive methods in therapy (e.g., massage techniques, exercises).</p> <p>4. Oral Examination (20 minutes) Examine the students' understanding of the theoretical and practical aspects of the therapy. Q&amp;A session covering: Anatomical knowledge relevant to <i>Thandagavatham</i> (Lumbar Spondylosis) Mechanism of action of <i>Varmam</i> therapy. Patient care and safety during therapy.</p> <p>5. Feedback and Discussion (20 minutes) Review of each student's performance. Students can perform the therapy under supervision and are also encouraged to use the practical exam methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation. The Total duration of the activity is 2 hours.</p>
NLHP 3.3	<i>Varmam</i> therapy for the management of <i>Patha Veezhchi</i> (Foot Drop).	The teacher will conduct case-based learning / demonstration on bedside <i>varmam</i> therapy for the management of <i>patha veezhchi</i> (Foot drop), analyse the <i>varmanaadi</i> , <i>saraootam</i> , <i>kanmenthirium</i> and <i>its vidayangal</i> , <i>uyir thathukal</i> , <i>udal thathukal</i> , and <i>envagai thervu</i> of the patient. Once the diagnosis is confirmed and appropriate <i>varma</i> points are identified for the patient, communicate the treatment protocol clearly and obtain their verbal consent. Apply <i>varma ilakkumurai</i> techniques using precise



*maathirai / irai* measurements.

Practical exam assessment structure:

**1. Introduction (15 minutes)**

Students provide a brief overview of Footdrop and varmam therapy.

Explain the causes and symptoms of Foot drop.

Describe the principles of *varmam therapy* and its relevance in treating Foot drop.

**2. Case study analysis (20 minutes)**

Assess the student's ability to analyse a case and suggest a treatment plan.

Present a case study of a patient with Foot drop.

Students identify key issues and propose a *varmam therapy*-based management plan.

**3. Practical demonstration (45 minutes)**

Evaluate the students' practical application of *varmam therapy* techniques.

Demonstration of locating and stimulating key *varmam* points related to Footdrop.

Students perform therapy under supervision, focusing on accuracy and technique.

Use of any tools or supportive methods in therapy (E.g., massage techniques, exercises).

**4. Oral examination (20 minutes)**

Examine the students' understanding of the theoretical and practical aspects of the therapy.

Q&a session covering:

Anatomical knowledge is relevant to footdrop.

Mechanism of action of *varmam* therapy.

Patient care and safety during therapy.

**5. Feedback and discussion (20 minutes)**

Review of each student's performance.

Students can perform the therapy under supervision and are also encouraged to use the practical exam methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation.

The total duration of the activity is 2 hours.

**Topic 4 INTRODUCTION AND CLASSIFICATION OF VARMAM (LH :23 NLHT: 6 NLHP: 4)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
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CO4	Define <i>varmam</i> and its types. Explain the classification of <i>varmam</i> based on anatomy, signs and symptoms, injury, <i>aatharam</i> , three humors, five elements, numerical, and <i>naadi</i> . Define the term <i>vaasi or saram</i> , and discuss how <i>vaasi</i> relates to the control and balance of vital energies within the body.	CK	MK	K	L&PPT	CL-PR,M-CHT,VV-Viva	F&S		-	LH
CO1, CO4	Describe the origin of <i>varmam</i> , its historical roots, and its development within the Siddha tradition. Additionally, explain the ethical considerations involved in teaching <i>Varmam</i> , emphasizing the responsibility of practitioners to ensure safe and effective practices, respect for patients, and the importance of preserving traditional knowledge.	CC	MK	K	L&PPT	CL-PR,VV-Viva	F&S		-	LH
CO4	Describe the importance of <i>varmam</i> and its unique features. Discuss how <i>varmam</i> techniques are significant for their ability to target specific pressure points, promoting healing, pain relief, and overall well-being. Emphasize the integration of <i>varmam</i> with other therapeutic modalities.	CC	DK	K	L&PPT	M-CHT,VV-Viva,CL-PR	F&S		-	LH
CO4	Differentiate between the terms <i>adangal</i> and <i>varmam</i> . Elaborate <i>varmam maruthuva muraigal - adangal, amarthal</i> (varma pressure method), <i>pinnal</i> (varma plaiting method), <i>ilakkumurai</i> (varma relieving method), <i>thadaval</i> (varma massage method), <i>thattumurai</i> (varma tapping techniques) and <i>savatu murai</i> (varmam stamping method)	CC	MK	K	L&PPT,PL	VV-Viva	F&S		-	LH
CO4	Explain the etiology of <i>varmam</i> and its principles. Discuss how <i>varmam</i> therapy addresses imbalances in the body's energy systems and physiological functions. Recall relevant poem that highlights the traditional wisdom and philosophical underpinnings of <i>varmam</i> .	CC	MK	K	L&PPT	COM,P-RE C,VV-Viva,PA	F&S		-	LH

CO4	Compare the basic philosophies related to the formation of <i>varmam</i> points, focusing on <i>varma physiology</i> . Compare <i>varmam</i> with other systems of medicine by examining their philosophies, methodologies, treatment approaches, and therapeutic goals.	CC	DK	K	L&PPT	PA,M-MO D,VV- Viva,COM	F&S		-	LH
CO4	Explain the concept of <i>varma kaayathalangal</i> ( <i>varma</i> trauma site), which refers to the specific sites of trauma associated with <i>varmam</i> therapy.	CK	DK	K	L&PPT	VV-Viva,C OM,PA,M- MOD	F		-	LH
CO4	Describe the pulse diagnosis in a <i>varmam</i> patient. Explain the important <i>varmam</i> centers <i>idhayam</i> (heart), <i>neerpai</i> (bladder), and <i>korthagam</i> (cerebrum). Explain the primary <i>padu varmam</i> centers. Describe the specific locations on the body where these <i>varmam</i> points are situated and their roles in influencing overall health and well-being.	CC	NK	K	L&GD	M-MOD,P A,VV-Viva	F		V-NN1	LH
CO4	Demonstrate <i>varma maathirai / irai</i> -manual pressure (force and depth of pressure). Discuss about measurements in <i>varmam</i> application ( <i>viral alavu</i> -finger breadth). Demonstrate the manipulating techniques in <i>varmam</i> ( <i>thadaval</i> , <i>pinnal</i> , <i>amarthal</i> , <i>thattal</i> , <i>thoduthal</i> ). Demonstrate the stimulating methods - objects/body parts. Thread measurement techniques in <i>varmam</i> ( <i>nool alavai</i> ). Evaluate <i>avathi</i> (time limit) .	PSY- GUD	MK	SH	L&GD, SDL,L_ VC,KL	DOPS,DOP S,QZ ,SP,PA	F&S		-	NLHT4.1
CO4	Recognise the food items and duration associated with the dietary practices in <i>varmam</i> therapy.	CK	MK	K	L_VC,L &PPT	QZ ,VV- Viva	F&S		-	LH
CO4	Explain diet management in <i>varmam</i> . Differentiate between <i>elagupathiyam</i> and <i>kadumpathiyam</i> . Explain their characteristics, applications, and therapeutic significance.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO4	Explain the bathing process during <i>varmam</i> therapy.	CK	DK	K	L&GD, L	VV-Viva	F&S		-	LH

CO4	Describe the room specification and list the equipment used in <i>the varmam</i> application, highlighting their significance and roles in the therapeutic process.	CK	DK	K	FV,L_V C,L&G D	CHK,M-C HT,M- MOD	F		-	NLHT4.2
CO4	Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varma points</i> .  <ul style="list-style-type: none"> <li>• <i>Thilartha Varmam</i></li> <li>• <i>Natchathira Varmam</i></li> <li>• <i>Sevikuttri Varmam</i></li> <li>• <i>Pidari Varmam</i></li> </ul>	CC	MK	K	D,L&PP T	M-POS,VV -Viva,DOP S,DOPS	F&S		-	LH
CO4	Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varma points</i> .  <ul style="list-style-type: none"> <li>• <i>Urakka Kaalam</i></li> <li>• <i>Thummi Kaalam</i></li> <li>• <i>NerVarmam/Kombu Varmam</i></li> <li>• <i>Adappa Varmam</i></li> </ul>	CAP	MK	K	D,L&PP T	M-POS,DO PS,DOPS,V V-Viva	F&S		-	LH
CO4	Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varma points</i> .  <ul style="list-style-type: none"> <li>• 1) <i>Pootellu varma</i></li> <li>• 2) <i>Mun Chuvadi varma</i></li> <li>• 3) <i>Nettri kaalam</i></li> <li>• 4) <i>Pin Chuvadi varma</i></li> <li>• 5) <i>Porichal varma</i></li> <li>• 6) <i>Puruva kaalam</i></li> </ul>	CAP	MK	K	L&PPT ,D	VV-Viva,M -POS,DOP S,DOPS	F&S		-	LH

	<ul style="list-style-type: none"> <li>• 7) <i>Kannakaalam</i></li> <li>• 8) <i>Kumbidum kaalam</i></li> <li>• 9) <i>Bala varma</i></li> <li>• 10) <i>Chuliyadi varma</i></li> </ul>									
CO4	<p>Explain in detail the location, signs, symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varma points</i>.</p> <ul style="list-style-type: none"> <li>• 11) <i>Moorthi kaalam/Laada varma/Laada Mayam</i></li> <li>• 12) <i>Aayama kaalam</i></li> <li>• 13) <i>Nadi varmam/Naasi varmam</i></li> <li>• 14) <i>Chenni varmam</i></li> <li>• 15) <i>Poigai kaalam</i></li> <li>• 16) <i>Kurunth Kuttri kaalam</i></li> <li>• 17) <i>Alavattukona Chenni varmam</i></li> <li>• 18) <i>Vettu varmam</i></li> <li>• 19) <i>Kokki varmam</i></li> <li>• 20) <i>Manthira kaalam</i></li> <li>• 21) <i>Kannu varmam</i></li> <li>• 22) <i>Arugu kaalam</i></li> </ul>	CC	MK	K	L&PPT ,D	VV-Viva,M -POS,DOP S,DOPS	F&S		-	LH
CO4	<p>Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varmam points</i>.</p> <ul style="list-style-type: none"> <li>• 23) <i>Malar varmam</i></li> <li>• 24) <i>Vilangu varmam</i></li> <li>• 25) <i>Kulir varmam</i></li> <li>• 26) <i>Arangu varmam</i></li> <li>• 27) <i>Maattraan kaalam</i></li> </ul>	CC	NK	K	L&PPT ,D	DOPS,M-P OS,VV- Viva,DOPS	F		-	LH

	<ul style="list-style-type: none"> <li>• 28) <i>Thivalai varmam</i></li> <li>• 29) <i>Kaareeral varmam</i></li> <li>• 30) <i>Velleeral varmam</i></li> <li>• 31) <i>Kombu varmam</i></li> <li>• 32) <i>Nenchadaippan varmam</i></li> <li>• 33) <i>Munnvillu varmam</i></li> </ul>									
CO4	<p>Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varma points</i>.</p> <ul style="list-style-type: none"> <li>• 34) <i>Mundellu varmam</i></li> <li>• 35) <i>Kutri varmam</i></li> <li>• 36) <i>Urumi varmam</i></li> <li>• 37) <i>Kakattai kaalam</i></li> <li>• 38) <i>Chippi varmam</i></li> <li>• 39) <i>Changuthiri kaalam</i></li> <li>• 40) <i>Vaayu kaalam</i></li> <li>• 41) <i>Manthira kaalam</i></li> <li>• 42) <i>Chiriya Athichuriki varmam</i></li> <li>• 43) <i>Iruppu varmam</i></li> </ul>	CC	MK	SH	D,L_VC	CL-PR,M- CHT	S		-	LH
CO4	<p>Explain the location, signs and symptoms, manipulation techniques, appropriate levels, duration and frequency of pressure, directional techniques, and movement patterns required for effectively stimulating each <i>varmam point</i>. <i>Pootellu varmam, mun chuvadi varmam, nettri kaalam, pin chuvadi varmam, porichal varmam, puruva kaalam, kannakaalam, kumbidum kaalam, bala varmam, chuliyadi varmam, moorthi kaalam/laada varmam/laada mayam, aayama kaalam, nadi varmam/naasi varmam, chenni</i></p>	CC	MK	SH	L_VC,D	M-CHT,CL- PR	S		-	NLHT4.3

	<p><i>varmam, poigai kaalam, kurunth kuttri kaalam, alavattukona chenni varmam, vettu varmam, kokki varmam, manthira kaalam, kannu varmam, arugu kaalam.</i></p> <p>Extremities <i>varmam</i>:  <i>Mozhi varmam, aani varmam, pathakkala varmam, chulukku varmam, (kaal)kochu varmam, aaama kaalam, thundu varmam, chirattai varmam, muttu varmam, channi varmam, naai thalai varmam, uppu kuttri varmam, kaal kannu varmam, kuthikaal varmam, nadai varmam, kulachu varmam, mudichu varmam, boomi kaalam, naduviral chulukku varmam, kaal kavali, peruviral mayya varmam, adakka varmam, konachanni, komberi kaalam, paathachakkaram.</i></p>									
CO4	<p>Explain the location, signs and symptoms, manipulation techniques, appropriate levels, duration and frequency of pressure, directional techniques, and movement patterns required for effectively stimulating each <i>varmam</i> point.</p> <ul style="list-style-type: none"> <li>• 1) <i>Thilartha varmam</i></li> <li>• 2) <i>Natchathira varmam</i></li> <li>• 3) <i>Sevikuttri varmam</i></li> <li>• 4) <i>Pidari varmam</i></li> <li>• 5) <i>Urakka kaalam</i></li> <li>• 6) <i>Thummi kaalam</i></li> </ul>	CC	MK	SH	L_VC,D	DOPS,M-POS,DOPS,VV-Viva	F&S		-	NLHT4.4
CO4	Demonstrate plotting of selected points in mannequins.	PSY-GUD	MK	SH	SIM,KL	DOPS,P-EXAM,Log book,DOPS	F&S		-	NLHP4.1
CO4	Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varmam</i> points.	CC	MK	K	D,L&PP T	DOPS,VV-Viva,DOPS	F&S		-	LH

	<ul style="list-style-type: none"> <li>• 44) <i>Pinvillu varmam</i></li> <li>• 45) <i>Andakkaalam</i></li> <li>• 46) <i>Kaccha varmam</i></li> <li>• 47) <i>Thandu varmam</i></li> <li>• 48) <i>Thandinadi varmam</i></li> <li>• 49) <i>Pandri varmam</i></li> <li>• 50) <i>Ada varmam</i></li> <li>• 51) <i>Mothira kaalam</i></li> <li>• 52) <i>Vaanthi kaalam</i></li> <li>• 53) <i>Valamburi kaalam</i></li> <li>• 54) <i>Chorutheenda kaalam</i></li> <li>• 55) <i>Naabi varmam</i></li> <li>• 56) <i>Hanuman varmam</i></li> <li>• 57) <i>Pushti kaalam</i></li> <li>• 58) <i>Chuli varmam</i></li> <li>• 59) <i>Kurunthukuthi kaalam.</i></li> </ul>						,M-POS			
CO4	<p>Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varma points</i>.</p> <ul style="list-style-type: none"> <li>• 60) <i>Dhakshana kaalam</i></li> <li>• 61) <i>Kavali varmam</i></li> <li>• 62) <i>Peruviral Mayya varmam</i></li> <li>• 63) <i>Manikattu varmam</i></li> <li>• 64) <i>Kannu varmam</i></li> <li>• 65) <i>Muzhankai varmam</i></li> <li>• 66) <i>Muttu varmam</i></li> <li>• 67) <i>Thuthikai varmam</i></li> <li>• 68) <i>Kocchu varmam</i></li> <li>• 69) <i>Chulukku varmam (kai)</i></li> </ul>	CC	MK	K	D,L&PP T	DOPS,M-P OS,VV- Viva,DOPS	F&S		-	LH



	<ul style="list-style-type: none"> <li>• 70) <i>Puja varmam</i></li> </ul>									
CO4	<p>Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>Varma points</i>.</p> <ul style="list-style-type: none"> <li>• 71) <i>Mozhi Varmam</i></li> <li>• 72) <i>Aani Varmam</i></li> <li>• 73) <i>Pathakkala Varmam</i></li> <li>• 74) <i>Chulukku Varmam(Kaal)</i></li> <li>• 75) <i>Kochu Varmam</i></li> <li>• 76) <i>Aaama Kaalam</i></li> <li>• 77) <i>Thundu Varmam</i></li> <li>• 78) <i>Chirattai Varmam</i></li> <li>• 79) <i>Muttu Varmam</i></li> <li>• 80) <i>Channi Varmam</i></li> </ul>	CC	MK	K	D,L&PPT	DOPS,VV-Viva,DOPS,M-POS	F&S		-	LH
CO4	<p>Explain the location, signs and symptoms, manipulation techniques, appropriate levels, duration and frequency of pressure, directional techniques, and movement patterns required for effectively stimulating each <i>varmam</i> point.-<i>Vilangu varmam, kulir varmam, arangu varmam, maatraan kaalam, thivalai varmam, kaareeral varmam, velleeral varmam, kombu varmam, nenchadaippan varmam, munnvillu varmam, mundellu varmam, kutri varmam, urumi varmam, kakattai kaalam, chippi varmam, changu thiri kaalam, vaayu kaalam, manthira kaalam, athichuriki varmam, iruppu varmam, pinvillu varmam, andakkaalam, kaccha varmam, thandu varmam, thandinadi varmam, pandri varmam, ada varmam, mothira kaalam, vaanthi kaalam, valamburi kaalam, chorutheenda kaalam, naabi varmam, hanuman varmam,</i></p>	CAP	NK	K	D,L&PPT	DOPS,VV-Viva,M-POS,DOPS	F		-	NLHT4.5

	<i>pushti kaalam, chuli varmam, kurunthukuthi kaalam.</i>									
CO4	<p>Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>Varma points</i>.</p> <ul style="list-style-type: none"> <li>• 81) <i>Naai Thalai Varmam</i></li> <li>• 82) <i>Visha Varmam</i></li> <li>• 83) <i>Uppu Kuttri Varmam</i></li> <li>• 84) <i>Kaal Kannu Varmam</i></li> <li>• 85) <i>Kuthikaal Varmam</i></li> <li>• 86) <i>Nadai Varmam</i></li> <li>• 87) <i>Kulachu Varmam</i></li> <li>• 88) <i>Mudichu Varmam</i></li> <li>• 89) <i>Boomi Kaalam</i></li> <li>• 90) <i>Naduviral Chulukku Varmam</i></li> </ul>	CC	MK	K	L&PPT ,D	M-MOD,D OPS,VV- Viva,DOPS	F&S		-	LH
CO4	<p>Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>Varma points</i>.</p> <ul style="list-style-type: none"> <li>• 91) <i>Kaal Kavali</i></li> <li>• 92) <i>Peruviral Mayya Varmam</i></li> <li>• 93) <i>Adakka Varmam</i></li> <li>• 94) <i>Konachanni</i></li> <li>• 95) <i>Komberi Kaalam</i></li> <li>• 96) <i>Paathachakkaram.</i></li> </ul>	CC	MK	K	L&PPT	VV-Viva,M -CHT,DOP S,DOPS	F&S		-	LH
CO4	<p>Explain in detail the location, signs and symptoms, <i>avathi</i> (time limit), diet, and management for the following <i>varma points</i>.</p>	CC	MK	K	L&PPT	M-CHT,V V-Viva,DO PS,DOPS	F&S		-	LH

	<ul style="list-style-type: none"> <li>• 9) <i>Urumi kaalam/Pandri varmam</i></li> <li>• 10) <i>Periya Athisurikki kaalam</i></li> <li>• 11) <i>Seriya Athisurikki varmam</i></li> <li>• 12) <i>Kalladai kaalam</i></li> </ul>									
CO4	Explain the location, signs and symptoms, manipulation techniques, appropriate levels, duration and frequency of pressure, directional techniques, and movement patterns required for effectively stimulating each <i>varmam</i> point. <i>Ner varmam/kombu varmam, Adappa varmam, Urumi kaalam/pandri varmam, Periya athisurikki kaalam, Siriya athisurikki varmam, Kalladai kaalam</i>	CAP	MK	SH	L&PPT ,D	DOPS,DOP S,M-POS,V V-Viva	F&S		-	NLHT4.6

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 4.1	Measurements and manipulating techniques in <i>varmam</i> application	<p>The teacher provides an overview of key points in the <i>varmam</i> measurement and application module using simulated patients, a lecture with video clips, and a self-directed learning methodology. Observing video scenarios, students are guided to practice the stimulation techniques for each <i>varmam</i> point in OPD/IPD settings.</p> <p><b>A. Demonstration of pressure levels by traditional techniques</b>            Simulated patient demonstration: pressure levels (<i>Mathirai / Irai</i>): 1/4, 1/2, 3/4, 1. Or            Mannequin demonstration: the same pressure levels are illustrated using standardized mannequins.</p> <p><b>B. <i>Virai alavu</i> (Finger breadth) discussion</b>            Measurement and location of specific <i>varmam</i> points:  <i>1/4 mathirai (Edu): 3 virai alavu (1/4 jaan)</i>  <i>1/2 mathirai (Emam): 6 virai alavu (1/2 jaan)</i>  <i>3/4 mathirai (Kaalam): 9 virai alavu (3/4 jaan)</i>  <i>1 mathirai (varmam): 12 virai alavu (1 jaan)</i>            Examples: <i>Ner varmam</i>: 2 finger breadths below the sternum. <i>Adappa kaalam</i>: 4 finger breadths above the 11th floating ribs.</p>

### **C. Preparation and demonstration of manipulation methods**

Preparation: patient setup, room arrangement, and safety protocols.

Manipulation techniques:

*Thadaval*: Gentle rubbing with the palm (e.g., chest/trunk).-*agatharai, puratharai thadaval*

*Pinnal*: Hip with manipulation techniques.

*Amarthal*: Tapping over the vertex.-(*Amarthadangal*)

*Thattal*: Tapping over the chest/trunk. (*Thattadangal*)

*Thoduthal*: Stimulation of specific pressure points.

### **D. Stimulating methods**

Techniques: Pressing, circular motion, or arc-like pressure.

Measurement tools: Mathirai for pressure levels.

Finger breadth, thread, paddy length, *angulam, muzham, jaan*, etc., for distances.

Stimulating objects:seeds: Sesamum, paddy, *ulunthu, kundrimani (abrus precatorius)*, tamarind seed, cottonseed.

### **E. Thread measurement techniques in varmam( Nool alavai)- ( Silk, turmeric soaked cotton thread)**

E.g., Analyzing the head *varmam*—*Thilartha varmam*: this point is located half a fingerbreadth ( $\frac{1}{2}$  fb) below or in between the two eyebrows. Begin from *thilartha varmam (32 viral alavu)*, measuring from front to back using a thread. The thread is folded into two parts, and the measurement extends along the sides of the forehead to the temporal areas. Using this method, fb (*16 viral alavu* from both the right and left) enables easy analysis of *seerunkolli varmam*.

### **F. Discussion of time limits in varmam injuries and points**

Types of *varmam* injuries and duration:

1. Fatal injuries (e.g., *thilartha varmam: 3 3/4 naazhigai* ~ 1.5 hours).
2. Manipulation deadlines (e.g., *pidari varmam: within 24 naazhigai* ~ 9 hours 36 minutes).
3. Rest periods to avoid touch (e.g., *pin villu varmam* complications).

Classification by curability: curable vs. Incurable based on *avathi* (time limits).

Students are asked to evaluate peer performances, which encourages reflection on the application of *varmam* and procedural skills in *varmam* measurement and application, refining their skills to answer the viva component.

NLHT 4.2	Room Specification of <i>varmam</i> application.	<p>The teacher will use a lecture with group discussion to precisely explain the room specification and list of equipment used in the <i>varmam</i> application, as well as instructional videos to demonstrate how to set up the therapy room.</p> <p><b>1. Design a model representing a treatment room with proper ventilation</b>  A washroom, a floor mat for patient comfort, and open space setups for emergency scenarios. Ensure the models highlight the importance of cleanliness and accessibility.</p> <p><b>2. Table types</b>  Create miniatures or detailed sketches of tables traditionally used in <i>varmam</i> therapy, such as:  <i>Etti</i> (<i>strychnos nux-vomica</i>).  <i>Ayyini</i> (<i>artocarpus hirsutus</i>).  Teak wood.  Include dimensions for a <i>varmam thokkanam</i> table:  Length: 6½ - 7 adi (approximately 198 – 213 cm).  Width: 2 - 3 adi (approximately 61 – 91 cm).  Height: 2 - 2½ adi (approximately 61 – 76 cm).</p> <p><b>3. Seating arrangement-incorporate models of chairs or stools that facilitate proper posture for the therapist during treatment.</b></p> <p><b>4. Posture-lying and sitting postures used in <i>varmam</i> therapy. The significance of patient orientation (facing east or north).</b></p> <p><b>5. Equipment/properties used</b>  Showcase the tools and techniques used in therapy, including fingers or specific body parts. Tools like sticks or specialized instruments.  Highlight their traditional and therapeutic relevance.</p> <p><b>6. Medicine</b>  Prepare charts or diagrams differentiating:  Internal medicines (consumables).  External medicines (oils, pastes, or powders).</p> <p><b>7. Duration and frequency</b>  Specify the recommended duration of <i>varmam</i> applications in your models:  Treatment time frame in hours or minutes.  Frequency of sessions for optimal outcomes.</p> <p><b>8. Pressure levels</b></p>
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		<p>Create interactive models or visual aids to demonstrate:          Pressure levels (Maathirai): 1, 3/4, 1/2, 1/4. The significance of controlled pressure in therapy.  <b>9. Common criteria for physician</b> -ensuring an empty stomach with at least a 4-hour gap after a heavy meal. Advising patients to avoid hard physical activity before and after therapy. Ensuring the patient feels refreshed post-treatment, avoiding exhaustion or sweating.          Students are asked to create models, charts, and checklists for the <i>varmam</i> application presentations room.</p>
NLHT 4.3	<p><i>Varmam</i> points around the head, neck, and  <i>Varmam</i> points in the extremities.</p>	<p>The teacher will explain the <i>varmam</i> point around the head and neck / extremities application accurately through lecture with video clips, and use instructional films to show how to control the points.  <b>A. Class presentation components:</b>Introduction: define <i>thodu varmam</i>, provide an overview of the manipulation techniques, pressure application, duration, frequency, and directional techniques related to each varmam point          Body:          Manipulation techniques: explain the methods used to stimulate each <i>varmam</i> point. This should include touch (pressing, tapping, massaging), finger placement, and specific movements for each point.          Pressure application: detail the appropriate level of pressure for effective stimulation. Discuss variations in pressure for different points and conditions.          Duration and frequency: specify the time duration for stimulation and the recommended frequency of sessions for each point.          Directional techniques: demonstrate the correct directional movements (e.g., clockwise, counterclockwise, or specific angled motions) required for proper stimulation.          Conclusion:Summarize the key points about varmam manipulation and its therapeutic effects.          References:Cite books, journals, or research studies related to <i>varmam</i> therapy and techniques.          Appendices:</p>

		<p>Include diagrams of <i>varmam</i> points.  Provide extra details about the pressure application and directional techniques (with images or charts).  Attach any supporting materials like video links or extra notes on advanced techniques.</p> <p><b>B. Chart of labeled <i>varmam</i> points:</b>  Students will prepare a labeled chart for the following <i>varmam</i> points to help with their presentation and demonstrations:  Core <i>varmam</i> points:  <i>Pootellu varmam, mun chuvadi varmam, nettri kaalam, pin chuvadi varmam, porichal varmam, puruva kaalam, kannakaalam, kumbidum kaalam, bala varmam, chuliyadi varmam, moorthi kaalam/laada varmam/laada mayam, aayama kaalam, nadi varmam/naasi varmam, chenni varmam, poigai kaalam, kurunth kuttri kaalam, alavattukona chenni varmam, vettu varmam, kokki varmam, manthira kaalam, kannu varmam, arugu kaalam.</i></p> <p>Extremities <i>varmam</i>:  <i>Mozhi varmam, aani varmam, pathakkala varmam, chulukku varmam , (kaal)kochu varmam, aaama kaalam, thundu varmam, chirattai varmam, muttu varmam, channi varmam, naai thalai varmam, uppu kuttri varmam, kaal kannu varmam, kuthikaal varmam, nadai varmam, kulachu varmam, mudichu varmam, boomi kaalam, naduviral chulukku varmam, kaal kavali, peruviral mayya varmam, adakka varmam, konachanni, komberi kaalam, paathachakkaram.</i></p> <p>Students are asked to create charts and class presentation components as follows: introduction, manipulation techniques, pressure application, duration, and frequency. Directional techniques, citations, and appendices.</p>
NLHT 4.4	<i>Paduvarmam</i> - manipulation techniques	<p>The teacher will demonstrate the <i>varmam</i> point around the head and neck / extremities application accurately through lecture with video clips, and use instructional films to show how to control the points.</p> <p><b>A. Demonstration of necessary manipulation techniques for effectively stimulating <i>varmam</i> points</b>  <i>Thilartha varmam, natchathira varmam, sevikuttri varmam, pidari varmam, urakka kaalam, thummi</i></p>

		<p><i>kaalam</i></p> <p><b>B. Student activity:</b>          Instruct students to create posters that illustrate the key <i>varmam</i> points. Each poster should include:          Point name: clearly label the <i>varmam</i> point.          Location: indicate the anatomical location of the body.          Manipulation technique: describe the technique(s) to use on that specific point.          Pressure application: illustrate or describe the level of pressure required (mild, moderate, deep).          Duration: indicate how long the point should be stimulated.          Frequency: state the recommended frequency of stimulation.          Illustrations: draw the point on a body diagram to show its exact location.          Tips for effective stimulation: add any specific advice for stimulating each <i>varmam</i> point.          Students are asked to create posters on the application of <i>padu varmam</i> using the Dops method. With guidance, feedback, and a viva component, they refine their skills and build confidence in performing the techniques.</p>
NLHT 4.5	Manipulation techniques for stimulating <i>varmam</i> points of trunk	<p>The teacher provides an overview of key points of trunk <i>varmam</i> manipulation techniques using a powerpoint lecture and demonstration and explains the importance of patient assessment, positioning, and the conduction of therapy on simulated patients in opd/ipd settings.</p> <p><b>A.Location of <i>varmam</i> points:</b>          Identify and describe the anatomical locations of specific <i>varmam</i> points relevant to treatment.          Understand how to locate these points accurately on the body.          Manipulation techniques:          Learn the necessary manipulation techniques for effectively stimulating each <i>varmam</i> point. This includes:          Pressure application: understanding the appropriate levels of pressure (light, moderate, deep) required for different conditions.          Duration and frequency: knowing how long to apply pressure and how often to perform the manipulations for optimal therapeutic outcomes.          Directional techniques: identifying the correct direction and movement patterns to stimulate each</p>



		<p><i>varmam</i> point effectively.  <i>Vilangu varmam, kulir varmam, arangu varmam, maattraan kaalam, thivalai varmam, kaareeral varmam, velleeral varmam, kombu varmam, nenchadaippan varmam, munnvillu varmam, mundellu varmam, kutri varmam, urumi varmam, kakattai kaalam, chippi varmam, changu thiri kaalam, vaayu kaalam, manthira kaalam, athichuriki varmam, iruppu varmam, pinvillu varmam, andakkaalam, kaccha varmam, thandu varmam, thandinadi varmam, pandri varmam, ada varmam, mothira kaalam, vaanthi kaalam, valamburi kaalam, chorutheenda kaalam, naabi varmam, hanuman varmam, pushti kaalam, chuli varmam, kurunthukuthi kaalam.</i></p> <p><b>B. Procedural skills in <i>varmam</i> measurement and application</b></p> <p>Understand indications and techniques.  Position and prepare the patient.  Apply <i>varmam</i> techniques with precise duration and safety precautions.  Target intended therapeutic outcomes.  Students are asked to demonstrate basic manipulation skills for trunk <i>varmam</i>, such as pressure application, duration, and frequency. Also, instruct them to create posters on the <i>varmam</i> topics and provide answers for the viva components.</p>
NLHT 4.6	<i>Paduvarmam (7-12)</i> - manipulation techniques	<p>The teacher will show the key manipulation techniques necessary for properly stimulating each <i>paduvarmam (7-12) varmam</i> point, emphasizing the correct pressure, duration, and frequency through a lecture with powerpoint and demonstration.  <i>Ner varmam/kombu varmam, Adappa varmam, Urumi kaalam/pandri varmam, Periya athisurikki kaalam, Sิริya athisurikki varmam, Kalladai kaalam</i></p> <p>Students will watch the demonstration and practice under supervision while ensuring proper preparation, correct application, patient safety, and adherence to contraindications by using the Dops methodology. The teacher will guide the students in designing posters focused on specific <i>varmam</i> points, refining their skills to answer the viva questions.</p>

Non Lecture Hour Practical		
S.No	Name of Practical	Description of Practical Activity
NLHP 4.1	Plotting of <i>Varmam</i> points in mannequins	<p>The teacher will demonstrate how to plot <i>varmam</i> points in mannequins using kinesthetic learning and simulation methodologies.</p> <p><b>Hour 1: introduction to <i>varmam</i> point-</b>            Identification of <i>varmam points</i> on the mannequin (30 minutes)            Begin with a brief overview of <i>varmam</i> therapy and its significance.            Systematically identify major <i>varmam</i> points on the mannequin.            Use anatomical references to ensure accurate identification.            Basic explanation of locations (30 minutes)            Specify its position in the body (e.g., joints, nerves, muscles).            Highlight its accessibility and practical application in therapy.</p> <p><b>Hour 2: detailed explanation of types</b>            Types of <i>varmam</i> points (60 minutes)            Categorize and explain the types of <i>varmam</i> points, such as:  <i>Padu varmam</i> (superficial points).  <i>Thodu varmam</i> (touch-based points).  <i>Thattu varmam</i> (object-based on points)  <i>Noku varmam</i> (focus-based points).  <i>Ull varmam</i> (pregnancy-based points).            Provide examples of each type and demonstrate their identification on the mannequin.</p> <p><b>Hour 3: numerical value of <i>varmam</i> points</b>            Numerical value explanation (60 minutes)            Discuss the numerical value of <i>varmam</i> points:( single or double <i>varmam</i>).total number of points (e.g., 108 primary points, 12 <i>padu varmam</i> points). Explain the significance of specific numerical groupings in <i>siddha</i> medicine. Highlight commonly used <i>varmam points</i> for therapeutic purposes.</p> <p><b>Hour 4: consolidation and practical review</b>            Interactive review and practice (60 minutes)            Encourage hands-on practice for identifying <i>varmam points</i> on the mannequin.            Reinforce understanding by asking participants to explain: locations, types, and numerical values.</p>

Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (Dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation.

Two groups of students are formed, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs, just like the first group.

The total duration of the activity is 4 hours.

**Topic 5 VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL (LH :4 NLHT: 5 NLHP: 4)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO4	Describe <i>varma</i> medicine, especially for <i>odivu / murivu</i> with examples-oil for bone fracture management ( <i>Enbu murivuku ennai</i> ), joint smoothening oil ( <i>Mootu asaivuku ennai</i> ), joint tightening oil ( <i>Muttu irukki palakka ennai</i> ), nerve strengthening oil ( <i>Narambu vanmaiku ennai</i> ), <i>poochu</i> (Liquid poultice), <i>thuvalai</i> (Paste massage), <i>ottradam</i> (Fomentation), <i>kizhi vaithal</i> (Medicated pouch), <i>thaarai</i> (Oil dripping), <i>pasai</i> (Medicated paste), <i>kalikkam</i> (Liquid ophthalmic applications).	CC	MK	KH	L_VC,L &PPT , FC,PL,F V	CL-PR,VV- Viva	F&S		-	NLHT5.1
CO1, CO4	Identify and describe the various leaves and raw drugs used in <i>varmam</i> therapy, focusing on their therapeutic properties and specific applications in treatment and highlighting their characteristics, identification, and sourcing methods.	CC	DK	K	L&PPT ,D-M,D G,D	QZ ,VV- Viva	F		-	LH
CO1, CO4	Explain the preparation, ingredients, and applications of decoctions used in <i>varma</i> therapy, specifically for managing <i>varma pidippu</i> (Muscle stiffness or sprain), <i>moola</i>	CC	MK	KH	PER,L& PPT ,TBL	VV-Viva,T- OBT	F&S		-	LH

	<i>Vaayu</i> (Diarrhea), rectal hemorrhage, <i>mega noi</i> , dysuria, a fall from a palm tree.									
CO1, CO4	List the internal medicines commonly used in <i>varmam</i> applications, including oil, <i>kanji</i> , powder, <i>kavalam</i> , <i>kirtham</i> , <i>adai</i> , <i>ilagam</i> , <i>rasayanam</i> , <i>vaatru</i> , and <i>nei</i> . Explain <i>about</i> preparation methods for each type of internal medicine utilized in <i>varmam</i> therapy. Identify the appropriate dosage and specific therapeutic applications of internal medicines used in <i>varmam</i> treatments.	CK	MK	KH	L&PPT ,TBL	VV-Viva,T- OBT	F&S		-	NLHT5.2
CO1, CO4	Describe the principles, uses, and applications of <i>varmam</i> medicine, specifically for managing <i>odivu</i> and <i>murivu</i> with relevant examples- <i>vasaennai</i> , <i>thirumeni thylam</i> , <i>adi</i> , <i>vithanam</i> , <i>raththakattu</i> , <i>narambupidippuku ottradam</i> , <i>varma pidippuku poochu marunthu</i> , <i>vithanamthuku poochu</i> .	CC	MK	K	TBL,L &PPT	VV-Viva,C L-PR	F&S		-	LH
CO1, CO4	Demonstrate the specific techniques and preparation methods of <i>varmam</i> medicines.	PSY- GUD	DK	K	DIS,DL	VV-Viva,P- PS	F		V- GMM	NLHT5.3
CO1, CO4, CO6	Perform a clinical examination of a patient with depression ( <i>manathalarchi</i> ), incorporating the assessment of <i>varmanaadi</i> and <i>saraottam</i> . Demonstrate the application of <i>varmailakkumurai</i> techniques, ensuring proper measurement and application of <i>maathirai/irai</i> .	PSY- GUD	MK	SH	KL,SIM	P- VIVA,Log book,DOPS ,DOPS	F&S		-	NLHP5.1
CO1, CO4, CO6, CO7	Conduct a clinical examination of a patient with mental restlessness, assessing <i>varmanaadi</i> and <i>saraottam</i> effectively. Apply <i>varmailakkumurai</i> techniques with accurate measurement of <i>maathirai/irai</i> to treat the condition.	PSY- GUD	DK	SH	KL,SIM	P- VIVA,Log book	F		-	NLHP5.2
CO4	Demonstrate the preparation and application techniques for	PSY-	MK	K	D	DOPS,DOP	F&S		-	NLHT5.4

	external medicines used in <i>puramaruthuvam</i> therapy, including oil, powder, <i>thalam, poochu, tharai, kizhi / pottanam, pasai, kulineer, and nasiyam</i> . Ensure accurate dosage and effective therapeutic application. Perform the <i>varma thokkanam</i> techniques, including <i>thadaval, azhuthal, and ezhuthal</i> , using the correct methods and ensuring the proper application for therapeutic outcomes	GUD				S,VV-Viva				
CO4	Explain the preparation, ingredients, and applications of decoctions used in <i>varma</i> therapy, – aalampaal ennai, the decoction is prescribed for fever arising after <i>varmam</i> injuries, <i>varma</i> medicine is effective for treating burning micturition and hematuria, <i>varma</i> medicine for epistaxis (Nosebleeds), <i>varma chooranam</i> used for alleviating constipation, <i>varma nei</i> preparation.	CC	NK	K	L&PPT	VV-Viva,C L-PR	F		-	LH
CO4	Explain the preparation, ingredients, procedure, and therapeutic application of <i>krisathu kiyalam, kaya thirumeni thylam, theethylam, and varmani kuligai</i> . Outline the preparation, ingredients, and application of medicines used for treating cough. Explain the formulation, preparation method, and use of <i>pachilai</i> for treating constipation and decoction used for <i>varma pidippu</i> .	CC	MK	KH	TBL,L &PPT	T-OBT,VV- Viva	F&S		-	NLHT5.5

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 5.1	Varma medicine used for <i>odivu /murivu</i> condition	The teacher will explain the <i>varma</i> medicine used for <i>odivu /murivu</i> condition through lecture with powerpoint and flipped classroom. <b>Pre-class activities</b> (self-learning phase)-read study material -texts on <i>varmam</i> points and its medication, prepare questions – identify doubts and areas needing clarification. In-class activities session – clarify doubts and discuss real-life applications. Group discussion – case discussion and <i>varmam medicine</i> application, peer teaching – small groups explain concepts to each

other to reinforce learning.

**Post-class activities**-self-practice & case documentation – apply learned techniques and note observations in the varmam medicine prescription.

Specific examples of medicines used in *varma odivu and murivu* treatments.

Oil for bone fracture management (*enbu murivuku ennai*)

Joint smoothening oil (*mootu asaivuku ennai*)

Joint tightening oil (*muttu irukki palakka ennai*)

Nerve strengthening oil (*narambuvanmaiku ennai*)

External therapies

*Poochu* (smearing)- refers to a traditional external application technique often used in *Siddha* medicine.

*Adapothiyam poochu*: used for trauma-related conditions.

*Aliya poochu*: specifically used for koombuvarmam

*Thuvalai* – liquid application

*Thuvalai* is a method that involves the application of a paste, liquid, or oil infused with medicinal ingredients, as a coating over the body or affected parts. Herbal leaves, roots, or bark. fruits or their dermis parts. fermented liquids or cruel water. Medicated oils, butter, or drug formulations

*Nimbaathi thuvalai*: weakness or fatigue in the body (*sugakedugal*).

*Nilavaagai thuvalai*-orthopedic or neurological disorders.

*Ottradam* (fomentation) refers to the therapeutic application of hot or cold packs or substances on the body.

*Paruthivithai ottral* -for nerve weakness.

*Kalarchi ottral*-to reduces swelling (edema).

*Notchi ottral*- for relief from cough and cold

The *kizhi* (*ottradam / pottanam*)-medicated pouch technique that involves the application of medicated pouch (*kizhi*) to the body.

1. *Thattukizhi* (*vellai parakkal kizhi*)

2. *Mamisha kizhi* (*dhasamamisa kizhi*)

*Thaarai therapy*-oil dripping-warm medicated oils are poured continuously onto the forehead from a specific height for a designated period, flowing through the scalp and into the hair.

*Ozhugu dharai* (flowing stream): helps calm the mind and the nervous system

*Thuli dharai / sottudharai* :benefits: used for vatha-related diseases, headaches, and degenerative

		<p>conditions. Duration: half a second per flow.</p> <p><i>Ootru / koorudharai</i>: medicinal oil is poured over the body for general therapeutic benefits.</p> <p>2. <i>Pasai</i> (medicated cream))-often used in dermatological / <i>varmam</i> conditions where the herbs' effects remain active on the surface for extended durations</p> <p><i>Odivu kattu pasai</i>: <i>puliyankottai</i> (tamarind seeds), <i>kaarkolarusi</i> (<i>Psoralea corylifolia</i>), <i>ulunthu</i> (black gram) in equal quantities. gingelly oil (sesame oil) and 1 hen egg.-for <i>varmam</i> injuries (pressure point) injuries.</p> <p><i>Odivu kattu pasai</i>-coconut water, egg white, and gingelly oil. Usage: also for <i>varmam</i> injuries.</p> <p><i>Kuliyal</i> (medicated bath)</p> <p><i>Thokkanam</i>: a whole-body massage with oil or self-administered oil massage.</p> <p>Preferred water: warm water is advised for bathing post-<i>thokkanam</i> to enhance therapeutic effects.</p> <p>Students will prepare the content and present a class presentation and viva voce discussion in the classrooms on the topic of <i>varma odivu/murivu marunthu</i>. The conclusion serves to consolidate the student's understanding of <i>varmam</i> medicine, emphasizing its significance and encouraging future exploration.</p>
NLHT 5.2	Internal medicines utilized in <i>varmam</i> application	<p>The teacher will explain the <i>varmam</i> internal medicine uses through a lecture with powerpoint and team-based learning.</p> <p>Students are encouraged to recollect their knowledge of <i>varmam</i> medicine preparation and their ability to analyse, evaluate, and synthesize knowledge about internal medicines in <i>varmam</i> applications, focusing on preparation methods, dosage, and uses, through an open-book theory test and by refining questions and providing answers.</p> <p><b>A. Steps to approach an open-book test preparation:</b></p> <ol style="list-style-type: none"> <li>1. Understand exam expectations: identify plants and raw drugs used in preparing <i>varmam</i> medicines.</li> <li>2. Review topic objectives: explain preparation methods and highlight ingredient identification and sourcing.</li> <li>3. Prepare study notes: focus on formulations like <i>ennai</i> (Oil), <i>kanji</i> (Porridge), <i>chooranam</i> (Powder), <i>kavalam</i> (Oro-dispersible films), <i>kirtham</i> (Clarified butter), <i>adai</i> (Pancake), <i>ilagam</i> (Electuary), <i>rasayanam</i> (Dainties), <i>vaatru</i>, and <i>nei</i> (Medicated ghee).</li> <li>4. Practice applications: study how these medicines are applied in various <i>varmam</i> treatments.</li> <li>5. Build a system: understand their medicinal properties and their role in enhancing therapeutic</li> </ol>

		efficacy.
NLHT 5.3	Preparation of <i>varmam</i> medicine	<p>The <i>varmam</i> internal medicine preparation methodology will be elucidated by the teacher through a laboratory discussion and preparation.</p> <p>Students will engage in practical problem-solving assessments while preparing <i>varmam</i> medicines and honing their abilities to enhance assessment questions.</p> <p><b>Laboratory Component</b>-This component evaluates students' skills in problem-solving, logic, creativity, and analytical thinking during <i>Varmam</i> medicine preparation.</p> <ol style="list-style-type: none"> <li>1. Preparation Process: Prepare <i>Varmam</i> medicines in the <i>Gunapaadam (Marunthiyal and Marunthakkaviyal)</i> laboratory.</li> <li>2. Herb Selection: Choose and justify herbs/raw drugs based on their therapeutic properties.</li> <li>3. Material Procurement: Gather and ensure the quality of materials for preparation.</li> <li>4. Preparation Techniques: Demonstrate preparation methods, emphasize correct dosages, and address challenges with innovative solutions.</li> </ol> <p>Discuss independent applications of learned techniques. Share ideas for refining and modernizing preparation methods for future healthcare applications.</p>
NLHT 5.4	Preparation of <i>Varmam Marunthugal</i> - External Medicines	<p>The teacher explains and demonstrates the preparation for external medicines and application techniques used in <i>varmam puramaruthuvam</i> therapy,</p> <p><b>1. Understanding of the procedure:</b> demonstrates knowledge of indications, techniques, and the step-by-step procedure for <i>varma thokkanam</i>.</p> <p><b>2. Steps involved:</b> preparation of materials. Obtaining informed consent. Execution of techniques. Analysis of indicated and contraindicated conditions. Post-care therapy. Adherence to safety precautions.</p> <ol style="list-style-type: none"> <li>1. Discussion topics: external medicines and therapies used in <i>varmam</i> applications, including preparation methods, dosage, and applications.</li> <li>2. Key components covered: <ul style="list-style-type: none"> <li>* <i>Ennai</i> (Oil): medicinal oils for application.</li> <li>* <i>Poochu</i> (Liquid application): direct application of therapeutic liquids.</li> </ul> </li> </ol>



		<p>* <i>Thuvalai</i> (Anointing or paste massage): application of paste or liquid for massage.</p> <p>* <i>Ottradam</i> (Fomentation): use of hot or cold packs or substances at appropriate temperatures.</p> <p>* <i>Kizhi / pottanam</i> (Medicated bundle/pouch): application of medicated bundles or pouches.</p> <p>* <i>Thaarai</i> (Oil dripping): a specific method of external therapy.</p> <p>* <i>Pasai</i> (Embrocation application): application of ointments or liniments.</p> <p>* <i>kuliyal</i> (Medicated bath): therapeutic bathing with medicated solutions.</p> <p>* <i>Nasiyam</i> (Nasal drops): application of medicated nasal drops.</p> <p>* <i>Thalam</i> (Poultice): application of poultices for healing purposes.</p> <p>Students can perform the therapy under supervision and also emphasized using the direct observation of procedural skills (Dops) methodology. And prepare them for practical-oriented studies.</p>
NLHT 5.5	Preparation of <i>Varmam</i> medicines	<p>The teacher will explain the <i>varma</i> internal medicine uses through a lecture with powerpoint and team-based learning.</p> <p>Students are encouraged to recollect their knowledge of <i>varmam</i> medicine preparation and their ability to analyze, evaluate, and synthesize knowledge about internal medicines in <i>varmam</i> applications, focusing on preparation methods, dosage, and uses, through an open-book theory test and by refining questions and providing answers.</p> <p><b>Steps to approach an open-book test preparation:</b></p> <ol style="list-style-type: none"> <li>1. Understand exam expectations: identify plants and raw drugs used in preparing <i>varmam</i> medicines.</li> <li>2. Review topic objectives: explain preparation methods and highlight ingredient identification and sourcing.</li> <li>3. Prepare study notes: focus on formulations like <i>Krisathu kiyalam, china thirumeni thylam, theethylam, varmani kuligai, medicine for cough, pachilai for constipation, decoction for Varma pidippu</i></li> <li>4. Practice applications: study how these medicines are applied in various <i>varmam</i> treatments.</li> <li>5. Build a system: understand their medicinal properties and their role in enhancing therapeutic efficacy.</li> </ol>

## Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 5.1	Varmam Applications in Psychiatry Disorder- Depression ( manathalarchi )	<p>The teacher will demonstrate clinical examination to elicit signs and symptoms in simulated patients, rule out the entire history, perform a physical examination, confirm the diagnosis of the condition, and demonstrate the use of <i>varmailakkumurai</i> techniques, ensuring proper measurement using kinesthetic learning and simulation.</p> <p><b>Hour 1: Patient selection and preparation (10 minutes)</b>            identify a suitable patient for <i>varma</i> therapy based on specific complaints            Analyse patient history and vitals (30 minutes):            Patient complaints: document the symptoms and affected areas.            History: note past illnesses, injuries, and medical treatments.            Vitals:<i>Naadi/Saraottam</i>            Prepare materials and environment (20 minutes)            Any tools or aids required for applying <i>varma</i> therapy.            Clean towels, oils (if necessary), and disinfectants.            Ensure adequate manpower is available for assistance.            Clean and ventilated environment, comfortable seating, or lying arrangements for the patient.            Verify suitable and unsuitable conditions for <i>varma</i> therapy (e.g., avoid overly sensitive areas or unfit patients).</p> <p><b>Hour 2: Procedure and assessment</b>            Apply <i>varma</i> points with precision (40 minutes)            Identify the required <i>varma</i> points based on the patient's complaints.            Apply precise pressure (<i>maathirai/irai</i>) with defined intensity and duration.            Varmam points - <i>kondaikolli varmam, sirukolli, pidari, suruthi, pinkuthi, kampoori, sadapir, kaikavuli, viruthi varmam</i>            Monitor the patient's response throughout the procedure.            Use rhythmic and consistent techniques as needed for therapeutic effect.            Provide medication (10 minutes)-administer internal or external medication if necessary: explain their purpose and usage to the patient.            Post-therapy assessment (10 minutes)-reassess the patient for any adverse effects or immediate improvements, check vital signs, especially <i>naadi, and saraottam</i></p>

		<p>Students can perform the therapy under supervision and also emphasized using the direct observation of procedural skills (Dops) methodology. And prepare them for practical-oriented studies. And maintain proper log books for future documentation.</p> <p>Students are divided into two groups, with one group engaging in the performance for 1 hour while the other group observes. In the next 1 hour, the roles are reversed, and the second group performs while the first group watches.</p> <p>The total duration of the activity is 2 hours.</p>
NLHP 5.2	Varmam application in psychiatric disorder- Mental Restlessness	<p>The teacher will demonstrate clinical examination to elicit signs and symptoms in simulated patients, rule out the entire history, perform a physical examination, confirm the diagnosis of the condition, and demonstrate the use of <i>varmailakummurai</i> techniques, ensuring proper measurement using kinesthetic learning and simulation.</p> <p><b>Hour 1: Patient selection and preparation</b></p> <p>Select the patient for the application (10 minutes)-choose a patient whose condition is suitable for <i>varmam</i> therapy (e.g., musculoskeletal pain, joint stiffness, or neurological issues)</p> <p>Analyze history and vitals (30 minutes)- history of patient / <i>naadi</i> / <i>saraottam</i></p> <p>Arrange materials and setup (20 minutes)</p> <p>Disinfectants and protective items (if needed).</p> <p>Comfortable arrangement for patient positioning (seated or lying down).</p> <p><b>Hour 2: Application and assessment</b></p> <p>Apply <i>varma</i> points with precision (40 minutes)</p> <p>Locate and activate the relevant <i>varma</i> points based on the patient's condition.</p> <p>Use precise pressure techniques (<i>maathirai/irai</i>) to ensure therapeutic effects.</p> <p><i>Varmam</i> points- <i>nadu moorthi varmam, thilartham, nadu nema, patchi nema, netrri pala, ner, thuthikai, mani bandha varmam.</i></p> <p>Provide internal/external medication (10 minutes)-medicated decoctions, oils, or medicated packs.</p> <p>Post-therapy assessment and follow-up (10 minutes)-recheck vital signs, including <i>naadi</i> and <i>saraottam</i>. Observe for symptom relief or any discomfort caused during therapy. Document findings and provide follow-up care instructions.</p> <p>Students can perform the therapy under supervision and also emphasized using the direct observation</p>

of procedural skills (Dops) methodology. And prepare them for practical-oriented studies. And maintain proper log books for future documentation.  
 Students are divided into two groups, with one group engaging in the performance for 1 hour while the other group observes. In the next 1 hour, the roles are reversed, and the second group performs while the first group watches.  
 The total duration of the activity is 2 hours.

**Topic 6 VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES) (LH :5 NLHT: 7 NLHP: 34)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO4	Demonstrate the <i>varma ilakkumurai for thalai to kazhuthu (head to neck), kazhuthu- muthugu/maarbu (neck to chest/trunk) varmam illnesses.</i>	PSY-GUD	MK	KH	DIS,D,L_V C	DOPS,DOP S,PA	F&S		-	NLHT6.1
CO1, CO4	Demonstrate the <i>varmam ilakkumurai in kaal saarntha varmam, kai saarntha varmam illness</i>	PSY-GUD	NK	KH	L_V C,D IS	DOPS,DOP S,PA	F		-	NLHT6.2
CO1, CO4	Demonstrate the methods of <i>Sarvaanga Thadaval (whole body treatment)</i>	PSY-GUD	MK	KH	DIS,L& PPT	DOPS,DOP S,PA	F		-	NLHT6.3
CO1, CO4	Discuss the specific <i>varmam</i> points, manipulation techniques, and anatomical locations used to address pediatric conditions, providing relevant examples.Explain the <i>varmam</i> points, manipulation methods, and their locations for managing gastrointestinal disorders conditions, with appropriate examples.	CC	NK	SH	L_V C,L &PPT	M-POS,P- PRF,PA	F		-	LH
CO1, CO4	Demonstrate the identification and application of <i>varmam</i> points, including manipulation techniques and their locations, to address musculoskeletal disorders ( <i>thasai kootu noigal</i> ), providing relevant examples. Perform the manipulation techniques for <i>varmam</i> points used in neuromuscular disorders, accurately	PSY-GUD	MK	SH	L_V C,L &PPT	P-PRF,M- POS,PA	F&S		-	NLHT6.4

	identifying their locations and applying the correct methods, supported by relevant examples.									
CO1, CO4	Discuss the identification and application of <i>varmam</i> points, including manipulation techniques and their locations, to address ear, nose, and throat (ENT) diseases and eye diseases, providing relevant examples.	CC	MK	SH	L_VC,L &PPT	M-POS,P-PRF,PA	F&S		-	LH
CO1, CO4	Demonstrate the identification and application of <i>varmam</i> points to address respiratory illness, and gynaecological conditions providing relevant examples	PSY-GUD	DK	SH	L_VC,L &PPT	M-POS,PA, P-PRF	F		-	NLHT6.5
CO1, CO4	Discuss the nonsuitable conditions, patient survival criteria, methods for determining if a patient is alive, and the identification of <i>pranic</i> flow, including <i>vaali oli</i> , <i>veeman oli</i> , <i>meitheenda kaalam</i> , <i>ullamkaal</i> , and <i>peruviral</i> , complications of any illness, adverse effects after therapy,	CC	MK	K	L&PPT	QZ ,VV-Viva	F&S		-	LH
CO1, CO4	Discuss the physiology of pain (gate control theory). Explain about the importance of <i>varmam</i> in religious aspect and its mechanism	CC	DK	K	L_VC,L &PPT	VV-Viva,M-MOD	F		-	LH
CO1, CO4	Illustrate the physiology of signaling pathways and neurotransmitters.	CC	DK	K	L_VC	M-MOD,V V-Viva	F		-	NLHT6.6
CO1, CO4	Discuss the types and locations of <i>adangal</i> , focusing on the 9th and 13th ways of classification.	CK	MK	K	D-M,L_VC,L	VV-Viva,D OPS,DOPS	F&S		-	LH
CO1, CO4	Illustrate the therapeutic applications of <i>adangal</i> by providing relevant examples for the following areas  <i>Amarthadangal</i> , <i>agatharai</i> , <i>puratharai adangal</i> , <i>panchathattu</i>	CAN	MK	KH	D-M,L &PPT	DOPS,DOP S,VV-Viva	F&S		-	NLHT6.7

	<i>adangal, pulimuthu adangal, nagakan adangal</i>									
CO4, CO5	Perform the assessment of <i>varmanaadi and saraootam</i> in a facial palsy patient, demonstrating the initial preparation for evaluation. Explain the application of <i>varmailakkumurai</i> techniques, ensuring the use of appropriate <i>maathirai/irai</i> measurements during the procedure.	PSY-GUD	MK	SH	KL,D-B ED,CB L	P-EXAM,C BA,Log book	F&S		-	NLHP6.1
CO1, CO4	Perform the assessment of <i>varmanaadi and saraootam</i> in a hemiplegia patient, demonstrating the initial preparation for evaluation. Explain the application of <i>varmailakkumurai</i> techniques, ensuring the use of appropriate <i>maathirai / irai</i> measurements during the procedure	PSY-GUD	MK	SH	KL,D-B ED,CB L	Log book,C BA,P- EXAM	F&S		-	NLHP6.2
CO1, CO4, CO5	Perform the assessment of <i>varmanaadi and saraootam</i> in epilepsy patients, demonstrating the initial preparation for evaluation. Explain the application of <i>varmailakummurai</i> techniques, ensuring the use of appropriate <i>maathirai / irai</i> measurements during the procedure.	PSY-GUD	MK	SH	CBL,K L,D- BED	P-EXAM	F&S		-	NLHP6.3
CO1, CO4	Perform the assessment of <i>varmanaadi and saraootam</i> in shock patients, demonstrating the initial preparation for evaluation. Explain the application of <i>varmailakummurai</i> techniques, ensuring the use of appropriate <i>maathirai / irai</i> measurements during the procedure	PSY-GUD	MK	SH	D-BED, KL,CB L	P- VIVA,Log book	F&S		-	NLHP6.4
CO4	Examination of fever patient with the assessment of <i>varmanaadi, saraootam, apply varma ilakummurai</i> techniques with proper <i>maathirai/irai</i> measurements	PSY-GUD	MK	SH	CBL,SI M	DOPS,Log book,P-VI VA,DOPS, CBA	F&S		-	NLHP6.5
CO4, CO7	Perform the assessment of <i>varmanaadi and saraootam</i> in epistaxis patients, demonstrating the initial preparation for evaluation. Explain the application	PSY-GUD	DK	SH	SIM,CB L	DOPS,DOP S,CBA,P- VIVA,Log	F		-	NLHP6.6

	of <i>varmailakummurai</i> techniques, ensuring the use of appropriate <i>maathirai/irai</i> measurements during the procedure.					book				
CO4, CO7	Perform the assessment of <i>varmanaadi and saraootam</i> in wrist joint pain patients, demonstrating the initial preparation for evaluation. Explain the application of <i>varma ilakkumurai</i> techniques, ensuring the use of appropriate <i>maathirai/irai</i> measurements during the procedure	PSY- GUD	MK	SH	CBL,SI M	CBA,Log b ook,P- VIVA	F&S		-	NLHP6.7
CO1, CO4	Perform the assessment of <i>varmanaadi and saraootam</i> in sciatica patients, demonstrating the initial preparation for evaluation.Explain the application of <i>varma ilakkumurai</i> techniques, ensuring the use of appropriate <i>maathirai / irai</i> measurements during the procedure	PSY- GUD	MK	SH	CBL,SI M	Log book,P -EXAM,D OPS,DOPS	F&S		-	NLHP6.8
CO4, CO5	Perform the assessment of <i>varmanaadi and saraootam</i> in a knee joint pain patient, demonstrating the initial preparation for evaluation. Explain the application of <i>varmailakummurai</i> techniques, ensuring the use of appropriate <i>maathirai/irai</i> measurements during the procedure.	PSY- GUD	DK	SH	SIM,CB L	P-EXAM	F		-	NLHP6.9
CO1, CO4	Perform the assessment of <i>varmanaadi and saraootam</i> in a migraine patient, demonstrating the initial preparation for evaluation. Explain the application of <i>varmailakkumurai</i> techniques, ensuring the use of appropriate <i>maathirai / irai</i> measurements during the procedure.	PSY- GUD	MK	SH	KL,SIM	P-PRF	F&S		-	NLHP6.10
CO1, CO4	Demonstrate the application of important <i>Adangal</i> points in the Head region.	PSY- GUD	MK	SH	SIM,KL	Log book,D OPS,P-EX AM,DOPS	F&S		-	NLHP6.11
CO1, CO4	Demonstrate the application of important <i>Adangal</i> points in the chest and abdomen.	PSY- GUD	MK	SH	SIM,KL	DOPS,P- EXAM,Log book,DOPS	F&S		-	NLHP6.12

CO1, CO4	Demonstrate the application of important <i>Adangal with thadavumuraigal</i> (adangal with massage methods) in the upper limb region	PSY- GUD	MK	SH	SIM,KL	DOPS,DOP S,P- EXAM,Log book	F&S		-	NLHP6.13
CO1, CO4	Demonstrate the application of important <i>adangal</i> in the lower limb region.	PSY- GUD	NK	SH	KL,SIM	DOPS,DOP S,Log book ,P-EXAM	F		-	NLHP6.14
CO1, CO4	Demonstrate the application of important <i>varma thadavumurai nootpungal</i>	PSY- GUD	MK	SH	SIM,KL	DOPS,DOP S,Log book ,P-EXAM	F&S		-	NLHP6.15

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 6.1	Varma ilakkumurai for thalai to kazhuthu(head to neck),kazhuthu- muthugu/maarbu( neck to chest/trunk) varmam illness	<p>The teacher provides an overview of key points in the <i>varma ilakkumurai for thalai to kazhuthu</i> (neck head), <i>kazhuthu to muthugu / maarbu</i> (neck to chest/trunk), <i>varmam</i>-related illnesses, and the application module using a lecture with video clips and a discussion methodology. Through the observation of video scenarios, students are guided in practicing manipulation methods for each varmam point in OPD / IPD settings.</p> <p>1. Understanding of the procedure: Demonstrates knowledge of indications, techniques, and the step-by-step procedure for varma therapy 2. Steps involved: Preparation of materials. Obtaining informed consent. Execution of techniques.post-care therapy.</p> <p>General preparation for <i>varmam</i> techniques</p> <p>Patient preparation- ensure the patient is mentally and physically ready. Explain the procedure to gain patient cooperation and reduce anxiety.</p> <p>Arrangement-</p> <p>Set up a clean, comfortable, and quiet environment.</p> <p>Position the patient appropriately (sitting, or lying down) based on the procedure.</p> <p>Patient assessment examines the neck and trunk surrounding regions for abnormalities.</p> <p>Teaching for students-repeat the procedure with a clear explanation of techniques for practice and</p>



learning.

Thalai to *kazhuthu*(head - neck) varmam techniques (*ilakkumurai*)

Stage-wise procedure:

Stage 1- position the patient in a sitting posture.

Stage 2- pull the hair at the vertex upward gently to stimulate circulation.

Stage 3perform *agatharai thadaval* (massage from neck to umbilicus) and *puratharai thadaval* (neck to sacrum massage). Gently lift the body and relax.

Stage 4-lift the lower mandible with care.

Stage 5-lift and shake the occiput region gently.

Stage 6-blow *chukku* (dried ginger) powder near the ear.

Insert the middle fingers into the ears and shake gently.

Stage 7-shake both legs simultaneously.

Stage 8-tie both hands around the chest to stabilize the patient.

Stage 9-support the patient with the physician's leg near the *sanguthiri varmam* (sacrum) and twist the body gently.

Stage 10 -press the *sanguthiri varmam* using fingers, elbows, or knees.

Neck to *moolatharam*( ( neck to chest/trunk) )varmam techniques

Stage-wise procedure:

Stage 1-position the patient securely at the physician's left side (near the dorsal foot).

Stage 2 use the physician's right foot or knee to support the patient while addressing the 4th cervical space.

Stage 3- apply pressure using a paddy (or similar soft tools) on the arms.

Stage 4-press paddy on the frontal folds (forehead).

Stage 5- apply gentle pressure on the mastoid process (behind the ear).

Stage 6-press both sides of the temporal region.

Stage 7-press along the occiput area, ensuring the patient recovers with their eyes open.

Stage 8 for chills, place the physician's warm palm over the affected region to restore warmth.

Stage 9-in cases of tremors, position the patient on their left side and gently twist or press the temporal region.

Stage 10- turn the patient to both sides and apply twisting and pressing techniques under the armpits.

Lift and adjust the mandible towards the right and left region.

Students are asked to evaluate peer performances, which encourages reflection on the application of

		<p><i>varmam</i> and procedural skills in <i>varmam</i> manipulation and application.</p>
<p>NLHT 6.2</p>	<p>The <i>varmam ilakkumurai</i> in <i>kaal saarntha varmam</i>, <i>kai saarntha varmam</i> illness</p>	<p>The teacher provides an overview of key points in the <i>varma ilakkumurai</i> for <i>kaal saarntha varmam</i>, <i>kai saarntha varmam</i> (upper limb, lower limb ) related <i>varmam</i>-illnesses, and the application module using a lecture with video clips and a discussion methodology. Through the observation of video scenarios, students are guided in practicing manipulation methods for each <i>varmam</i> point in OPD/IPD settings.</p> <ol style="list-style-type: none"> <li>1. Understanding of the procedure: Demonstrates knowledge of indications, techniques, and the step-by-step procedure for <i>varma</i> therapy</li> <li>2. Steps involved: Preparation of materials, obtaining informed consent, execution of techniques, and post-care therapy.</li> </ol> <p>General preparation for <i>varmam</i> techniques</p> <p>Patient preparation-ensure the patient is mentally and physically ready</p> <p>Arrangement-organize required materials (e.g., massage oils) and position the patient appropriately (sitting, lying down, or on the physician’s lap) based on the procedure.</p> <p>Patient assessment- Carefully examine the <i>kai</i>, <i>kaal</i> (upper limb, lower limb) surrounding regions for abnormalities.</p> <p><b><i>Kaal saarntha varmam</i> (lower limb varmam illness)</b></p> <ol style="list-style-type: none"> <li>1. Preparation of the patient- ensure the patient is calm and comfortable.</li> <li>2. Procedure steps <ol style="list-style-type: none"> <li>A. Gently press with the fingers, moving from the hip down to the toes, and ensure coverage of both the back and front of the legs.</li> <li>B. Gently shake the legs in all four directions.</li> <li>C. Hold the ankle region firmly and twist it in both clockwise and counterclockwise directions.</li> <li>D. Gently manipulate (unsheath) the ankle region and press it with the fingers.</li> <li>E. Gently shake the ankle region again.</li> <li>F. Slowly fold and bend the knees.</li> <li>G. Gently stretch the legs by dragging them.</li> <li>H. Finally, carefully lift the patient</li> </ol> </li> </ol> <p>Repeat the procedure for students to observe and practice under supervision.</p> <p><b><i>Kai saarntha varmam</i></b></p>

		<ol style="list-style-type: none"> <li>1. Preparation of the patient- Ensure the patient is relaxed and in a comfortable position.</li> <li>2. Procedure steps <ol style="list-style-type: none"> <li>A. Instruct the patient to keep their hands straight.</li> <li>B. Gently manipulate (unsheath) the hands from both the front and back.</li> <li>C. Apply the cupping technique to the upper limb region.</li> <li>D. Gently tap the upper limb region three times.</li> <li>E. Stretch the hands by alternating between folding and bending motions.</li> <li>F. Place the physician's hands on the patient's wrist, and gently massage from the lower part of the hand to the upper shoulder in both clockwise and counterclockwise directions, repeating the motion three times.</li> <li>G. Hold the patient's wrist and gently twist it to the right and left.</li> <li>H. Ensure that both hands are relaxed, and confirm that the patient is also relaxed.</li> </ol> </li> </ol> <p>Students are asked to evaluate peer performances, which encourages reflection on the application of varmam and procedural skills in <i>varmam</i> manipulation and application. Repeat the procedure for students to observe and practice under supervision.</p>
NLHT 6.3	Methods of <i>Sarvaanga Thadaval</i>	<p>The teacher provides an overview of key points in the methods of <i>sarvaanga thadaval</i> and the application module using a lecture with a powerpoint presentation and a discussion methodology.</p> <ol style="list-style-type: none"> <li><b>1. Understanding of the procedure:</b> Demonstrates knowledge of indications, techniques, and the step-by-step procedure for <i>varmam</i> therapy</li> <li><b>2. Steps involved:</b> Preparation of materials, obtaining informed consent., execution of techniques, post-care therapy.</li> </ol> <p>General preparation for varmam techniques  Patient preparation-ensure the patient is mentally and physically ready.  Organize required materials (e.g., massage oils)  Set up a clean, comfortable, and quiet environment.  Position the patient appropriately (sitting, lying down, or on the physician's lap) based on the procedure.  Patient assessment-carefully examine the whole body regions for abnormalities.</p> <ol style="list-style-type: none"> <li><b>3. Apply the suitable <i>varma thadaval</i> procedure</b></li> </ol>

		<p>Start at <i>utchi varmam</i>, <i>thilartha varmam</i>, and <i>puruva natchathiram</i>. Press a finger in a circular pattern, touch <i>poigai sevikuttri</i>, and end at <i>alavaatu konasanni</i>.</p> <p>Perform <i>penkuzhi</i> and <i>puyam</i> using a criss-cross technique.</p> <p>For <i>pidari</i>, start at the sacrum and perform <i>puratharai thadaval</i> using the fingers move the hand upward along <i>koombu varmam</i>. Repeat the process with <i>koori adangal</i>, then move downward along <i>naavari</i> three times in a sliding motion.</p> <p>Press the <i>mun villu</i> and lift the <i>manipuragam</i>.</p> <p>For the hands, start at <i>pujam</i>, touch <i>kai chulluku</i> and <i>kathira narambu</i>, and then connect to <i>mootu</i>. End at <i>ullamkai vellai</i>.</p> <p>Tap <i>ullamkai vellai</i> three times.</p> <p>Ask the patient to sit. Start at <i>keeltharai</i> and move along <i>mootu chuluku</i>, <i>kathira narambu</i>, and <i>kaal mannai</i> at the end of <i>ullamkaal vellai</i>.</p> <p>Elevate the <i>boomikalam varmam</i>.</p> <p>Tap each sole three times.</p> <p>Students are asked to evaluate peer performances, encouraging reflection on the application of <i>varmam</i> and the development of procedural skills in <i>varmam</i> manipulation and application. The patient is assessed, and the procedure is repeated by the student under supervision.</p>
NLHT 6.4	<p><i>Varmam</i> application in specific clinical conditions—musculoskeletal disorders(<i>thasai kootu noigal</i>), neuromuscular disorder.</p>	<p>The teacher provides an overview of key points in <i>varmam</i> application in specific clinical conditions—musculoskeletal disorders (<i>Thasai kootu noigal</i>) and neuromuscular disorders—and related illnesses, as well as the application module. This is delivered through a lecture with video clips and powerpoint presentations, along with the hands-on practice of manipulation techniques for each <i>varmam</i> point in OPD/IPD settings.</p> <p>Students are asked to show the key manipulation techniques necessary for properly stimulating each <i>varmam</i> point, emphasizing the correct pressure, duration, and frequency through practical application. This encourages reflection on peer performance and the quality of work. Additionally, students should be guided in designing posters that focus on specific <i>varmam</i> points.</p> <p>General preparation for <i>varmam</i> techniques</p> <p>Patient preparation-ensure the patient is mentally and physically ready.</p> <p>Arrangement</p>

		<p>Organize required materials (e.g., massage oils)  Set up a clean, comfortable, and quiet environment.  Position the patient appropriately (sitting, lying down, or on the physician’s lap) based on the procedure.  The patient assessment examines the body for any abnormalities.  Practical performance methods evaluate a student's ability to apply their knowledge and skills to real-world situations.  Steps-  Step-1- Define the purpose and identify the learning outcome  Discuss the <i>varmam</i> points, manipulation techniques, and their locations for addressing specific conditions,  Step 2- Select the performance assessment  Musculoskeletal disorder  Neuromuscular disorder  Step 3- Apply the suitable <i>varmam</i> manipulation techniques  Step-4- Engage students and plan for performance  Assess the patient and repeat by the student.</p>
NLHT 6.5	Varmam application in specific clinical conditions- respiratory illness, and gynecological conditions	<p>The teacher provides an overview of key points in <i>varmam</i> application in specific clinical conditions—respiratory illness, gynecological condition, and related illnesses, as well as the application module. This is delivered through a lecture with video clips and powerpoint presentations, along with hands-on practice of manipulation techniques for each <i>varmam</i> point in OPD/IPD settings  Students are asked to show the key manipulation techniques necessary for properly stimulating each <i>varmam</i> point, emphasizing the correct pressure, duration, and frequency through practical application. This encourages reflection on peer performance and the quality of work. Additionally, students should be guided in designing posters that focus on specific <i>varmam</i> points."  General preparation for <i>varmam</i> techniques  Patient preparation-ensure the patient is mentally and physically ready.  Organize required materials  Set up a clean, comfortable, and quiet environment.</p>

		<p>Position the patient appropriately (sitting, lying down, or on the physician's lap) based on the procedure.</p> <p>The patient assessment examines the body regions for abnormalities.</p> <p>Practical performance methods evaluate a student's ability to apply their knowledge and skills to real-world situations.</p> <p>Steps-</p> <p><b>Step 1- define the purpose and identify the learning outcome</b></p> <p>Discuss the <i>varmam</i> points, manipulation techniques, and their locations for addressing specific conditions,</p> <p><b>Step 2- Select the performance assessment</b></p> <p>Respiratory illness-</p> <p><i>Iraippu irumal</i>( bronchial asthma)- <i>thivalai, ull putrru, athi, valai, mulai, udal surukki varmam, velleral poigai, mundellu varmam</i></p> <p><i>Varattu irumal</i>( dry cough)-<i>sumai, kathir, thivalai, ner, vilavadaippan varmam.</i></p> <p>Gynecological condition-</p> <p><i>Soothagavali</i> (dysmenorrhea)- <i>poigai, nadu moorthi thummbi, sadapira, nadu muthugu Vaayu, etellu munai vaayu, vellurumi, ani, kaal vellai varmam</i></p> <p><i>Vellai noi</i> (leucorrhoea)- <i>kondai kolli, nadu moorthi, unthi, periya athisurukki, siriya athi surukku, vaayu, moothira, ani, andhai varmam.</i></p> <p><b>Step 3- Apply the suitable varmam manipulation techniques</b></p> <p><b>Step 4- Engage students and plan for performance</b></p> <p>Assess the patient and repeat by the student</p>
NLHT 6.6	The physiology of signaling pathways and neurotransmitters.	<p>The teacher will explain the physiology of signalling pathways and neurotransmitters accurately through a lecture with video clips and will use instructional films to demonstrate how they interrelate with Varmam points.</p> <p>Students are trained to interpret the questions and answers related to signalling pathways. Additionally, they are instructed to create a Model on the given topic, incorporating varmam applications.</p> <p>Making of Model-</p> <ol style="list-style-type: none"> <li>1. Creating a signalling pathway chart with step by step guide</li> </ol>

		<ol style="list-style-type: none"> <li>2. Identify the key components</li> <li>3. Outline the steps</li> <li>4. Visual representation</li> <li>5. Add annotations</li> <li>6. Review and revise</li> </ol>
NLHT 6.7	The Therapeutic applications of <i>Adangal</i>	<p>The teacher provides an overview of key points in the therapeutic applications of <i>adangal</i> and the application module using a lecture with powerpoint presentations. Students are guided in practicing manipulation methods through demonstrations of models.</p> <p><b>1. Understanding of the procedure:</b> Demonstrates knowledge of indications, techniques, and the step-by-step procedure for therapeutic applications of <i>adangal</i></p> <p><b>2. Steps involved-</b>  Patient preparation-ensure the patient is mentally and physically ready.  Arrangement, organize required materials (e.g., massage oils), and position the patient appropriately (sitting, lying down, or on the physician's lap) based on the procedure.  Patient assessment- carefully examine the regions for any abnormalities</p> <p><b>3. obtaining informed consent.</b></p> <p><b>4. Execution of techniques.-</b><i>amarthadangal, agatharai, puratharai adangal, panchathattu adangal, pulimuthu adangal, nagakan adangal</i></p> <p>5. post-care therapy.</p> <p>Students will be able to stimulate each <i>adangal</i> point using manipulation techniques. The methodology will include the correct application of pressure, duration, frequency, and strategies by adhering to dops standards and demonstrating accountability for the viva elements.</p>
<b>Non Lecture Hour Practical</b>		
<b>S.No</b>	<b>Name of Practical</b>	<b>Description of Practical Activity</b>
NLHP 6.1	Varmam Application in Central Nervous	The teacher will conduct a case-based learning session on <i>mugavaatham</i> (facial palsy), reviewing the

	System- <i>Mugavaatham</i> (facial palsy)	<p>case details, identifying key symptoms, and determining the appropriate <i>Siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.</p> <p><b>1. Patient selection (20 minutes)</b>  Confirm patient identity and eligibility for therapy.  Ensure therapy aligns with their current condition and needs.</p> <p><b>2. Detailed patient analysis (20 minutes)</b>  Assess the patient's current complaints and concerns. Note past illnesses, treatments, and lifestyle habits.  Vital sign examination: <i>Naadi</i> (pulse analysis), <i>saraottam</i></p> <p><b>3. Preparation (60 minutes)</b>  Materials and equipment.  Manpower: Assign roles to support staff for assistance during the procedure.  Room specifications: Ensure cleanliness, proper lighting, and a comfortable environment.</p> <p><b>4. Identification and application</b>  Locate appropriate <i>varma</i> points based on patient assessment.  Apply precise pressure using proper <i>maathirai/irai</i> (pressure units).  points- <i>sevikuttri, kampoori, kona varmam, sanguthiri, kai kavuli, kaal konasanni varmam</i>  Patient monitoring: Observe patient responses and adjust techniques as necessary.</p> <p><b>5. Medication administration (10 minutes)</b>- provide suitable internal/external medications if needed.</p> <p><b>6. Post-therapy assessment (10 minutes)</b>- monitor the patient for any immediate adverse effects or discomfort. Provide aftercare instructions and schedule follow-up appointments if needed.</p> <p>Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on case-based assessments to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation.</p> <p>The total duration of the activity is 2 hours.</p>
NLHP 6.2	Varmam Application in Central Nervous System- Hemiplegia ( <i>Pakkavatham</i> )	The teacher will conduct a case-based learning session on hemiplegia( <i>pakkavatham</i> ), reviewing the case details, identifying key symptoms, and determining the appropriate <i>siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment



		<p>criteria through kinesthetic learning.</p> <p><b>1. Patient selection (10 minutes)</b> Identify the patient eligible for therapy. Verify medical history and confirm therapy suitability.</p> <p><b>2. Patient assessment (30 minutes)</b> History: Review complaints, past illnesses, and lifestyle factors. Vitals/<i>naadi</i> (pulse analysis)/<i>saraottam</i></p> <p><b>3. Preparation (20 minutes)</b> Manpower: Ensure sufficient and skilled support staff is available. Room specifications-maintain cleanliness, comfortable temperature, and ventilation.</p> <p><b>4. Varma points application (40 minutes)</b> Identify <i>varma</i> points based on the patient's condition and therapy objectives. Apply pressure accurately: Maintain proper <i>maathirai/irai</i> (pressure levels). <i>Varmam</i> points- <i>kondaikolli, pidari, sevikuttri, thilartham, konam, kai kavuli, kaal komberi varmam</i>, continuously monitor patient responses to adjust pressure and techniques as necessary.</p> <p><b>5. Medication administration (10 minutes)</b> Provide appropriate internal or external medications: If needed Offer guidance on dietary and lifestyle adjustments to complement the therapy.</p> <p><b>6. Post-therapy assessment (10 minutes)</b> Assess the patient for any adverse reactions or discomfort post-therapy. Provide clear aftercare instructions and schedule follow-up appointments as needed. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on case-based assessments to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation. The total duration of the activity is 2 hours.</p>
NLHP 6.3	<i>Varmam</i> application in central nervous system- <i>valippu noi (Epilepsy)</i>	The teacher will conduct a case-based learning session on <i>valippu noi</i> (Epilepsy) reviewing the case details, identifying key symptoms, and determining the appropriate <i>siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.

		<p><b>1. Patient selection (10 minutes)</b> -identify the patient and confirm suitability for the therapy. Review the patient’s medical history and current complaints.</p> <p><b>2. Analysis of patient’s vital signs (20 minutes)</b> -vitals, <i>naadi</i> (Pulse analysis), <i>saraottam</i></p> <p><b>3. Preparation (20 minutes)</b> -arrange sufficient manpower for assistance. Ensure cleanliness and hygiene. Optimize the environment (Appropriate temperature, ventilation, and lighting).</p> <p><b>4. Application of varma points (60 minutes)</b>  Identify and target appropriate <i>varma</i> points based on the condition.  Apply proper pressure using <i>maathirai</i> / <i>irai</i> units with precision  <i>Varmam</i> points- <i>kondai kolli</i>, <i>serumkolli</i>, <i>kaampoori</i>, <i>kai kavuli</i>, <i>viruthi</i>, <i>viguthi</i>, <i>kaal kavuli varmam</i>.</p> <p><b>5. Medication administration (10 minutes)</b>-provide necessary internal/external medications during or after the procedure if needed, dietary or lifestyle guidance to support therapy outcomes.</p> <p><b>6. Post-therapy assessment</b> -evaluate the patient for any adverse effects or complications. Document the therapy session, noting observations and patient feedback.  Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on preparing them for practical application-oriented  The total duration of the activity is 2 hours.</p>
NLHP 6.4	Varmam Application in Medical Emergencies- Shock	<p>The teacher will conduct a case-based learning session on shock, reviewing the case details, identifying key symptoms, and determining the appropriate <i>siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.</p> <p><b>1. Patient selection (5 minutes)</b> -identify the patient suitable for the therapy. Verify their medical history, current complaints, and readiness for the procedure.</p> <p><b>2. Analyse patient’s vital signs (10 minutes)</b> - <i>naadi</i> (Pulse analysis), <i>saraottam</i></p> <p><b>3. Preparation (10 minutes)</b>  Gather the required materials and medications for the therapy.  Ensure proper staffing for assistance.  Prepare the room:  Maintain cleanliness and comfortable room temperature.  Verify equipment placement and working condition.  Avoid unsuitable conditions such as noise or overcrowding.</p>

		<p>4. Application of <i>varma</i> points (30 minutes)  Identify appropriate <i>varma</i> points based on the patient's condition.  Apply pressure with precision, adhering to:  Proper <i>maathirai/irai</i> (Pressure unit).  Specified time limits per point.  <i>Varmam</i> points- <i>poigai, kaampoori, kai kavuli, kai vellai, viruthu varmam</i></p> <p><b>5. Medication administration</b> -provide internal or external medication if required, and suggest dietary modifications if applicable.</p> <p><b>6. Post-therapy assessment (5 minutes)</b> -monitor the patient for any adverse effects or discomfort.  Plan follow-up sessions if necessary.  Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on preparing them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation.  The total duration of the activity is 1 hour.</p>
NLHP 6.5	Varmam Application in Medical Emergencies- Fever	<p>The teacher will conduct a case-based learning session on fever, reviewing the case details, identifying key symptoms, and determining the appropriate <i>siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.</p> <p><b>1. Patient selection (5 minutes)</b>  Identify the patient and verify their details.  Confirm the therapy requirement based on the patient's condition.</p> <p><b>2. Initial assessment (10 minutes)</b>  Complaints: Current symptoms and primary concerns.  Past illness: Relevant medical history.  Vitals: Focus on specific signs like <i>naadi</i> (Pulse analysis) and <i>saraottam</i></p> <p><b>3. Preparation (10 minutes)</b>  Arrange required materials, medications, and equipment.  Ensure manpower availability.  Prepare the therapy room.</p>

		<p><b>4. Therapy application (30 minutes)</b>  <i>Varma</i> point application: Identify and apply pressure to suitable <i>varma</i> points. Maintain accurate pressure (<i>Maathirai / irai</i>) and adhere to time limits per point.  <i>Varmam</i> points- <i>kondaikolli, porchai, endhi, athi, sadapira, kai kavuli, visabhandha, kuthiraimuga varmam</i></p> <p><b>5. Post-therapy assessment (5 minutes)</b> -monitor the patient for any immediate adverse effects. Provide advice on post-therapy care and follow-up.  Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which helps prepare for the practical viva and assures the maintenance of correct logbooks for subsequent documentation.  The total duration of the activity is 1 hour.</p>
NLHP 6.6	Varmam Application in Medical Emergencies- Epistaxis	<p>The teacher will conduct a case-based learning session on epistaxis reviewing the case details, identifying key symptoms, and determining the appropriate <i>siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.</p> <p><b>Step 1: Patient selection (5 minutes)</b>  Identify a patient suitable for <i>varma</i> therapy based on conditions like energy imbalance, musculoskeletal discomfort, or stiffness.</p> <p><b>Step 2: History and assessment (10 minutes)</b>  History: Record past illnesses, injuries, and treatments.  Complaints: Note specific symptoms, pain, or discomfort.  Vitals/<i>naadi/ saraottam</i></p> <p><b>Step 3: Preparation (10 minutes)</b></p> <p><b>Step 4: Application of <i>varma</i> points (25 minutes)</b>  Identify suitable <i>varma</i> points: Select points based on the patient's complaints and assessment.  Stimulation technique: Apply appropriate pressure (<i>maathirai/irai</i>) to each point.  <i>Varmam</i> points- <i>kondaikolli , pidari, kannadi, sundikai, athi, kaanthari, kai kavuli varmam.</i></p> <p><b>Step 5: Post-therapy assessment and medication (10 minutes)</b>  Medication: Administer internal or external herbal remedies if needed.</p>

		<p>Assessment: Recheck vitals, focusing on <i>naadi</i> and <i>saraottam</i> to observe therapy outcomes. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on dops to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation.</p> <p>The total duration of the activity is 1 hour.</p>
NLHP 6.7	Varmam Application in Locomotor Disorder (upper limb) -Wrist Joint Pain	<p>The teacher will conduct a case-based learning session on -Wrist Joint Pain, reviewing the case details, identifying key symptoms, and determining the appropriate <i>Siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.</p> <p><b>Step 1: Patient Selection (5 Minutes)</b></p> <p><b>Step 2: History and Assessment (10 Minutes)</b> Record past illnesses, injuries, and treatments. Complaints: Note specific symptoms, pain, or discomfort. Vitals: <i>Naadi, Saraottam</i></p> <p><b>Step 3: Preparation (10 Minutes)</b> Room Setup: Ensure a clean, quiet, and ventilated environment. Manpower: Assign any necessary assistants.</p> <p><b>Step 4: Application of Varma Points (25 Minutes)</b> Identify Suitable <i>Varma</i> Points: Select points based on the patient's complaints and assessment. Stimulation Technique: Apply appropriate pressure (<i>Maathirai/Irai</i>) to each point. <i>varmam points- Kai kavuli, Thuthikai, Manibhandam, Maniprai, Kai andhai varmam</i></p> <p><b>Step 5: Post-Therapy Assessment and Medication (10 Minutes)</b> Medication: Administer internal or external herbal remedies if needed. <b>Assessment:</b> Recheck vitals, focusing on <i>Naadi</i> and <i>Saraottam</i> to observe therapy outcomes. Documentation: Record the procedure, outcomes, and recommendations for follow-up care. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on case-based assessments to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation.</p>

		The Total duration of the activity is 1 hour.
NLHP 6.8	Varmam Application in Locomotor Disorder- sciatica	<p>The teacher will conduct a case-based learning session on sciatica, reviewing the case details, identifying key symptoms, and determining the appropriate <i>Siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.</p> <p><b>1. Patient Selection (5 minutes)</b> Identify the patient and confirm therapy suitability. Briefly review their medical history and current complaints to ensure alignment with therapy goals.</p> <p><b>2. Patient Analysis (10 minutes)</b> History Review: Quickly assess current complaints, past illnesses, and lifestyle factors. Vital Sign/<i>Naadi</i> (pulse analysis)/<i>Saraottam</i></p> <p><b>3. Preparation (10 minutes)</b> Materials and Equipment: Gather the required materials Manpower: Ensure adequate support staff availability. Room Setup: Prepare a clean, quiet, and comfortable therapy space with proper lighting and ventilation.</p> <p><b>4. Varma Points Application (25 minutes)</b> Identify and target appropriate varma points relevant to the patient's condition. Apply pressure accurately using proper <i>maathirai/irai units</i>. <i>varmam points- Periya athisurukki, Pinsaruthi, nadu Muthugu vaayu, Kaal vellai, Uppu kuttri, Viruthi, Kuthikaal, Kaaal Komberi varmam</i></p> <p><b>5. Medication Administration (5 minutes)</b> Provide necessary medications If needed Offer brief dietary and lifestyle suggestions to enhance the therapy's benefits.</p> <p><b>6. Post-Therapy Assessment (5 minutes)</b> Monitor the patient for any immediate adverse effects or discomfort. Provide aftercare instructions and, if necessary, schedule a follow-up session. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on DOPS to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation.</p>

		The Total duration of the activity is 1 hour.
NLHP 6.9	Varmam Application in Locomotor Disorder (Lower limb)-knee joint pain	<p>The teacher will conduct a case-based learning session on knee joint pain, reviewing the case details, identifying key symptoms, and determining the appropriate <i>siddha</i> examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.</p> <p><b>1. Patient selection (5 minutes)</b> -select a suitable patient for the application based on complaints such as pain, energy imbalance, or stiffness.</p> <p><b>2. Patient history and assessment (10 minutes)</b>  History: Gather details about past illnesses, injuries, and treatments.  Complaints: Identify the primary symptoms and affected areas.  Vitals/<i>naadi/saraottam</i></p> <p><b>3. Preparation and setup (10 minutes)</b>  Ensure the room is clean, quiet, and well-ventilated. Provide a comfortable setup for the patient, such as seating or lying positions.</p> <p><b>4. Application of <i>varma</i> therapy (25 minutes)</b>  Select and stimulate <i>varma</i> points:  Identify suitable <i>varma</i> points based on the patient's condition.  Apply precise pressure (<i>maathirai/irai</i>) for the appropriate duration.  <i>Varmam</i> points- <i>kaal komberi ,kaal mootu,kaari varmam</i>  Technique:  Use controlled and rhythmic movements to stimulate points while ensuring patient comfort.</p> <p><b>5. Post-therapy medication and assessment (10 minutes)</b>  Administer internal or external herbal preparations as required. Evaluate <i>naadi</i> and <i>saraottam</i> for improvements in energy balance and circulation.  Students will be able to perform the therapy with supervision. Additionally, prepare students for practical, application-based exams.  The total duration of the activity is 1 hour.</p>

NLHP 6.10	Adangal application for Tension headache / Migraine	<p>The teacher will run an <i>adangal</i> application in simulation for tension headache/migraine, analyzing the case information, identifying significant symptoms, and determining the best <i>Siddha</i> examining procedures. This involves preparation, procedure execution, post-therapy care, and advice on potential treatment criteria via kinesthetic learning.</p> <p><b>Hour 1: Patient selection and preparation</b></p> <p>Select the patient for the application (10 minutes) - Identify a suitable patient based on symptoms like pain, stiffness, or imbalance.</p> <p>Analyse history and vitals (30 minutes):</p> <p>History: Record past illnesses, injuries, or treatments.</p> <p>Complaints: Identify specific areas of discomfort.</p> <p>Vitals/<i>naadi/saraottam</i></p> <p>Prepare materials and room (20 minutes)-clean, quiet, and comfortable space. Ensure proper lighting and ventilation., assign manpower roles if assistance is required.</p> <p><b>Hour 2: Therapy application and assessment</b></p> <p>Apply adangal therapy (40 minutes)</p> <p>Identify and stimulate <i>adangal</i> points with appropriate pressure (<i>maathirai/irai</i>) and timing:</p> <p><i>Adangal</i> points- <i>thilartha aangal, kan adangal, kundurimuthu adangal, mona adangal, panchanarambu adangal, pini narambu adangal</i></p> <p>Assess the patient post-therapy (20 minutes)-reassess: <i>Naadi</i>, and <i>saraottam</i></p> <p>Students will be able to perform the therapy with supervision. In addition, assessments will be used to prepare students for practical, application-oriented study.</p> <p>The total duration of the activity is 2 hours.</p>
NLHP 6.11	Important <i>adangal</i> in the head region	<p>The teacher will simulate an <i>adangal</i> application in the head region, analyze case data, identify relevant symptoms, and select the best <i>siddha</i> testing procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning.</p> <p><b>Hour 1: patient selection and initial assessment</b></p> <p>Select the patient for the application (10 minutes)-identify a patient suitable for adangal therapy based on conditions such as musculoskeletal pain, stiffness, or energy imbalance. Exclude patients with</p>



		<p>contraindications.          Analyse history and vitals (50 minutes)          History: review past illnesses, treatments, or injuries.          complaints: identify and document symptoms, focusing on affected areas.          vitals:<i>naadi,saraottam</i>.</p> <p><b>Hour 2: Preparation</b>          Arrange materials and setup (20 minutes)-protective covers for hygiene and patient comfort. Clean, well-lit, and ventilated environment. Comfortable seating or lying positions for the patient.          Plan adangal points and techniques (40 minutes)-<i>amarthadangal, kanpuruva adangal, kothanda adangal. Pen kuzhi adangal, aasan adangal, sothanai adangal, nallirupu adangal, amirtha adangal, kuvattu adangal, sarvaanga adangal</i>          Determine pressure intensity (<i>maathirai/irai</i>) and time limits for each point.          Plan massage techniques (<i>thadavumurai</i>) such as pressing, sliding, stretching, and kneading.</p> <p><b>Hour 3: Therapy application</b>          Perform <i>adangal</i> therapy (60 minutes)-locate and stimulate the identified <i>adangal</i> points with precise pressure and duration, incorporate sliding, kneading, pressing, stretching, and rhythmic movements.</p> <p><b>Hour 4: Post-therapy assessment and follow-up</b>          Assess the patient after therapy (40 minutes)-reassess: <i>naadi, saraottam</i>          Monitor for any adverse effects like discomfort, redness, or fatigue.          Provide feedback and follow-up advice (20 minutes)-rest, hydration, or additional therapies as required.          Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation.          Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches.          The total duration of the activity is 4 hours.</p>
NLHP 6.12	Important <i>adangal</i> in chest-abdomen region	The teacher will simulate an <i>adangal</i> application in the head region, analyze case data, identify

relevant symptoms, and select the best *siddha* examining procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning.

#### **Hour 1: patient selection and preliminary assessment**

Select the patient for the application (10 minutes)-identify a suitable candidate based on indications for *adangal* therapy, such as joint pain, muscular tension, or energy imbalance, and rule out contraindications.

Analyse history and vitals (50 minutes):

History: review past illnesses, injuries, or treatments.

Complaints: identify specific areas of pain or stiffness.

*Vitals:naadi,saraottam*

#### **Hour 2: Preparation**

Arrange materials and setup (20 minutes)

Clean, quiet, and comfortable space with optimal temperature and ventilation. Arrange a proper setup for the patient to lie or sit comfortably during therapy.

Plan *adangal* points and techniques (40 minutes)

*Agatharai-puratharai adangal, thattu adangalpayadangal, vaara adangal, kootu adangal, koora adangal, poova adangal, vaal vali adangal, sarvanga adangal*

Determine the pressure intensity (*maathirai/irai*) and time limits for each point.

Plan massage techniques (*thadavumurai*) like pressing, sliding, kneading, and stretching.

#### **Hour 3: Therapy application**

Perform *adangal* therapy (60 minutes)-locate and stimulate the identified *adangal* points with appropriate pressure and timing. Integrate methods such as sliding, circling, pulling, and stretching.

#### **Hour 4: post-therapy assessment and follow-up**

Assess the patient after therapy (40 minutes)-reassess the patient's vitals: *naadi, saraottam*.

Provide feedback and follow-up advice (20 minutes)-rest, hydration, or additional therapies as needed.

Techniques used, patient response, and any follow-up actions. Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops)

methodology, which assures the maintenance of correct logbooks for subsequent documentation.

Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches.

		The total duration of the activity is 4 hours.
NLHP 6.13	Important <i>adangal</i> in the upper limb region	<p>The teacher will simulate an <i>adangal</i> application in the upper limb region, analyze case data, identify relevant symptoms, and select the best <i>Siddha</i> testing procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning.</p> <p><b>Hour 1: patient selection and initial assessment</b>  Select the patient for the application (10 minutes)  Identify a suitable patient with conditions treatable by <i>adangal</i> therapy, such as musculoskeletal discomfort, energy imbalances, or stress.  Screen for contraindications  Analyse history and vitals (50 minutes):  History: past illnesses, treatments, injuries, or chronic conditions.  Patient complaints: identify pain points or mobility issues.  <i>Vitals/naadi,saraottam</i></p> <p><b>Hour 2: Preparation</b>  Arrange materials and setup (20 minutes)-collect required materials, prepare the room, and assign manpower roles if additional support is required.  Plan <i>adangal</i> points and techniques (40 minutes)  <i>Tharai - ull tharai adangal, kathirnarambu adangal, kavuli adangal, pulimuthu adangal, vellai adangal, nagakan adangal</i>  Determine the sequence of therapy:  Pressure intensity (<i>maathirai/irai</i>) and time limits for each point.  Massage techniques (<i>thadavumurai</i>) such as pressing, sliding, stretching, and kneading.</p> <p><b>Hour 3: execution of therapy</b>  Apply <i>adangal</i> therapy (60 minutes)-locate and stimulate each <i>adangal</i> point with appropriate pressure and duration: integrate methods like sliding, pressing, twisting, and gliding to enhance therapeutic outcomes.</p> <p><b>Hour 4: post-therapy assessment and follow-up</b>  Assess the patient after therapy (40 minutes)-reassess: <i>naadi, saraottam</i>. Look for signs of relief or any adverse effects like discomfort, redness, or fatigue.</p>

		<p>Provide feedback and follow-up advice (20 minutes)-rest, hydration, and additional therapies if necessary</p> <p>Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation.</p> <p>Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches.</p> <p>The total duration of the activity is 4 hours.</p>
NLHP 6.14	Important <i>adangal</i> in lower limb region	<p>The teacher will simulate an <i>adangal</i> application in the lower limb region, analyze case data, identify relevant symptoms, and select the best Siddha testing procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning.</p> <p><b>Hour 1: Patient selection and assessment</b></p> <p>Select the patient for the application (10 minutes)</p> <p>Identify a suitable patient based on the indications for <i>adangal</i> therapy, such as musculoskeletal pain, joint stiffness, or energy imbalances.</p> <p>Screen for contraindications</p> <p>Analyse history and vitals (50 minutes):</p> <p>History: Chronic conditions, past injuries, or treatments.</p> <p>Complaints: Document symptoms and identify affected areas.</p> <p><i>Vitals/naadi /saraottam</i></p> <p><b>Hour 2: Preparation</b></p> <p>Arrange materials and setup (30 minutes):</p> <p>Massage oils or herbal preparations for <i>thadavumurai</i> techniques.</p> <p>Towels, cushions, and protective coverings for the patient. Provide proper seating or lying arrangements for the patient.</p> <p>Plan <i>adangal</i> points and techniques (30 minutes)</p> <p><i>Nagakan adangal, Manjaadi adangal, Parattu adangal, Padavadadangal, Mannai adangal</i></p> <p>Plan the sequence of application:</p>

		<p>Pressure intensity (<i>maathirai/irai</i>) and time limits.          Massage techniques such as pressing, sliding, kneading, and stretching (<i>thadavumurai</i> methods).  <b>Hour 3: Application of therapy</b>          Perform adangal therapy (60 minutes)-apply controlled and precise pressure tailored to the patient's condition. Monitor the intensity to avoid discomfort or overstimulation. Use techniques like sliding, grasping, kneading, stretching, and circling. Focus on the problem areas while maintaining even pressure and rhythm.  <b>Hour 4: Post-therapy assessment and documentation</b>          Assess the patient after therapy (40 minutes): Vital signs, including <i>naadi</i> and <i>saraottam</i>, for immediate changes.          Provide feedback and follow-up advice (20 minutes)-rest, hydration, and any follow-up therapy needed.          Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation.          Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches.          The total duration of the activity is 4 hours.</p>
NLHP 6.15	Varma Thadavu murai nootpungal (Finger techniques)	<p>The teacher will simulate an <i>adangal</i> application in <i>varma thadavu murai nootpungal</i>( finger techniques)analyze case data, identify relevant symptoms, and select the best <i>Siddha</i> examining procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning.  <b>Hour 1: Patient selection and initial assessment</b>          Select the patient for the application (10 minutes)-identify a patient based on indications for <i>thadvumurai</i> therapy, such as muscular tension, joint stiffness, or general wellness. And screen for contraindications          Analyze history and vitals (50 minutes)history: Chronic illnesses, injuries, or prior treatments.          Complaints: Identify pain, stiffness, or restricted movement., vitals: <i>Naadi,saraottam</i>  <b>Hour 2: Preparation</b></p>

Arrange materials and set (30 minutes) protective covers for the massage table or clean, quiet, and comfortable with proper lighting and ventilation. ensure the temperature is optimal for patient relaxation

Plan techniques and target body parts (30 minutes):  
 Common body parts involved: Thumbing, palming, writing, footing, and kneeling.  
 Techniques: Pressing, lifting, sliding, grasping, stroking, beating, shaking, twisting, whirling, gliding, pulling, pushing, clinching, stretching, circling.

**Hour 3: Application of *thadvumurai* techniques**  
 Apply the selected techniques (60 minutes)  
 Begin with gentle stroking and sliding to warm up the tissues.  
 Gradually move to specific techniques like thumbing, pressing, or stretching.  
 Adjust intensity based on patient feedback and tolerance.

**Hour 4: Post-therapy assessment and feedback**  
 Assess the patient after therapy (40 minutes)-reassess vital signs, particularly *naadi* and *saraottam*, for changes or improvements.  
 Provide follow-up advice (20 minutes)-suggest aftercare measures, including hydration, rest, or additional therapies if needed students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation.  
 Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches.  
 The total duration of the activity is 4 hours.

**Topic 7 DISORDERS OF CENTRAL NERVOUS SYSTEM (LH :24 NLHT: 13 NLHP: 32)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Classify cerebrovascular disease and differentiate between thrombosis, haemorrhage and embolism.	CK	MK	K	L&GD	VV- Viva, QZ	F&S		-	LH

CO5	Define Hemiplegia ( <i>Pakkavatham</i> ) and describe its etiology and pathophysiology, risk factors, clinical presentation, and differential diagnosis and investigations of Hemiplegia. Discuss the siddha aspect of treatment, management strategies, and preventive measures for Hemiplegia.	CC	MK	KH	CBL	CBA,CL-PR	F&S		-	NLHT7.1
CO5	Define Quadriplegia ( <i>Astatantira vatam</i> ) and describe the aetiology, site of lesion, clinical features, investigation, treatment and management	CC	MK	KH	CBL,L &PPT	CBA,VV-Viva	F&S		-	LH
CO5	Define paraplegia ( <i>Aruna Vatham</i> ) and describe its aetiology and common lesion sites. Explain the clinical features, investigations, and treatment approaches of paraplegia. Discuss Siddha-based and modern management strategies for paraplegia.	CC	MK	K	CBL,L &PPT	CBA,VV-Viva	F&S		-	LH
CO5	Describe the sites of lesion, clinical features, investigations, treatment, and management of Quadriplegia ( <i>Astatantira vatam</i> ) and Paraplegia ( <i>Aruna vatham</i> ).	CC	DK	KH	L&GD, L_VC,R P,CBL	CBA	F&S		-	NLHT7.2
CO5	Define poliomyelitis and describe its causes, pathophysiology, and clinical manifestations. Discuss the diagnostic methods, conservative treatments, and preventive measures of poliomyelitis.	CC	MK	K	CBL,L &PPT	VV-Viva,CBA	F&S		-	LH
CO5	Define motor neuron disease and discuss the causes, classification, clinical presentation, investigations, and treatment.	CC	MK	K	CBL,L &PPT	CBA,VV-Viva	F&S		-	LH
CO5	Define parkinson's disease ( <i>nadukkuvatham</i> ) and explain its causes and pathophysiology. Discuss the clinical features, Hoehn and Yahr staging, and differential diagnosis of Parkinson's disease. Explain the Siddha aspect of treatment.	CC	MK	K	CBL,L &PPT	CBA,VV-Viva	F&S		-	LH
CO5	Describe the definition, causes, clinical features, pathophysiology, staging of Parkinson's Disease (Hoehn and Yahr stage),	CC	NK	KH	CBL,L &GD	CBA	F&S		-	NLHT7.3

	differential diagnosis, and Siddha aspect of treatment of Parkinson's disease ( <i>Nadukkuvatham/Panikambavatham</i> ).									
CO5	Define ataxia and explain the types of ataxia. Define cerebellar ataxia and illustrate the causes, clinical features, investigations, and management.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define peripheral neuropathy ( <i>Vata karsanam</i> ). Describe its types and pathophysiology. Explain the symptomatology of peripheral nerve diseases, diagnosis, and management of peripheral neuropathy.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Discuss the pathophysiology, Types, and symptomatology of peripheral nerve disease, diagnosis, and management of peripheral neuropathy( <i>Vata karsanam</i> ).	CC	DK	KH	CBL,L_ VC	CBA	F&S		-	NLHT7.4
CO5	Define myopathy and classify the types. Define and explain muscular dystrophy.	CK	NK	K	L	VV-Viva	F&S		-	LH
CO5	Define and Detail the etiology, pathogenesis, clinical features, treatment and management of Duchenne's muscular dystrophy( <i>Thasai vatham</i> ).	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of the vagus nerve (cranial nerve X)	PSY-GUD	MK	SH	D	P-PRF	F&S		-	NLHT7.5
CO5	List the causes of olfactory nerve lesions. Define anosmia,parosmia and discuss its clinical features and treatment.	CK	DK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of the olfactory nerve and optic nerve.	PSY-GUD	MK	SH	D-BED	DOPS,DOP S	F&S		-	NLHT7.6
CO5	Explain the lesion of visual pathway of optic nerve and define Optic atrophy and describe the causes, types and treatment.	CC	DK	K	L	VV-Viva	F&S		-	LH



CO5	Define Optic neuritis and optic retrobulbar neuritis. Describe the causes, clinical features, and treatment of Optic neuritis.	CC	DK	K	L	VV-Viva	F&S		-	LH
CO5	Describe the causes and effects of the lesion and treatment of oculomotor, trochlear, and abducent nerve.	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of the oculomotor, trochlear, abducent Nerve.	PSY-GUD	MK	SH	D	DOPS,DOPS	F&S		-	NLHT7.7
CO5	Explain the Causes and effects of the lesion of trigeminal nerve . Define trigeminal neuralgia and describe the aetiology,clinical features,investigations and treatment.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of the trigeminal nerve.	PSY-GUD	MK	SH	D	VV-Viva,DOPS,DOPS	F&S		-	NLHT7.8
CO5	Explain Facial paralysis.a)Upper motor neuron type of paralysis site, causes and effect.b)Lower motor neuron type of paralysis site, causes and effect.Define Bell's palsy and describe the causes, clinical features, prognosis and treatment.	CC	MK	KH	L_VC,L &PPT	VV-Viva	F		-	LH
CO5	Demonstrate the examination of the facial nerve.	PSY-GUD	MK	SH	D-BED	DOPS,DOPS	F&S		V-UT	NLHT7.9
CO5	Discuss the Causes , Sites of lesion of vestibulocochlear nerve and State the Deafness and its types.	CK	MK	K	L	VV-Viva	F&S		-	LH
CO5	Define vestibular neuronitis and illustrate the clinical features, prognosis and treatment.	CC	NK	K	L	VV-Viva	F&S		-	LH
CO5	Describe the clinical features,types and treatment of the benign positional vertigo	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of vestibulocochlear nerve.	PSY-GUD	MK	SH	D-M	DOPS,DOPS	F&S		-	NLHT7.10

CO5	Describe the causes and effects of lesion of the glossopharyngeal nerve. Explain the clinical features and treatment of glossopharyngeal neuralgia.	CC	MK	KH	L	DOPS,DOPS, VV-Viva	F&S		-	LH
CO5	Demonstration of the examination of glossopharyngeal nerve.	PSY-GUD	MK	SH	D-BED	DOPS,DOPS	F&S		-	NLHT7.11
CO5	Describe the Causes of lesion and effect of lesion vagus nerve and Explain the Causes of lesion and effects of lesion, clinical features and treatment of Accessory nerve.	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of accessory nerve.	PSY-GUD	MK	SH	D	P-PRF	F&S		-	NLHT7.12
CO5	Explain the causes of lesion and effects of lesion, clinical features, and treatment of hypoglossal nerve.	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of hypoglossal nerve.	PSY-GUD	NK	SH	L_VC, D-BED	DOPS,DOPS	F&S		-	NLHT7.13
CO5	Classify and grade nervous system tumours, detailing their aetiopathogenesis, pathophysiology, clinical features, investigations and conservative treatment.	CC	DK	K	L&GD, L&PPT	VV-Viva	F&S		-	LH
CO5	Define and Describe the aetiology, pathogenesis, clinical features, investigations and management of Alzheimer's disease.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5, CO7	Demonstrate the hands-on training in the examination of higher intellectual functions.	PSY-GUD	MK	SH	D, D-BE D, KL	P-EXAM, DOPS, Log book, DOPS, P-VIVA	F&S		-	NLHP7.1
CO5	Demonstrate the hands-on training in the examining of 12 Pairs of cranial nerves	PSY-GUD	MK	SH	D-BED, D, KL	Log book, P-EXAM, OSCE, DOPS,	F&S		-	NLHP7.2

						DOPS				
CO5	Demonstrate the Hands-on training in the examining of motor system by performing A. Bulk of Muscles B. Tone of Muscles C. Power of Muscles	PSY-GUD	MK	SH	D-BED, L_VC, KL, D	DOPS, P-EXAM, CBA, DOPS, Log book	F&S		-	NLHP7.3
CO5	Demonstrate the Hands-on training in the examining of the Sensory System.	PSY-GUD	MK	SH	KL, L_VC, D-BED, D	Log book, DOPS, P-EXAM, DOPS	F&S		-	NLHP7.4
CO5	Demonstrate the hands-on training in the examining of A. superficial reflexes and B. Deep tendon reflexes.	PSY-GUD	MK	SH	D-BED, KL, L_VC, D	CBA, DOPS, P-EXAM, DOPS, Log book	F&S		-	NLHP7.5
CO5, CO7	Demonstrate the hands-on training to assess cerebellar dysfunction, focusing on posture, stance, and gait examination of the patient.	PSY-GUD	DK	SH	KL, D-BED, L_VC	DOPS, P-EXAM, DOPS, PA, Log book	F&S		-	NLHP7.6
CO5	Demonstrate the hands-on training in the examination of the involuntary movements.	PSY-GUD	DK	SH	KL, L_VC, CBL, D-BED	Log book, DOPS, DOPS, P-EXAM	F&S		-	NLHP7.7
CO5, CO7	Demonstrate the hands-on training of skull, spine, and spinal nerve examination.	PSY-GUD	NK	SH	D, D-BED, KL	OSCE, DOPS, CBA, Log book, DOPS	F&S		-	NLHP7.8
CO5, CO7	Demonstrate the hands-on training in the examining of the Autonomic nervous system.	PSY-GUD	MK	SH	D-BED, KL, L_VC	DOPS, OSCE, DOPS, CBA	F&S		-	NLHP7.9
CO5, CO7	Evaluate clinical case writing and case presentation of central nervous system diseases in the given patient .	CE	MK	KH	CD, D-BED, CB	P-CASE, CBA, OSCE	F&S		-	NLHP7.10

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 7.1	Hemiplegia( <i>Pakkavatham</i> )	<p>The teacher will explain Hemiplegia (Pakkavatham) using a case-based learning: Hemiplegia (Pakkavatham)</p> <p><b>Case-Based Learning:</b> Present a Case Presentation: Discussion Points: Identify risk factors. Diagnose based on clinical features and investigations. Formulate a treatment plan combining modern and Siddha approaches</p> <p>Teaching Notes: Engagement:Begin with a real-life case study to foster interest. Integration:Explain the pathophysiology and treatment process using animations or flowcharts. Discussion:Encourage participants to contribute ideas about combining modern and traditional approaches.</p> <p>The students will perform each step of the assessment activity through a case-based assessment of Hemiplegia.</p> <p>Structure:</p> <p><b>1.Case Selection:</b> Choose a realistic and contextually relevant case of Hemiplegia.</p> <p><b>2.Format:</b> Written case:Provide a narrative or problem-solving task. Interactive or simulation:Use a role-play or virtual patient scenario.</p> <p><b>3.Components:</b> Case Introduction:Present patient demographics (age, gender, occupation) and chief complaint. History:Include detailed medical, family, and social history. Examination findings:Share relevant physical exam results (e.g., vitals, inspection findings). Investigations:Provide test results (e.g., lab values, imaging) in stages to simulate real-life decision-making.</p>

		Management:Ask students to outline treatment plans or next steps.
NLHT 7.2	Quadriplegia ( <i>Astasantira vatham</i> ) and paraplegia. ( <i>Aruna vatham</i> )	<p>The teacher will explain Quadriplegia and Paraplegia by using a lecture with group discussion, lecture with video clips ,role playcase-based learning.</p> <p>Case 1: Quadriplegia</p> <p>Case details</p> <p>History</p> <p>Presentation</p> <p>Key teaching points</p> <p>Site of lesion</p> <p>Clinical features</p> <p>Investigations</p> <p>Treatment and management</p> <p>Case 2: Paraplegia</p> <p>Case details</p> <p>History</p> <p>Presentation</p> <p>Key teaching points</p> <p>Site of Lesion</p> <p>Clinical features</p> <p>Investigations</p> <p>Treatment and management</p> <p>Teaching methods</p> <p><b>1.Interactive Case discussion</b></p> <p>Present the case with gradual revelations (history ? examination ? investigations ? diagnosis).</p> <p>Ask participants to hypothesize at each step.</p> <p>Highlight the reasoning behind choosing specific investigations and treatments.</p> <p><b>2.Role-Playing</b></p> <p>Assign participants roles (e.g., neurologist, physiotherapist, patient) to simulate real-life scenarios in managing quadriplegia/paraplegia.</p>

### **3.Clinical videos**

Show videos or images of patients with different spinal cord injuries to illustrate key features.

### **4.Group activities**

Divide the class into groups. Each group researches and presents different aspects of the topic, such as causes, rehabilitation, or surgical approaches.

The students will perform each step of the assessment activity through a case-based assessment of Quadriplegia and Paraplegia (Aruna Vatham)

Activity:

Students will be divided into small groups or work individually to analyze a hypothetical patient case. They will address specific questions regarding the site of the lesion, clinical features, investigation findings, treatment, and management strategies.

Tasks for Students

#### **1.Site of Lesion:**

Determine the site of the lesion based on clinical signs and symptoms.

Identify whether it is likely a cervical spinal cord injury or other neurological disorder.

#### **2.Clinical Features:**

List key features observed in Quadriplegia and Paraplegia.

Differentiate between upper motor neuron (UMN) and lower motor neuron (LMN) lesions.

#### **3.Investigations:**

Recommend appropriate diagnostic investigations (e.g., MRI, CT scan, X-rays, blood tests).

Discuss expected findings in these tests for the given case.

#### **4.Treatment Plan:**

Propose an acute care management plan

Outline long-term rehabilitation goals, including physical therapy, assistive devices, and psychological support.

#### **5.Management Strategies:**

Discuss strategies for managing secondary complications such as pressure ulcers, respiratory issues, and urinary infections.

Suggest interventions to improve the patient's quality of life.

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NLHT 7.3	Parkinson's disease ( <i>Nadukkuvatham</i> or <i>Panikambavatham</i> )	<p>The teacher will explain Parkinson's disease (Nadukkuvatham/Panikambavatham) by using Lecture and group discussion and case-based learning:</p> <p>Teaching methods:</p> <p>Group discussion: Engage teachers in a collaborative exploration of clinical scenarios.</p> <p>Case-based learning (CBL): Analyze and discuss real or hypothetical cases to reinforce knowledge</p> <p>Content outline:</p> <ol style="list-style-type: none"> <li>1. Definition of Parkinson's disease</li> </ol> <p>Modern medicine perspective</p> <p>Siddha perspective (Nadukkuvatham/Panikambavatham)</p> <ol style="list-style-type: none"> <li>2. Causes of Parkinson's Disease</li> <li>3. Clinical Features</li> <li>4. Pathophysiology</li> <li>5. Staging (Hoehn and Yahr Scale)</li> <li>6. Differential diagnosis</li> <li>7. Siddha aspect of treatment.</li> </ol> <p>Students will perform each step of the assessment activity through a case-based assessment of Parkinson's disease (PD) integrating the Siddha system of medicine:</p> <p>Case-based assessment activity:</p> <p>Case presentation</p> <p>Assessment components</p> <ol style="list-style-type: none"> <li>1. Definition</li> </ol> <p>Students define Parkinson's disease.</p> <ol style="list-style-type: none"> <li>2. Causes</li> </ol> <p>Modern medicine:</p> <p>Siddha Perspective:</p> <ol style="list-style-type: none"> <li>3. Clinical features</li> </ol> <p>Modern medicine: Motor symptoms and Non-motor symptoms</p> <p>Siddha medicine</p> <ol style="list-style-type: none"> <li>4. Pathophysiology</li> </ol> <p>Modern medicine</p> <p>Siddha medicine</p> <ol style="list-style-type: none"> <li>5. Staging (Hoehn and Yahr Staging)</li> </ol>
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		<p>6. Differential diagnosis</p> <p>7. Siddha aspects of treatment</p>
NLHT 7.4	Peripheral neuropathy ( <i>Vata karsanam</i> )	<p>The teacher will explain peripheral neuropathy (<i>Vata karsanam</i>) by using a Lecture with video clips and case-based learning.</p> <p>Objectives:</p> <p>Discuss the pathophysiology of peripheral nerve disease.</p> <p>Explore the types and symptomatology of peripheral neuropathy.</p> <p>Teach approaches to diagnosis and management using clinical reasoning.</p> <p><b>1. Pathophysiology</b></p> <p>Teaching Method:</p> <p>Video Clips</p> <p>Video Content: Include animations or 3D-rendered videos explaining the structure and function of peripheral nerves, the role of Schwann cells, and mechanisms of nerve injury (e.g., demyelination, axonal degeneration).</p> <p>Key Points:</p> <p>Peripheral nerves consist of motor, sensory, and autonomic fibers.</p> <p>Pathology may involve demyelination (e.g., Guillain-Barré syndrome) or axonal degeneration (e.g., diabetic neuropathy).</p> <p>Inflammation, metabolic dysfunction, and toxins are common causes.</p> <p><b>.2. Types and Symptomatology</b></p> <p>Teaching Method:</p> <p>Case-Based Learning</p> <p>Video: Showcase real or simulated patients demonstrating symptoms like foot drop, sensory loss, or allodynia.</p> <p><b>3. Diagnosis</b></p> <p>Teaching Method: Case-based problem solving</p> <p>Present cases requiring diagnostic reasoning.</p> <p>Steps to emphasize:</p> <p>History: Identify patterns, progression, and risk factors (e.g., diabetes, alcohol use).</p> <p>Physical Exam: Show videos of clinical tests, including reflexes, strength, and sensation testing.</p>



Investigations: Discuss EMG, nerve conduction studies, blood tests, and imaging.

#### **4. Management**

Teaching Method: Interactive video clips

Video content: Real-world scenarios demonstrating patient counseling, medication use, and physiotherapy.

Key management areas:

Lifestyle modification

Medications

Physical therapy

Patient education

Students will perform each step of the assessment activity through a Case-based assessment activity on peripheral neuropathy.

Instructions for Students

1. Read the case: Carefully analyze the case provided, noting key clinical details.

2. Answer the questions: Respond to the questions at the end of the case, demonstrating your understanding of the disease process, diagnosis, and treatment.

3. Group discussion (Optional): If working in groups, discuss your answers collaboratively and submit a consensus response.

4. Submission: Submit your responses within the allocated time.

Case scenario: Peripheral neuropathy

Patient profile:

Clinical examination findings:

Additional history

Pathophysiology

Classification

Symptomatology

Diagnosis

Management plan

Preventive measures

NLHT 7.5	The vagus nerve (Cranial Nerve X)	<p>The teacher will explain the vagus nerve (cranial nerve X) by using a demonstration.</p> <p><b>1.Preparation</b>  Materials needed:  A diagram or model of cranial nerves.  A presentation with key points on vagus nerve anatomy, function, and examination techniques.  A volunteer or standardized patient for demonstration.</p> <p><b>2.Interactive introduction</b>  Overview of the vagus nerve:  Discuss its anatomical course and key functions (e.g., parasympathetic control, motor functions for the pharynx and larynx, and sensory roles).  Highlight associated symptoms of vagus nerve dysfunction (e.g., hoarseness, swallowing difficulty, loss of gag reflex).</p> <p><b>3.Live demonstration</b>  Step-by-Step Examination:  Observation:Inspect for voice quality (hoarseness), uvula position, and any asymmetry in the soft palate.  Palate Elevation:Ask the patient to say "Ah." Observe the soft palate's movement and uvula deviation.  Gag Reflex:Stimulate the posterior pharyngeal wall gently (if appropriate). Discuss safety precautions and alternative observations if not performed.  Swallowing Assessment:Ask the patient to swallow and assess for difficulty.  Cough Test:Assess the ability to produce a strong cough (an indirect measure of vocal cord function).</p> <p><b>4. Hands-on practice</b>  Divide participants into small groups and provide a chance to practice with each other or standardized patients under supervision.</p> <p><b>5. Visualization and technology</b>  Use videos or animations demonstrating vagus nerve examination.  Show clinical examples of normal and abnormal findings.  Students will perform each step of the assessment activity through practical performance on the vagus nerve:  Pair students into groups of two or three.  Each student takes turns being the examiner, the patient, and the observer.  Use a checklist to ensure all steps are performed.</p>
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		Discuss findings, share observations, and review the steps.
NLHT 7.6	Olfactory nerve (Cranial nerve I) and optic nerve (Cranial nerve II)	<p>The teacher will explain the olfactory nerve and optic nerve by using a demonstration bedside.</p> <p><b>1.Examination of the olfactory nerve</b></p> <p>Purpose:To assess the sense of smell and check for anosmia or any other olfactory dysfunction.</p> <p>Procedure:</p> <p>Ensure the room is well-lit and the patient is seated comfortably.</p> <p>Explain the procedure to the patient to obtain informed consent.</p> <p>Ensure that the patient is not congested or has any nasal obstruction (e.g., from a cold).</p> <p>Testing:</p> <p>Occlude one nostril: Ask the patient to close one nostril by pressing it with their finger.</p> <p>Ask the patient to close their eyes to eliminate visual cues.</p> <p>Present an aromatic substance: Use a distinct-smelling substance like coffee, vanilla, or cinnamon.</p> <p>Hold it about 2-3 cm from the patient’s open nostril.</p> <p>Ask the patient to sniff and identify the scent: If the patient cannot identify the scent, note this as a potential olfactory issue.</p> <p>Repeat for the other nostril: Occlude the first nostril and then repeat the same procedure for the other side.</p> <p>Interpretation:</p> <p>A normal result: The patient identifies the scent correctly in both nostrils.</p> <p>Abnormal findings could indicate anosmia (loss of smell) or partial smell loss, which could be caused by nasal or neurological issues.</p> <p><b>2.Examination of the optic nerve</b></p> <p>Purpose:To assess vision, visual fields, and the functioning of the optic nerve.</p> <p>Procedure:</p> <p>Ensure the patient is seated comfortably in a well-lit environment.</p> <p>Explain the procedure and ensure the patient is relaxed.</p> <p>The examiner should stand at eye level with the patient and be in a position to perform tests.</p> <p>Test for visual acuity:</p> <p>Use a snellen chart: Ask the patient to cover one eye with a patch or their hand (not pressing the eyelid).</p>

Ask the patient to read the smallest line they can see: Start from the top and move down until the patient can no longer read the line.

Repeat for the other eye.

Test for visual fields (Confrontation Test):

Confrontation testing: Stand 2 feet away from the patient. Ask the patient to cover one eye while you cover the opposite one.

Move your hands from the periphery of the patient's visual field towards the center (testing the four quadrants: superior, inferior, lateral, and medial).

Ask the patient to state when they see your hand. Repeat for all four quadrants for both eyes.

Fundoscopy (Ophthalmoscopic) Examination:

Check for the optic disc: Using an ophthalmoscope, assess the optic disc for size, color, and any abnormalities.

Assess for papilledema: Look for swelling of the optic disc, which can indicate raised intracranial pressure.

Students will perform each step of the assessment activity through DOPS on the olfactory nerve (Cranial Nerve I) and the optic nerve (Cranial Nerve II)

Preparation

Materials Needed:

For Olfactory Nerve: Familiar scents (e.g., coffee, vanilla, peppermint) in opaque containers.

For Optic Nerve: Snellen chart, Ishihara plates (for colour vision), a pen torch, ophthalmoscope, and a visual field-testing tool (e.g., wiggling fingers or confrontation method).

Steps:

Olfactory nerve examination:

Explain the procedure to the patient.

Ensure both nostrils are clear (ask the patient if they have nasal congestion).

Test each nostril separately: Ask the patient to close their eyes and occlude one nostril.

Present a non-irritating scent under the open nostril and ask the patient to identify it.

Optic nerve examination:

Visual acuity:

Test each eye separately using a Snellen chart at 6 meters (or near chart for close-up vision).

Record the smallest line the patient can read.

Colour vision:

		<p>Use Ishihara plates to test for colour blindness.</p> <p>Visual fields: Perform a confrontation test by asking the patient to fixate on your nose while you test each quadrant.</p> <p>Pupillary reflexes: Assess direct and consensual light reflex using a pen torch.</p> <p>Fundoscopy: Use an ophthalmoscope to examine the optic disc, retina, and blood vessels.</p> <p>Practice by students Divide students into pairs (examiner and patient). Each student performs the steps under supervision, focusing on correct technique and patient communication.</p>
NLHT 7.7	Oculomotor nerve (Cranial Nerve III), trochlear nerve (Cranial Nerve IV) and abducent nerve (Cranial Nerve VI)	<p>The teacher will explain oculomotor (CN III), trochlear (CN IV), and abducent (CN VI) nerves by using demonstration.</p> <p>Introduction to nerves: Oculomotor nerve (CN III): Controls most of the eye's movements, including constriction of the pupil and maintaining eyelid elevation. Supplies muscles for eye movement (superior, inferior, and medial rectus, inferior oblique) and the levator palpebrae (for eyelid movement). Trochlear nerve (CN IV): Innervates the superior oblique muscle, which helps in downward and lateral movement of the eye. Abducent nerve (CN VI): Innervates the lateral rectus muscle, which controls lateral (outward) movement of the eye.</p> <p>Step-by-Step examination: <b>1. Inspection (General observation)</b> Start by having the patient sit comfortably. Inspect the patient's face for asymmetry, ptosis (drooping eyelid), or abnormal positioning of the eyes. Observe for any signs of strabismus or abnormal eye movements. <b>2. Pupil reactions (Oculomotor nerve)</b> Direct and consensual reaction: Shine a penlight into one eye and observe the pupil constriction (direct response).</p>

Then, shine the light into the other eye to check the consensual response.  
Repeat this for both eyes. The normal response is constriction of the illuminated pupil and constriction of the other eye (consensual).

Accommodation reflex:

Ask the patient to focus on a distant object and then slowly bring your finger towards their nose. The pupils should constrict as they focus on the near object (accommodation reflex). This tests the oculomotor nerve function.

### **3. Eye movements (oculomotor, trochlear, and abducent Nerves)**

Ask the patient to follow your finger or a pen in the six cardinal directions of gaze:

Upwards (tests superior rectus, oculomotor)

Downwards (tests inferior rectus and superior oblique, trochlear)

Medial (tests medial rectus, oculomotor)

Lateral (tests lateral rectus, abducent)

Up and laterally (tests inferior oblique, oculomotor)

Down and laterally (tests superior oblique, trochlear)

Observe for smooth, coordinated movement and absence of nystagmus (involuntary eye movements).

### **4. Convergence (Oculomotor nerve)**

Ask the patient to focus on your finger as you slowly bring it towards their nose.

Both eyes should converge (move inward) smoothly toward the midline. This tests the oculomotor nerve.

### **5. Testing for Diplopia (Double vision)**

If the patient complains of double vision, test the eye movements in all directions.

Look for misalignment or weakness in the eye muscles.

This can help assess if one of the nerves is impaired.

Special signs to look for:

Ptosis (Drooping eyelid): Associated with oculomotor nerve dysfunction.

Diplopia (Double vision): May indicate issues with the trochlear, oculomotor, or abducent nerve.

Strabismus: Deviation of the eye(s) from their normal alignment due to weakness in a muscle innervated by one of these cranial nerves.

Students will perform each step of the assessment activity through DOPS on the Oculomotor, Trochlear, and Abducent Nerve.

Steps of the activity:

		<p>Introduction:          Explain the purpose of the examination to the patient.          Ensure the patient is comfortable and seated upright.</p> <p>Inspection:          Observe the patient's eyes at rest. Look for ptosis, strabismus, or misalignment of the eyes.          Assessment of pupil reaction (Oculomotor Nerve - CN III):          Shine a penlight into each eye to check pupil reaction to light (direct and consensual response).          Test for accommodation by asking the patient to focus on a near object and then on a distant one.          Extraocular movements (CN III, IV, VI):          Ask the patient to follow an object (e.g., a pen) with their eyes in an "H" or star-shaped pattern.          Observe for smooth, coordinated movements and ensure the eyes move together.          Oculomotor nerve (CN III): Tests upward, downward, and medial gaze.          Trochlear nerve (CN IV): Tests downward and inward gaze.          Abducent nerve (CN VI): Tests lateral gaze.</p> <p>Document Findings:          Record any abnormalities such as nystagmus, double vision (diplopia), or limited eye movement.</p>
NLHT 7.8	The trigeminal nerve (cranial nerve V)	<p>The teacher will explain the trigeminal nerve (cranial nerve V) by using a demonstration.</p> <p><b>1.Overview of the trigeminal nerve</b></p> <p>Introduction: Begin by giving an overview of the trigeminal nerve's function and anatomy. Explain that it has sensory and motor functions. The sensory function involves sensation from the face, while the motor function controls the muscles of mastication.</p> <p>Structure:Show a diagram or 3D model to explain its three branches:          Ophthalmic (V1)          Maxillary (V2)          Mandibular (V3)</p> <p><b>2.Step-by-step teaching method</b></p> <p>Step 1:Testing sensory function</p> <p>Demonstrate sensory testing:          Ask the teacher to close their eyes.          Use a cotton wisp to lightly touch the patient's forehead (V1), cheek (V2), and chin (V3).</p>

Demonstrate both light touch and pinprick sensation. Make sure to touch each area on both sides to compare sensation bilaterally.

Verbal cue: "Tell me if you feel this sensation and if it feels the same on both sides."

Teaching Tip: Emphasize the importance of comparing sensations on both sides of the face to detect any asymmetries.

Step 2: Testing motor function (Muscles of mastication)

Demonstrate the motor exam:

Ask the teacher to clench their teeth. You can palpate the masseter and temporalis muscles to assess muscle strength and tone.

Next, demonstrate the jaw movements by asking the teacher to open and close their mouth against resistance. You should place your fingers on the chin while applying gentle resistance to assess the function of the masseter and temporalis muscles.

Verbal cue: "Please bite down as hard as you can and resist me while I press on your jaw."

Teaching Tip: Highlight the importance of palpating both the masseter and temporalis to ensure that both muscles are functioning symmetrically.

Step 3: Testing the corneal reflex (sensory and motor)

Demonstrate the corneal reflex:

Ask the teacher to look slightly away while you approach them with a cotton wisp (like for the sensory exam).

Lightly touch the cotton wisp to the cornea of one eye. Demonstrate the appropriate response (blinking).

Verbal cue: "Do you feel the cotton on your eye? The expected response is blinking."

Teaching Tip: Emphasize the importance of performing this gently to avoid discomfort and irritation.

3. Practice and feedback

After demonstrating, encourage the teachers to practice on each other or volunteers. Guide each of the steps.

Give constructive feedback as they perform each part of the examination.

4. Discussion of pathology

Teach Common Findings: Go over what abnormal findings might indicate (e.g., loss of sensation or weakness in the muscles of mastication, which may indicate trigeminal nerve pathology like trigeminal neuralgia or a lesion).

Demonstrate how to document findings: Teach how to document findings in a clear, organized way in



		<p>case of abnormalities. Students will perform each step of the assessment activity through DOPS (Directly Observed Procedural Skills) and viva voce on the trigeminal nerve.</p>
NLHT 7.9	The facial nerve (a cranial nerve VII)	<p>The teacher will explain facial nerves by using a demonstration at the bedside.</p> <p><b>1.Introduction</b> Objective:Explain to the teachers that the purpose of the facial nerve examination is to assess the function of the 7th cranial nerve, which controls the muscles of facial expression, some taste sensations, and glandular secretions. Anatomy review: Briefly review the relevant anatomy: The facial nerve originates from the brainstem and passes through the internal acoustic meatus, facial canal, and out through the stylomastoid foramen. It has branches that innervate the muscles of facial expression, and some fibers contribute to taste sensation in the anterior two-thirds of the tongue and the parasympathetic innervation of lacrimal and salivary glands.</p> <p><b>2.Demonstration of facial nerve examination</b> Start by explaining the tests one by one, showing teachers how each step is done and the rationale behind it. Step 1:Ask the patient to smile Demonstration:"Ask the patient to show their teeth and smile widely." What to look for:Symmetry of the smile. Asymmetry or a loss of movement on one side may indicate a problem with the facial nerve. Step 2:Ask the patient to raise both eyebrows Demonstration:"Ask the patient to raise both eyebrows as if surprised." What to look for:Symmetry of eyebrow movement. A failure to raise one eyebrow may indicate facial nerve palsy, especially if the forehead is not involved. Step 3:Ask the patient to close both eyes tightly Demonstration:"Ask the patient to squeeze their eyes shut tightly and resist you trying to open them." What to look for:Resistance to eye-opening. Weakness or inability to resist may indicate facial nerve damage. Step 4:Ask the patient to puff out both cheeks</p>

Demonstration: "Ask the patient to puff their cheeks out as if blowing air into them."

What to look for: Symmetry in cheek puffing. Asymmetry may indicate weakness on one side.

Step 5: Assess taste sensation (if applicable)

Demonstration: "To assess the taste sensation, you can gently use a cotton swab soaked in a bitter substance (e.g., quinine) and apply it to the anterior part of the tongue on both sides."

What to look for: The patient should be able to differentiate tastes on both sides of the anterior two-thirds of the tongue.

Step 6: Test for any other signs of facial nerve dysfunction

Demonstration: "Look for any signs of facial asymmetry, including drooping of the eyelid, loss of nasolabial fold, or loss of facial tone."

What to look for: The patient may show a flat nasolabial fold, a lack of wrinkling on the forehead, or a smooth, less expressive side of the face.

### **3. Conclusion**

Review: Summarize the key aspects of the facial nerve examination:

Symmetry of facial movements.

Involvement of the forehead muscles (for distinguishing between upper and lower motor neuron lesions).

Resistance to eye closure and cheek puffing.

Students will perform each step of the assessment activity through DOPS on Facial Nerve.

Assessment Steps

#### **1. Introduction (Professionalism)**

Greets the patient and introduces themselves.

Explains the procedure in clear, simple terms.

Gains informed consent and ensures patient comfort and privacy.

#### **2. Preparation**

Washes hands and follows appropriate infection control measures.

Assembles required tools if needed (e.g., pen torch).

#### **3. Inspection**

Observes the patient's face at rest for asymmetry, drooping, or abnormal movements.

Identifies any obvious scars, swellings, or other relevant findings.

#### **4. Motor function testing**

Tests for motor function of the facial nerve:

		<p>Forehead Wrinkle: Asks the patient to raise their eyebrows.          Eye Closure: Asks the patient to close their eyes tightly and resists opening them.          Smile: Asks the patient to smile, showing teeth.          Puff Out Cheeks: Observe for air escape</p> <p><b>5.Sensory function testing (if applicable)</b>          Explains that sensory testing (e.g., taste sensation on the anterior two-thirds of the tongue) may not be routinely assessed but can be included if needed.</p> <p><b>6.Special tests</b>          Mentions/uses additional tests if relevant (e.g., corneal reflex if cranial nerve V involvement is suspected).</p> <p><b>7.Findings and conclusion</b>          Summarizes findings logically and clearly.          Explain abnormalities (if any) in simple terms to the patient or assessor.</p> <p><b>8.Professionalism and communication</b>          Maintains a professional demeanour throughout the assessment.          Respond effectively to patient queries or concerns.</p>
NLHT 7.10	The vestibulocochlear nerve (a cranial nerve VIII)	<p>The teacher will explain the vestibulocochlear nerve (Cranial Nerve VIII) by using a demonstration of the model.</p> <p><b>1.Introduction to the Patient:</b>          Explain the procedure: Inform the patient that you will check their hearing and balance.          Patient position: Ensure the patient sits comfortably with their head positioned straight.</p> <p><b>2.Assessing Hearing:</b>          Weber test(Tuning fork test):          Purpose:To check if hearing is equal in both ears.          Procedure:strike a tuning fork (512 Hz) and place it on the patient's forehead or midline of the skull.          Ask them to indicate which ear (if any) the sound is louder in.          Interpretation:In a normal test, the sound should be heard equally in both ears. If the sound is louder in one ear, it could indicate either conductive or sensorineural hearing loss.</p> <p>Rinne test (Tuning fork test):          Purpose:To compare air conduction versus bone conduction.</p>

**Procedure:** Strike a tuning fork and place the base on the patient's mastoid bone (behind the ear). Ask the patient to indicate when the sound stops, and then place the tuning fork near the ear canal (to test air conduction).

**Interpretation:** Normal hearing should result in the sound being heard longer by air conduction than by bone conduction (AC > BC). If bone conduction is heard longer, this suggests conductive hearing loss.

**Pure Tone Audiometry (if needed):**

If there's a suspicion of hearing loss, this test is performed by an audiologist to measure the patient's hearing threshold at different frequencies.

### **3. Assessing balance:**

**Head impulse test (HIT):**

**Purpose:** To assess the function of the vestibular system (which is part of the Vestibulocochlear nerve).

**Procedure:** Ask the patient to fix their gaze on a target, such as your nose. Rapidly rotate their head to one side (approximately 20-30 degrees) and then return to the center. Repeat on the other side.

**Interpretation:** A normal response is for the patient to maintain a fixed gaze. If there is a dysfunction in the vestibular system (e.g., vestibular neuritis), the patient may show a corrective eye movement known as a "catch-up saccade."

**Romberg test:**

**Purpose:** To assess the patient's balance when standing.

**Procedure:** Ask the patient to stand with their feet together, arms by their sides, and eyes closed.

Observe for any swaying or loss of balance.

**Interpretation:** Normal: The patient can stand without significant swaying. Abnormal: Swaying or falling may indicate vestibular dysfunction or proprioceptive loss.

**Dix-Hallpike Maneuver (if BPPV is suspected):**

**Purpose:** To test for benign paroxysmal positional vertigo (BPPV).

**Procedure:** Have the patient sit on the examination table. Rotate their head 45 degrees to one side, then quickly lay them back with their head extended slightly backward.

**Interpretation:** A positive result is characterized by the sudden onset of vertigo and nystagmus, indicating BPPV.

### **4. Additional tests (if necessary):**

**Caloric Testing:** This test is often performed in a lab setting using warm and cold water or air to stimulate the vestibular system. It's useful to assess unilateral vestibular dysfunction.

**Auditory Brainstem Response (ABR):** This test is used when there is suspicion of a lesion along the

auditory pathway, including the Vestibulocochlear nerve.

### **5. Conclusion:**

After the examination, summarize the findings with the patient and discuss the next steps, such as further diagnostic tests or referrals if abnormalities are detected.

Students will perform each step of the assessment activity through DOPS on the Vestibulocochlear nerve (CN VIII).

### **1. Preparation and Communication**

**Professionalism:** Ensure the student introduces, obtains consent, and explains the purpose of the assessment.

**Hygiene:** Confirm handwashing or use of sanitizer before starting.

**Assessment Points:**

Did the student explain the procedure clearly?

Did they establish rapport and obtain informed consent?

### **2. Technique:** Examination of the Vestibulocochlear nerve

The examination involves testing the auditory and vestibular functions. Observe the following steps:

#### A. Auditory function.

Hearing test

Whisper test

Weber's test

Rinne's test

**Assessment points:**

Did the student follow a logical sequence?

Was the tuning fork used correctly, and were the results interpreted accurately?

#### B. Vestibular function

Observation for nystagmus

Romberg test

Dix-Hallpike Test (if indicated): Assess for positional vertigo if the patient reports dizziness.

**Assessment Points:**

Was the student able to explain findings (e.g., nystagmus direction or postural instability)?

### **3. Interpretation and communication of findings**

The student should summarize findings logically, linking abnormal results to possible pathologies.

Examples:

		<p>Conductive hearing loss ? impacted wax or otosclerosis.          Sensorineural hearing loss ? acoustic neuroma or noise exposure.          Assessment Points:          Did they identify normal vs abnormal findings?          Could they explain the clinical significance of their observations?</p>
NLHT 7.11	The glossopharyngeal nerve (Cranial nerve IX)	<p>The teacher will explain the glossopharyngeal nerve (Cranial Nerve IX) by using demonstration bedside.</p> <p><b>1.Introduction:</b>          Start by providing a brief overview of the glossopharyngeal nerve, its function, and its clinical importance:          Function:Sensory (taste to the posterior third of the tongue, sensation to the pharynx), motor (motor innervation to the stylopharyngeus muscle, involved in swallowing), and parasympathetic (innervates the parotid gland for saliva production).          Clinical Relevance: Testing this nerve helps in diagnosing conditions like glossopharyngeal neuralgia, stroke, and other neurological issues.</p> <p><b>2.Anatomy Overview:</b>          Explain the anatomical course and functions of the glossopharyngeal nerve:</p> <p><b>3.Teaching methodology:</b>          A step-by-step approach works best for bedside teaching.</p> <p><b>Step 1:Inspect the Patient</b>          Objective:Check for any signs of neurological damage, including asymmetry, drooping of the soft palate, or signs of weakness.          Demonstrate how to inspect the patient's throat, looking for any obvious deformities.</p> <p><b>Step 2:Ask the Patient to Open Their Mouth</b>          Objective:Visualize the soft palate and uvula.          Demonstrate how to instruct the patient to open their mouth and say "Ah."          Look for the uvula's movement. In normal function, the uvula will rise symmetrically. If the glossopharyngeal nerve is affected, the uvula may deviate to the opposite side (toward the healthy side), as the vagus nerve is also involved in the movement of the soft palate.</p>

		<p><b>Step 3:Test Gag Reflex</b>  Objective:Evaluate both the glossopharyngeal and vagus nerves.  Gently stimulate the back of the throat on each side (using a cotton-tipped swab).  Teacher Tip:Remind students that a gag reflex is a polysynaptic reflex and involves both the glossopharyngeal nerve (afferent) and the vagus nerve (efferent). A lack of response on one side can suggest nerve damage.</p> <p><b>Step 4:Assess Taste Sensation</b>  Objective:Assess the sensory function of the glossopharyngeal nerve.  The glossopharyngeal nerve is responsible for taste sensation on the posterior third of the tongue. You can use a bitter-tasting solution on a cotton swab and ask the patient to identify the taste on the back of the tongue.</p> <p><b>Step 5:Check for Difficulty Swallowing</b>  Objective:observe the patient’s ability to swallow.  Ask the patient if they have any difficulty swallowing .  Students will perform each step of the assessment activity through DOPS on glossopharyngeal nerve .  Steps for DOPS Assessment:  Provide a patient or a trained simulated patient.  Ensure necessary equipment is available (e.g., torch, tongue depressor).  Arrange a quiet environment conducive to the examination.</p>
NLHT 7.12	The accessory nerve (Cranial nerve XI)	<p>The teacher will explain accessory nerves by using a demonstration.  Step-by-Step demonstration:  <b>1.Introduction:</b>  Explain the function of the accessory nerve and why its examination is critical in diagnosing neurological impairments.  Briefly introduce the two main muscle groups involved: SCM (for head rotation) and trapezius (for shoulder shrugging).  <b>2.Inspect for asymmetry:</b>  Begin by inspecting the patient's shoulders and neck for any visible asymmetry, atrophy, or muscle wasting.</p>

Ask the patient to face forward and check for any signs of muscle weakness or abnormal positioning.

**3. Test the sternocleidomastoid (SCM) Muscle:**

Ask the patient to turn their head against resistance. For example, ask them to turn their head to the left while you apply gentle resistance to the left side of their chin. Then, do the same for the right side.

This tests the function of the SCM, which is responsible for head rotation. The inability to rotate the head against resistance suggests weakness in the SCM, likely due to accessory nerve damage.

**4. Test the trapezius muscle:**

Ask the patient to shrug both shoulders at the same time. Provide resistance by gently pushing down on the shoulders.

Alternatively, you can ask them to shrug one shoulder at a time while you apply resistance on the opposite side.

A lack of shoulder elevation or weakness while shrugging suggests a problem with the trapezius, which is innervated by the accessory nerve.

**5. Clinical correlation:**

Discuss possible conditions or injuries that may affect the accessory nerve, such as:

Trauma or surgery: damage to the nerve can result in weakness of the SCM or trapezius.

Jugular foramen syndrome: involving multiple cranial nerves, including the accessory nerve.

Visual Aids and Tools:

Use a diagram or model of the human head and neck to show the locations of the SCM and trapezius muscles.

Consider using video clips or real-time demonstrations on a volunteer to ensure the teachers have a clear visual understanding.

Students will perform each step of the assessment activity through practical performance on the accessory nerve.

Preparation:

Materials Required:

Patient or standardized participant

Quiet room with adequate lighting.

Student Briefing:

Explain that they will demonstrate the examination of the accessory nerve.

Assessment Steps:

**1. Communication and consent**



		<p>Greet the patient and introduce yourself.          Explain the purpose of the examination in simple terms.          Obtain informed consent.          Ensure patient comfort and positioning.</p> <p><b>2. Knowledge of the accessory nerve</b>          The student explains that the accessory nerve controls the sternocleidomastoid (SCM) and trapezius muscles.          It is responsible for head rotation, shoulder elevation, and partial movement of the neck.</p> <p><b>3. Inspection</b>          Ask the patient to sit or stand upright.          Inspect for muscle atrophy, asymmetry, or abnormal posture of the neck and shoulders.</p> <p><b>4. Testing the sternocleidomastoid muscle</b>          Instruction: Ask the patient to turn their head to one side while the student resists the movement with their hand (e.g., the patient turns their head to the left, and the resistance is applied on the left cheek).          Observation: Evaluate strength and symmetry on both sides.          Commentary: The student should describe the findings.</p> <p><b>5. Testing the trapezius muscle</b>          Instruction: Ask the patient to shrug their shoulders against resistance applied by the examiner.          Observation: Assess for symmetry, strength, or inability to elevate shoulders.          Commentary: The student describes the findings appropriately.</p> <p><b>6. Integration and Interpretation</b>          Summarize findings and discuss whether the accessory nerve is intact.          Correlate abnormalities with possible clinical conditions.</p> <p><b>7. Professionalism</b>          Maintain a respectful and confident demeanor.          Ensure proper infection control measures (e.g., hand hygiene).</p>
NLHT 7.13	The hypoglossal nerve (Cranial Nerve XII)	<p>The teacher will explain the hypoglossal nerve by using a lecture that includes video clips and bedside teaching methods for demonstrating the examination.</p> <p><b>1.Introduction to the hypoglossal nerve (Cranial nerve XII)</b>          Function:The hypoglossal nerve controls the muscles of the tongue, which are responsible for</p>

movements like speaking, swallowing, and chewing.

**Motor Function:**It innervates the intrinsic and extrinsic muscles of the tongue except for the palatoglossus, which is innervated by the vagus nerve (Cranial Nerve X).

**Clinical Relevance:**Damage to the hypoglossal nerve may lead to weakness or atrophy of the tongue muscles, causing difficulty in speech, swallowing, or even asymmetry in the tongue.

### **2.Basic anatomy review (Video clip)**

Show a short video demonstrating the path of the hypoglossal nerve from its origins in the medulla oblongata to its innervation of the tongue muscles.

Highlight the clinical implications of damage at different parts of the nerve's pathway.

Key points to cover:

Origin in the medulla

Course through the hypoglossal canal

Distribution to tongue muscles

### **3.Clinical examination of the hypoglossal nerve (Demonstration)**

**Preparation:**Ensure a quiet, well-lit environment for optimal examination conditions.

**Step 1:Inspection**

**Video Clip:**Show a video demonstrating how to inspect the tongue at rest.

Look for signs of atrophy, fasciculations, or asymmetry.

Observe the overall appearance, noting any abnormal features such as uneven tongue size or tremors.

**Bedside Teaching:**Have students practice observing the tongue of a volunteer, focusing on detecting any obvious signs of hypoglossal nerve dysfunction.

**Step 2:Protrusion of the Tongue**

**Demonstration:**Ask the patient to stick out their tongue.

Normally, the tongue should protrude symmetrically in the midline.

**Abnormal findings:**

**Unilateral hypoglossal nerve damage:**The tongue will deviate toward the affected side (due to the unopposed action of the healthy side).

**Bilateral hypoglossal nerve damage:**The tongue will have reduced strength and may not protrude fully.

**Video Clip:**Show a video of both normal and abnormal tongue protrusions.

**Bedside Teaching:**Allow students to practice this technique on patients or each other.

**Step 3:Lateral Movement**

**Demonstration:**Ask the patient to move their tongue from side to side.

Normal movement should be smooth and equal on both sides.

Abnormal findings: Difficulty or asymmetry in movement can indicate nerve damage.

Video Clip: A video demonstrating normal and abnormal lateral tongue movements.

Bedside Teaching: Have students perform this examination on patients, focusing on the range and symmetry of tongue movements.

Step 4: Tongue Strength

Demonstration: Ask the patient to push their tongue against the inside of the cheek while you apply gentle resistance with your finger.

Both sides should show equal strength.

Abnormal findings: Weakness or asymmetry may indicate hypoglossal nerve dysfunction.

Video Clip: Demonstrate this test with a patient or model, showing how to assess strength symmetrically on both sides.

Bedside Teaching: Have students practice this examination with volunteers, observing and comparing the strength of the tongue.

#### **4. Case scenarios (Interactive learning)**

Present a few cases with different scenarios of hypoglossal nerve dysfunction (e.g., stroke, trauma, tumor) and ask the students to analyze the symptoms and the results of the examination.

Video Clips: Show simulated or real-life cases of patients with hypoglossal nerve dysfunction.

Discuss the expected findings and the importance of early diagnosis.

Students will perform each step of the assessment activity through The Direct Observation of Procedural Skills (DOPS) on the Hypoglossal nerve (cranial nerve XII).

DOPS Assessment: Hypoglossal Nerve Examination

Assessment Components

Preparation and Professionalism

Greeting and Explanation:

Introduce themselves to the patient.

Explains the purpose of the examination clearly and in layman's terms.

Obtains consent for the examination.

Infection Control:

Ensures proper hygiene (e.g., hand washing or sanitizing before and after the examination).

Comfort and Positioning:

Ensures the patient is seated comfortably in an appropriate position with good lighting.

		<p><b>Clinical Technique</b>  <b>Inspection of the Tongue (at rest and in motion):</b>  Observe the tongue at rest for atrophy, fasciculations, or asymmetry.  Ask the patient to stick their tongue out and check for deviation (suggests weakness).  Observe tongue movement for smoothness and range.  <b>Assessment of Strength and Function:</b>  Ask the patient to press their tongue against the inside of their cheek and palpate externally for strength.  Checks articulation of lingual sounds (e.g., asking the patient to say "la-la-la" to assess coordination).  <b>Palpation (if necessary):</b>  Palpates the tongue to detect any induration or abnormalities.  <b>Communication During Examination</b>  Maintains clear communication throughout the procedure.  Explain each step to the patient and ensure their comfort.  <b>Clinical Knowledge</b>  Demonstrates understanding of normal vs abnormal findings (e.g., unilateral deviation toward the affected side suggests a lower motor neuron lesion).  Integrates findings with relevant differential diagnosis.</p>
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**Non Lecture Hour Practical**

<b>S.No</b>	<b>Name of Practical</b>	<b>Description of Practical Activity</b>
NLHP 7.1	Clinical examination of higher intellectual functions .	<p>The teacher will explain higher intellectual functions by using kinesthetic learning, demonstrations, and bedside demonstration.</p> <p><b>1.Prepare the patient for the clinical examination (10-15 minutes)</b>  Introduction: Greet the patient, introduce yourself, and explain the purpose of the examination.  Informed Consent:Ensure the patient understands the procedure and consents to it.  Comfort and privacy:Provide a comfortable environment, ensure privacy, and ask if they need any accommodations.  Positioning: Position the patient appropriately for the examination.</p>

		<p><b>2. Analyse the demographic data, complaints, and duration, and the history of the patient, with vitals orderly (30-40 minutes)</b></p> <p>Demographic data: Record name, age, gender, occupation, and other relevant details.</p> <p>Presenting complaints: Note the chief complaint and its duration.</p> <p>History:</p> <p>Medical history: Past illnesses, hospitalizations, surgeries.</p> <p>Family history: Any hereditary conditions.</p> <p>Social history: Lifestyle factors, habits, and occupational risks.</p> <p>Medication history: Current and past medications.</p> <p>Vitals:</p> <p>Measure blood pressure, heart rate, respiratory rate, temperature, and oxygen saturation.</p> <p><b>3. Assess the examination of higher intellectual function (45-60 minutes)</b></p> <p>Orientation: Assess awareness of time, place, and person.</p> <p>Memory: Test short-term and long-term memory.</p> <p>Attention and concentration: Use tasks like repeating sequences or performing simple calculations.</p> <p>Language: Evaluate fluency, comprehension, repetition, and naming.</p> <p>Abstract thinking: Assess with questions involving proverbs or similarities/differences.</p> <p>Judgment: Use situational questions to evaluate reasoning.</p> <p>The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), practical exams, logbook assessments, practical viva, and case-based assessments.</p> <p>The total duration of the activity is 2 hours.</p>
NLHP 7.2	Clinical examinations of 12 Pairs of cranial nerves.	<p>The teacher will explain the 12 pairs of cranial nerves by using a combination of kinesthetic learning, bedside demonstration, and practical demonstrations.</p> <p><b>1. Prepare the patient for the clinical examination (30 minutes)</b></p> <p>Create a comfortable environment: Ensure the examination room is quiet, well-lit, and properly equipped.</p> <p>Establish rapport: Introduce yourself to the patient and explain the purpose of the examination.</p> <p>Obtain consent: Clearly explain the procedures and obtain informed consent.</p> <p>Ensure readiness: Verify that the patient is properly positioned, wearing appropriate clothing, and</p>

understands the examination flow.

**2. Analyze patient data in an orderly manner (1 hour 30 minutes)**

Demographic data: Record age, gender, occupation, and any relevant personal details.

Chief complaints: Identify the main symptoms, duration, and progression.

Use open-ended questions for detailed insight.

History taking:

Medical history: Past illnesses, surgeries, or conditions.

Family history: Genetic predispositions or familial illnesses.

Lifestyle factors: Smoking, alcohol consumption, diet, exercise.

Current medications: Record all ongoing treatments.

Vital signs:

Measure temperature, blood pressure, pulse, respiratory rate, and oxygen saturation.

Document findings systematically.

**3. Assess the clinical examination of 12 Pairs of cranial nerves (3 hours)**

Conduct the examination systematically, evaluating each cranial nerve in sequence:

I. Olfactory nerve:

Test the sense of smell with familiar odours.

II. Optic nerve:

Check the visual acuity field of vision and perform a fundoscopic examination.

III, IV, VI. Oculomotor, trochlear, and abducens nerves:

Test eye movements, pupil size, light reflex, and accommodation.

V. Trigeminal nerve:

Assess facial sensation, corneal reflex, and mastication muscle strength.

VII. Facial nerve:

Evaluate facial expressions (smile, frown, close eyes tightly) and taste on the anterior tongue.

VIII. Vestibulocochlear nerve:

Perform hearing tests (tuning fork) and balance assessments.

IX, X. Glossopharyngeal and Vagus nerves:

Check the gag reflex, swallowing, and speech. Observe the uvula for symmetry during phonation.

XI. Accessory nerve:

Test shoulder shrug and head-turning strength against resistance.

XII. Hypoglossal nerve:

		<p>Assess tongue movement, symmetry, and any signs of atrophy or fasciculations.  The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), practical exams, logbook documentation, and Objective structured clinical examinations (OSCE).  The total duration of the activity is 5 hours.</p>
NLHP 7.3	Clinical Examination of Motor System.	<p>The teacher will explain the motor system by using lectures with video clips, kinesthetic learning, demonstrations, and bedside demonstrations.</p> <p>1.Preparation phase (30 minutes)  Objective: Prepare the patient for the clinical examination.  Steps:  Explain the procedure to the patient, ensuring they understand and consent.  Confirm privacy and comfort, such as an appropriate gown and room temperature.  Gather necessary tools and equipment (e.g., gloves, stethoscope, reflex hammer, measuring tape).</p> <p>2.Data analysis phase (60 minutes)  Objective: Collect and analyze patient information in an orderly manner.  Steps:  Demographic data:Age, gender, occupation, and other relevant identifiers.  Chief Complaints:Document the primary complaints, focusing on duration and progression.  History:Medical, surgical, and family history.  Lifestyle factors (e.g., smoking, alcohol, activity level).  Vitals: Record and assess temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation.</p> <p>3.Clinical examination of the motor system (2 hrs)  Objective: Systematically examine the motor system.  Steps:  A.Bulk of muscles (30 minutes)  Inspect and palpate muscles for symmetry, atrophy, or hypertrophy.  Compare bilaterally.  B.Tone of muscles (30 minutes)  Perform passive movements to assess muscle tone (e.g., spasticity or rigidity).</p>

		<p>Evaluate the upper and lower limbs.</p> <p>C.Power of muscles (60 minutes)</p> <p>Use the medical research council (MRC) scale (0–5) to grade muscle strength.</p> <p>Test key muscle groups for both proximal and distal strength in all limbs.</p> <p>4.Review and documentation phase (30 minutes)</p> <p>Objective:Summarize findings and document them.</p> <p>Steps:</p> <p>Ensure all observations are accurate and complete</p> <p>The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), logbooks, practical exams, and case-based assessments.</p> <p>The total duration of the activity is 4 hours.</p>
NLHP 7.4	Clinical Examination of the Sensory System.	<p>The teacher will explain the sensory system through a combination of lectures with video clips, kinesthetic learning activities, bedside demonstrations, and practical demonstrations.</p> <p><b>1.Prepare the patient for the clinical examination (15 minutes)</b></p> <p>Greeting and introduction (2–3 minutes):</p> <p>Introduce yourself and explain the purpose of the examination.</p> <p>Ensure the patient is comfortable and consents to the process.</p> <p>Prepare the environment (5 minutes):</p> <p>Ensure a quiet and private space with appropriate lighting and equipment.</p> <p>Confirm all necessary tools (e.g., stethoscope, reflex hammer, sensory tools) are available.</p> <p>Position the patient (7 minutes):</p> <p>Position the patient in a way that facilitates the clinical examination.</p> <p>Provide a gown or drape for comfort and privacy.</p> <p><b>2.Analyze the Patient's demographic data, complaints, duration, and history with vitals (30 minutes)</b></p> <p>Demographic data collection (5 minutes):</p> <p>Record age, gender, occupation, and other relevant details.</p> <p>Discuss complaints and duration (10 minutes):</p> <p>Encourage the patient to describe their symptoms and note the duration and progression.</p> <p>Take a detailed patient history (10 minutes):</p>



		<p>Past medical history, family history, allergies, medications, lifestyle, and habits.  Measure and record vitals (5 minutes):  Temperature, pulse, blood pressure, respiratory rate, and oxygen saturation.  <b>3.Assess the clinical examination of the sensory system (1 hour 15 minutes)</b>  General inspection (10 minutes):  Look for any obvious deformities, scars, or asymmetry.  Sensory examination by area (45 minutes):  Light touch: Use a cotton wisp on various dermatomes.  Pain sensation: Test with a pinprick or sharp object.  Temperature sensation: Use warm and cold objects.  Vibration sense: Use a tuning fork on bony prominences.  Proprioception: Test the patient’s awareness of joint position.  Deep tendon reflexes (20 minutes):  Test reflexes like the patellar, achilles, and biceps.  Documentation and patient feedback (15 minutes):  Record all findings.  Allow the patient to share any additional concerns.  The students will perform each step of the assessment activity through DOPS (Direct observation of procedural skills), logbooks, and practical exams.  The total duration of the activity is 2 hours.</p>
NLHP 7.5	Clinical examination of superficial reflexes and Deep tendon reflexes.	<p>The teacher will explain the reflexes by using a lectures with video clips, kinesthetic learning, bedside demonstrations, and demonstration.  <b>Task 1: Prepare the patient for clinical examination (30 minutes)</b>  1.Environment preparation:  Ensure the examination room is clean, well-lit, and organized.  Check that all necessary tools (reflex hammer, stethoscope, etc.) are readily available.2.Patient preparation:  Explain the procedure and its purpose to the patient to gain consent and cooperation.  Ensure the patient is in a comfortable position and appropriately dressed for the examination.  Verify the patient’s identity and confirm their understanding of the process.</p>

**Task 2: Analyze demographic data, complaints, duration, and patient history with vitals (1.5 hours)**

1. Demographic data:

Record the patient's name, age, sex, and other relevant details.

2. Presenting complaints:

Document the patient's main complaints in their own words.

Include the onset, duration, and factors that exacerbate or alleviate symptoms.

3. Past medical history:

Gather information on previous illnesses, surgeries, allergies, medications, and family history.

4. Vitals assessment:

Measure and record the patient's temperature, pulse, respiration rate, and blood pressure.

Note any abnormalities or trends requiring further investigation.

**Task 3: Assess clinical examination of reflexes (2 hours)**

1. Superficial reflexes:

Test key superficial reflexes (e.g., corneal, abdominal, plantar reflexes) and document findings.

Note symmetry, response strength, and any abnormalities.

2. Deep tendon reflexes:

Use a reflex hammer to evaluate reflexes at the biceps, triceps, brachioradialis, patellar, and achilles tendons.

Record reflex grading (0 to 4+) based on the observed responses:

0: Absent

1+: Hypoactive

2+: Normal

3+: Hyperactive without clonus

4+: Hyperactive with clonus

3. Clinical observations:

Look for signs of spasticity, rigidity, or other neuromuscular abnormalities.

Ensure a systematic approach to avoid missing critical findings.

4. Documentation:

Summarize findings clearly and concisely.

Highlight any deviations from normal that require further investigation.

Students can demonstrate hands-on training in the examination of:

		<p>A. Superficial reflexes  B. Deep Tendon reflexes</p> <p>The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), logbook documentation, practical examinations, case-based assessments, and Objective Structured clinical examinations (OSCEs).</p> <p>The total duration of the activity is 4 hours.</p>
NLHP 7.6	Clinical examination of cerebellar dysfunction and examination of posture, stance and gait.	<p>The teacher will explain the cerebellar dysfunction, with a focus on evaluating posture, stance, and gait. This will be achieved through a combination of lectures with video clips, kinesthetic learning, and bedside demonstrations.</p> <p><b>Preparation for clinical examination (10 minutes)</b></p> <p>1.Environment setup (5 minutes):  Ensure the examination room is quiet and well-lit.  Arrange necessary equipment (stethoscope, thermometer, sphygmomanometer, etc.).  Prepare the patient by explaining the procedure and ensuring they are comfortable.</p> <p>2.Patient preparation (5 minutes):  Confirm the patient’s identity.  Obtain consent for the examination.  Instruct the patient to wear appropriate clothing for easy access to areas to be examined.</p> <p><b>Analysis of demographic data and patient history (30 minutes)</b></p> <p>1.Demographic data (5 minutes):  Record the patient’s age, gender, occupation, and other relevant details.</p> <p>2.Chief complaints and duration (10 minutes):  Document the primary complaints with an emphasis on onset, duration, and progression.  Note any associated symptoms.</p> <p>3.Detailed history (15 minutes):  Medical history: Past illnesses, surgeries, allergies, and current medications.  Family history: Relevant genetic conditions or family illnesses.  Social history: Lifestyle factors like smoking, alcohol consumption, and physical activity.  System review: Check for symptoms in other body systems.</p> <p>4.Vitals (5 minutes):</p>

		<p>Measure and record temperature, blood pressure, pulse rate, respiratory rate, and oxygen saturation.</p> <p><b>Clinical examination (Cerebellar dysfunction, posture, stance, and gait) (50 minutes)</b></p> <p>1.Cerebellar dysfunction examination (30 minutes):</p> <p>Coordination tests: finger-to-nose, heel-to-shin, and rapid alternating movements.</p> <p>Dysmetria: Observe for overshooting or undershooting during movement.</p> <p>Nystagmus: Examine for abnormal eye movements.</p> <p>Speech: Assess for scanning or slurred speech.</p> <p>Hypotonia: Test muscle tone for any abnormalities.</p> <p>Rebound phenomenon: Observe resistance and release response.</p> <p>2.Posture, stance, and gait assessment (20 minutes):</p> <p>Posture: check for abnormal alignment or curvature.</p> <p>Stance: perform the romberg test to evaluate balance.</p> <p>Gait: Observe walking patterns, including heel, toe, and tandem walking.</p> <p><b>Wrap-up and documentation (30 minutes)</b></p> <p>1.Summarize findings (15 minutes):</p> <p>Organize data systematically: subjective history, objective findings, and preliminary assessment.</p> <p>2.Patient feedback and Instructions (5 minutes):</p> <p>Address any patient questions or concerns.</p> <p>Provide post-examination guidance or referrals if necessary.</p> <p>3.Document and report (10 minutes):</p> <p>Prepare a concise report of the examination findings.</p> <p>The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), logbook documentation, practical examinations, and peer assessment.</p> <p>The Total duration of the activity is 2 hours.</p>
NLHP 7.7	Clinical examination of the involuntary movements.	<p>The teacher will explain the examination of involuntary movements through a combination of instructional methods, including lectures with video clips, kinesthetic learning, bedside demonstrations, and case-based learning.</p> <p><b>1.Prepare the Patient for the clinical examination (30 minutes)</b></p> <p>Ensure Privacy and Comfort:Arrange a private and comfortable examination room.</p> <p>Obtain Consent:Explain the purpose and procedure of the clinical examination and get the patient's</p>

		<p>informed consent.</p> <p>Gather Required Equipment:Ensure all tools (stethoscope, blood pressure monitor, thermometer, etc.) are ready.</p> <p>Patient Preparation:Assist the patient in positioning themselves appropriately and address any concerns or discomfort.</p> <p><b>2.Analyse patient data and history with vitals (1 hour)</b></p> <p>Demographic data:Record the patient's age, gender, and relevant personal details.</p> <p>Chief complaints and duration:Document the primary complaints and their duration in the patient's words.</p> <p>History of present illness:Explore the symptoms, including onset, progression, and associated factors.</p> <p>Past medical and family history: Identify previous illnesses, surgeries, or family predispositions.</p> <p>Vitals:Measure and record temperature, pulse, blood pressure, respiratory rate, and oxygen saturation systematically.</p> <p><b>3.Assess clinical examination of involuntary movements ( 1.5 hours)</b></p> <p>Observation:Note the type, frequency, distribution, and pattern of involuntary movements (e.g., tremors, tics, dystonia).</p> <p>Palpation and testing:Check for muscle tone, strength, and reflexes if applicable.</p> <p>Neurological assessment:Evaluate coordination, posture, and gait to identify potential neurological issues.</p> <p>Correlate Findings:Connect observations with patient history to hypothesize possible conditions.</p> <p>The students will perform each step of the assessment activity through various assessment methods such as Direct Observation of Procedural Skills (DOPS), logbooks, and practical exams.</p> <p>The total duration of the activity is 3 hours.</p>
NLHP 7.8	Clinical examination of skull, spine and nerve.	<p>The teacher will explain the examination of the skull, spine, and spinal nerves by using various instructional methods like Kinesthetic learning, Bedside demonstration, demonstration .</p> <p><b>Step 1:Preparing the patient for clinical examination (15 minutes)</b></p> <p>Ensure privacy and comfort:</p> <p>Confirm the examination area is clean and well-lit.</p> <p>Provide a gown or drape for the patient if necessary.</p> <p>Verify patient identity:Cross-check the patient's name, age, and medical record with their</p>

identification.

Explain the procedure: Inform the patient about the steps of the examination and gain verbal consent.

Position the patient appropriately:

Depending on the specific examination, ensure the patient is seated, standing, or lying down comfortably.

**Step 2: Analyzing patient information (30 minutes)**

Demographic data: Document age, gender, occupation, and relevant lifestyle factors.

Chief complaints and duration:

Note the main symptoms, their severity, and how long they have persisted.

Patient history:

Include medical, surgical, family, and social history.

Pay attention to prior treatments or medications.

Vital signs:

Record vitals in an orderly manner:

Temperature

Pulse rate

Respiratory rate

Blood pressure

Oxygen saturation

**Step 3: Clinical examination (skull, spine, and nerve) (60 minutes)**

Skull examination (20 minutes):

Inspect for asymmetry, scars, or deformities.

Palpate for tenderness, masses, or irregularities.

Check cranial nerves I–VI for function:

Olfactory (smell test)

Optic (visual acuity and fields)

Oculomotor, trochlear, abducens (eye movements and pupil response)

Spine examination (20 minutes):

Inspect posture and alignment. Palpate for tenderness along the spine.

Assess the range of motion in the cervical, thoracic, and lumbar regions.

Nerve Examination (20 minutes): Evaluate cranial nerves VII–XII for function:

Facial expression, hearing, tongue movement, and swallowing.

		<p>Conduct reflex tests.          Assess motor and sensory function in extremities.  <b>Step 4: Final review and documentation (15 minutes)</b>          Summarize findings.          Discuss initial impressions with the patient if appropriate. Document all results for the patient record.          The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), Objective structured clinical examination (OSCE), case-based assessments, and documentation in a logbook.          The total duration of the activity is 2 hours.</p>
NLHP 7.9	Clinical examination of Autonomic nervous system.	<p>The teacher will explain the autonomic nervous system by using lectures with video clips, kinesthetic learning, and bedside demonstrations.  <b>1.Preparation for the clinical examination (10 minutes)</b>          Ensure privacy and comfort for the patient.          Guide the patient to the examination area.          Explain the procedure to alleviate anxiety and obtain consent.          Gather necessary tools and materials like Stethoscope, sphygmomanometer, thermometer, pulse oximeter, reflex hammer, etc.          Position the patient appropriately for the examination.          Hand hygiene and ensure proper personal protective equipment.  <b>2.Analyze patient data (15 minutes)</b>          Demographic data: Confirm the patient’s name, age, gender, and relevant personal details.          Chief complaints and duration: Document primary complaints in the patient’s own words.          Note the duration and progression of symptoms.          History taking          Medical history: Previous illnesses, surgeries, medications.          Family history: Genetic or hereditary conditions.          Social history: Lifestyle habits, occupation, and environment.          Vital Signs: Temperature, pulse rate, respiratory rate, blood pressure, and oxygen saturation.          Record findings systematically.  <b>3.Assess the clinical examination of the Autonomic Nervous System (35 minutes)</b></p>

		<p>Tests for sympathetic and parasympathetic Functions</p> <p>Heart rate variability:Observe changes with deep breathing or Valsalva maneuver.</p> <p>Blood pressure response:Assess for orthostatic hypotension by measuring BP lying down and standing.</p> <p>Sweating and skin response:Inspect the skin for abnormalities (dryness, clamminess).</p> <p>Reflex testing:</p> <p>Pupillary light reflex(reaction to light).</p> <p>Sudomotor function(sweat gland activity).</p> <p>Observation of Symptoms:</p> <p>Note any flushing, pallor, or other signs indicating autonomic dysfunction.</p> <p>Documentation:</p> <p>Systematically document all findings with descriptions.</p> <p>The students will perform each step of the assessment activity through DOPS, OSCE, and case-based assessments.</p> <p>The total duration of the activity is 1 hour.</p>
NLHP 7.10	Clinical case writing and case presentation of central nervous system diseases.	<p>The teacher will explain clinical case writing and case presentations related to Central Nervous System (CNS) diseases through a case-based learning approach. This will include case diagnosis, bedside demonstrations with patients, and hands-on discussions to enhance their understanding and clinical reasoning skills.</p> <p><b>1.Prepare the patient for clinical examination (30 minutes)</b></p> <p>Greet the patient and ensure their comfort.</p> <p>Obtain informed consent.</p> <p>Explain the examination process to alleviate anxiety.</p> <p>Gather preliminary details (e.g., name, age, occupation).</p> <p><b>2.Analyze demographic data (30 minutes)</b></p> <p>Record patient details: age, gender, occupation, lifestyle, and complaints.</p> <p>Document key aspects of complaints (onset, duration, severity, etc.).</p> <p>Take a brief medical and family history.</p> <p>Measure vital signs (e.g., temperature, pulse, blood pressure, respiratory rate).</p> <p><b>3.Conduct general and systemic examination (1 hour)</b></p> <p>General Examination:</p>



Observe general appearance, posture, and mental state.  
Assess skin, eyes, nails, and mucosa for abnormalities.

Systemic Examination:

Examine major systems: cardiovascular, respiratory, gastrointestinal, nervous, and musculoskeletal.  
Use Siddha diagnostic tools like Naadi (pulse), Neerkuri (urine examination), and Neikuri (oil drop analysis).

**4. Evaluate clinical findings using siddha and modern concepts (1 hour)**

Compare symptoms and signs with Siddha diagnostic categories (e.g., Vatha, Pitha, Kapha imbalances).

Use modern medical concepts to identify pathophysiology.

**5. Perform clinical investigations and interpret results (1 hour)**

Request or review lab tests (e.g., blood, urine, imaging).

Interpret results in the context of both Siddha and modern frameworks.

**6. Determine and document the diagnosis (30 minutes)**

Use differential diagnosis methods.

Consolidate clinical features, investigation findings, and Siddha principles to arrive at a diagnosis.

Document findings and reasoning.

**7. Prescribe the line of treatment (30 minutes)**

Formulate treatment based on Siddha guidelines, including:

1. Internal medicines
2. External therapies
3. Lifestyle modifications

**8. Counsel the patient (30 minutes)**

Explain the diagnosis and treatment plan.

Provide follow-up care instructions, emphasizing the importance of adherence.

Address patient questions and concerns.

The students will perform each step of the assessment activity through practical case-taking, case-based assessments, and observed structured clinical examinations under supervision. This training prepares them for practical, application-based studies and ensures they maintain proper logbooks for future documentation.

The Total duration of the activity is 7 hours.

Paper 2 (Varmam,Puramaruthuvam and Sirappumaruthuvam)										
A3 Course outcome	B3 Learning Objective (At the end of the session, the students should be able to)	C3 Domain/sub	D3 MK / DK / NK	E3 Level	F3 T-L method	G3 Assessment	H3 Assessment Type	I3 Term	J3 Integration	K3 Type
<b>Topic 8 KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU (LH :9 NLHT: 2 NLHP: 7)</b>										
A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2	<i>Mooligai Karpam</i> (Herbal origin) Describe the procedure, diet and benefits of <i>pothu karpam</i> such as <i>Injithaen karpam, Nelmanei karpam, Ponnanganni karpam, Vembu karpam, Katraazhai Karpam, Manathakkali karpam, Vilakarpam, Vaatkorai kizhangu karpam.</i>	CC	MK	K	L&PPT ,L_VC	P-REC	F&S		-	LH
CO2	Describe the procedure, diet and benefits of <i>Amukkinankizhangu Karpam, Kodivasalai karpam, Perungaalan karpam, Urulaikizhangu karpam, Kalyanapoosani karpam, Kaiyan karpam, Kaliparattai karpam.</i>	CC	MK	K	L&PPT ,L_VC	P-REC	F&S		-	LH
CO2	Describe the procedure, diet and benefits of <i>erukku karpam, azhinjil karpam, seedheviyar sengazhuneer, keezhanelli samoolam, surai, kanjavirai karpam, karchoor karpam, kadukkai karpam, naanal karpam, seeragam karpam, aalampaal karpam, puliyaarai karpam, notchi karpam, vallaikodi karpam, mookiratai karpam, kuppaimeni karpam, thoodhuvalai karpam, serankottai karpam, panaiver karpam, thetran karpam.</i>	CC	MK	K	D,L&PPT T ,L_VC	P-REC,CL- PR	F&S		-	LH
CO2	Describe and quote the appropriate versus, procedure, diet and benefits of <i>Nellikarpam, Orithazhthamarai karpam, Elam karpam, Thulasi karpam, Vilva karpam, Kittikizhangu karpam, Korai kizhangu karpam, Sirukeerai karpam, Nannari karpam, Aal</i>	CC	MK	K	L&PPT ,L_VC	P-REC,CL- PR	F&S		-	LH

	<i>karpam, Ayilpattai karpam, Elumitchapazha karpam Thamarai magaranthapodi karpam, Brammathandu magaranthapodi karpam, Malattuku karpam, Sukkilathambanam, Uttamani karpam, Panja karpam.</i>									
CO2	Identify, collect and display the <i>karpa</i> plants.	CAP	NK	KH	TBL	INT,P-ID	F		-	NLHT8.1
CO2	Describe the procedure, diet, and benefits of <i>thathu karpam</i> such as <i>ayasambeera karpam, ayabringarajakarpam</i> , and <i>pooranachandhroodhayam karpam</i> with versus.	CK	MK	K	L,L&PPT	P-REC,QZ ,VV-Viva	F&S		-	LH
CO2	Describe the procedure diet and benefits of <i>pachchaipasumpal karpam, kaaichina pal karpam</i> , and <i>indhirakobapoochi karpam</i> with verses.	CK	NK	K	L&PPT	VV-Viva,QZ ,P-REC	F&S		-	LH
CO2	Define <i>Muppu</i> with its ideology.	CK	DK	K	L&PPT	VV-Viva,P-REC	F&S		-	LH
CO2	Explain the philosophy and classification of <i>Muppu</i> with its application.	CC	DK	KH	L&PPT	S-LAQ	F&S		-	LH
CO1, CO2, CO6, CO7	Assess the patient's condition and incorporate the suitable <i>kayakarpam</i> therapy.	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP8.1
CO1, CO2, CO6, CO7	Evaluate the long-term benefits of <i>kaya karpam</i> medicines in managing and preventing diseases by documenting the progress.	CE	DK	SH	CBL	CBA	S		-	NLHP8.2
CO2	Identification, collection and display of <i>karpa</i> raw drugs	CAP	DK	KH	TBL	P-ID,P-POS,INT	F		-	NLHT8.2
CO2	Define <i>kayakarpam</i> . Describe the various regimens, benefits, and	CK	MK	K	L_VC,L	CL-PR,P-	F&S		-	LH

classifications of *kayakarpam*.

&PPT

REC

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 8.1	Identification, collection and display of <i>karpa</i> plants.	<p>The teacher will explain the Identification, collection, and Display of <i>karpa</i> plants by using the Team-Based Learning (TBL) method.</p> <p>Students can be divided into groups, with 8-10 students per group. Allotted groups should collect the plants and display them in class. They can explain the identification details and using methods.</p> <p>To effectively identify, collect, and display <i>Karpa</i> plants, the process can be broken down into several key steps:</p> <p>Identification</p> <p><b>1. Research:</b> Understand the specific characteristics of <i>Karpa</i> plants. This includes:</p> <p><b>A) Botanical features:</b> Leaf shape, flower structure, colour, and fruiting bodies.</p> <p><b>B) Habitat:</b> Natural environment, soil type, and climate preferences.</p> <p><b>2. Field Guide:</b> Use botanical field guides or mobile apps to help identify <i>Karpa</i> plants in their natural habitat.</p> <p><b>3. Expert Consultation:</b> Engage with botanists or local plant experts who can provide insights into identifying <i>Karpa</i> plants accurately.</p> <p>Collection</p> <p><b>1. Permission:</b> Ensure you have the necessary permissions from local authorities or landowners to collect plants from the wild.</p> <p><b>2. Tools:</b> Use appropriate tools such as gloves, shears, spades, and containers to collect plant samples carefully without damaging them or their environment.</p> <p><b>3. Record Keeping:</b> Document each collection, noting the location, date, and environmental conditions. Use GPS for precise location data.</p> <p><b>4. Ethical Practices:</b> Follow ethical guidelines to ensure sustainable collection. Avoid over-harvesting and ensure the plant population can regenerate.</p> <p>Display</p> <p><b>1. Preparation:</b> Clean the plants gently to remove soil or debris. If the display is for educational purposes, consider preparing herbarium specimens by pressing and drying the plants.</p> <p><b>2. Labelling:</b> Clearly label each specimen with its scientific name, common name, date of collection,</p>

		<p>location, and any other relevant information.</p> <p><b>3. Display Setup:</b> Choose an appropriate display method:</p> <p><b>A) Live Display:</b> Use pots with suitable soil and lighting to keep the plants alive.</p> <p><b>B) Herbarium Display:</b> Mount pressed specimens on acid-free paper and frame them for display.</p> <p><b>C) Digital Display:</b> Create a digital exhibit with high-resolution images and detailed descriptions for virtual audiences.</p> <p><b>4. Educational Material:</b> Provide informational materials such as brochures, posters, or interactive displays that explain the significance, uses, and conservation status of Karpa plants.</p> <p><b>5. Maintenance:</b> Regularly check the display to ensure plants remain healthy (For live displays) and that specimens not deteriorating (for herbarium displays).</p> <p>Assessment of Practical Identification and Interactions.</p> <p><b>1. Observation:</b> Monitor students' ability to identify and document Karpa plants in the field.</p> <p><b>2. Collaboration:</b> Evaluate how effectively students work together and engage in discussions during identification.</p> <p><b>3. Engagement:</b> Assess the student's ability to interact with the audience during the display, ensuring they communicate clearly and confidently.</p> <p>Students are assessed by Practical poster / Practical Identification / Interaction for Identification, collection, and Display of <i>karpa</i> plants.</p>
NLHT 8.2	Identification, collection, and display of <i>Karpa</i> Raw drugs.	<p>The teacher will explain the identification, collection, and display of <i>karpa</i> raw drugs by using team-based learning (TBL)</p> <p>team-based learning (TBL) is an effective teaching-learning method that encourages collaborative learning, critical thinking, and practical application. Here's how tbl can be applied to the identification, collection, and display of <i>karpa</i> raw drugs in a structured format:</p> <p><b>1. Pre-class preparation</b></p> <p>Learning materials: Provide students with reading materials, videos, and resources on karpa plants, their medicinal properties, identification techniques, and the importance of ethical collection.</p> <p>Objectives: Clearly outline learning objectives, such as understanding the characteristics of <i>karpa</i> raw drugs, sustainable collection methods, and effective display techniques.</p> <p><b>2. Readiness assurance</b></p> <p>Individual test: Begin with a short quiz or assessment to ensure students have understood the pre-class</p>

materials.

Team test: Students then retake the quiz in their teams, discussing answers to reach a consensus. This promotes collaboration and reinforces learning.

### **3. Application phase**

Identification exercise:

Field trip: Organize a field trip to a natural habitat or botanical garden where *karpa* plants grow.

Hands-on identification: In teams, students use their knowledge to identify *karpa* plants. They can take notes, photographs, and make sketches.

Expert consultation: Teams consult with a botanist or use reference materials to confirm their identifications

Collection exercise:

Ethical collection: Students collect samples under supervision, ensuring sustainable practices. They document the collection process, including location, date, and environmental conditions.

Sample handling: Teams learn proper techniques for handling and preserving raw drug samples.

Display preparation:

Specimen preparation: Teams prepare their collected samples for display, which may include drying, pressing, or preserving them in appropriate mediums.

Information synthesis: Each team creates informative labels and descriptions for their samples, highlighting the plant's medicinal uses and any cultural significance.

Presentation and display:

Interactive exhibit: Teams set up a display showcasing their *karpa* raw drugs. They explain the identification and collection process, the plant's uses, and its significance.

Peer interaction: Teams present their displays to peers, faculty, and potentially the public, engaging in discussions and answering questions.

Assessment

**Knowledge assessment:** Evaluate students on their understanding of *karpa* plants and their medicinal properties.

Skills assessment: Assess practical skills in plant identification, collection techniques, and the ability to create an informative display.

**Team dynamics:** Evaluate team collaboration and individual contributions to the group's success.

Students are assessed by practical poster / Practical identification / Interaction for identification, collection, and display of *karpa* raw drugs

Non Lecture Hour Practical		
S.No	Name of Practical	Description of Practical Activity
NLHP 8.1	Application of the suitable <i>kayakarpam</i> therapy.	<p>The teacher will conduct case-based learning in the patient's condition and incorporate suitable <i>kayakarpam</i> therapy by documenting the progress</p> <ol style="list-style-type: none"> <li>1.Examine the patient's vital signs and conduct a thorough inspection.</li> <li>2.Analyse the <i>kanmenthirium</i> (Sensory functions) and their <i>vidayangal</i> (Actions), as well as the <i>uyir thathukal</i> (Life forces), <i>udal thathukal</i> (Body constituents), and <i>envagai thervu</i> (Eight diagnostic tools).</li> <li>3. Once the diagnosis is confirmed, select the appropriate <i>kaya karpam</i> medicine tailored to the patient's condition.</li> <li>4. Explain the treatment protocol in detail and obtain the patient's verbal consent.</li> <li>5. Prepare the patient by recommending a suitable diet and daily regimen.</li> <li>6. Provide clear instructions on the dosage, adjuvant, and duration of the prescribed <i>kaya karpam</i> medicine, and schedule regular follow-ups to monitor progress and make necessary adjustments.</li> </ol> <p><b>Evaluation criteria</b></p> <p>Clinical skills: Accuracy in assessing the patient's condition and diagnosing the dosha imbalance.  Knowledge application: Appropriate selection and justification of <i>kayakarpam</i> therapies.  Communication: Clarity and effectiveness in patient interaction and explanation of the treatment protocol.  Critical thinking: Ability to tailor treatment plans based on the patient's unique condition.  Documentation: Completeness and accuracy of case notes and treatment records.  Students are able to use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation.  The total duration of the activity is 4 hrs</p>
NLHP 8.2	Application of long-term benefits of <i>kaya karpam</i> medicines in managing and preventing diseases	<p>The teacher will conduct case-based learning in the long-term benefits of <i>kaya karpam</i> medicines in managing and preventing diseases by documenting the progress.</p> <p>Analyse the <i>kanmenthirium</i> (Sensory functions) and their <i>vidayangal</i> (Actions), as well as the <i>uyir thathukal</i> (Life forces), <i>udal thathukal</i> (Body constituents), and <i>envagai thervu</i> (Eight diagnostic tools).</p>

Once the diagnosis is confirmed, select the appropriate *kaya karpam* medicine tailored to the patient's condition.

Explain the treatment protocol in detail and obtain the patient's verbal consent.

Prepare the patient by recommending a suitable diet and daily regimen.

Provide clear instructions on the dosage, adjuvant, and duration of the prescribed *kaya karpam* medicine, and schedule regular follow-ups to monitor progress and make necessary adjustments.

Student activities and assessment

#### **A. Critical analysis**

Case analysis: Students analyse the documented case, focusing on the relationship between *kaya karpam* treatment and patient outcomes.

Discussion: Engage in group discussions to compare findings, discuss challenges, and propose alternative approaches.

#### **B. Reflection and reporting**

Reflective journals: Students maintain journals reflecting on their learning process, clinical observations, and the effectiveness of treatments.

Case reports: Write detailed case reports summarizing the treatment journey, outcomes, and long-term benefits of *kaya karpam* medicines.

#### **C. Research component**

Literature review: Students research scientific literature on *kaya karpam* medicines, exploring their pharmacological properties and clinical efficacy.

Evidence-based conclusions: Use research findings to support case analyses and propose evidence-based recommendation

Assessment criteria

#### **A. Knowledge and understanding**

Understanding of *kaya karpam*: Depth of knowledge about the composition, uses, and benefits of *kaya karpam* medicines.

Application of siddha principles: Ability to apply siddha diagnostic principles in analysing patient cases.

#### **B. Analytical skills**

Data interpretation: Competence in interpreting clinical data and identifying trends over time.

Critical thinking: Ability to assess the effectiveness of treatments and suggest improvements.

#### **C. Communication skills**



Clarity: Proficiency in presenting findings clearly and coherently in both written and oral formats.  
Team collaboration: Effectiveness in working as part of a team during discussions and presentations.

**D. Practical application**

Real-world application: Demonstrate how theoretical knowledge is applied in clinical practice.  
Ethical considerations: Adherence to ethical guidelines in patient documentation and interactions.  
Students are able to use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation.  
The total duration of the activity is 3 hrs.

**Topic 9 ATTANGA YOGAM (LH :6 NLHT: 8 NLHP: 15)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2	<i>Attanga yogam</i> Define <i>Iyamam</i> (purity of thoughts/temperance) and <i>Niyamam</i> (purity of action). Explain the diverse virtues and liabilities of <i>Iyamam</i> and <i>Niyamam</i> .	CC	DK	K	L&GD, L&PPT	P-REC	F&S		-	LH
CO2	Define <i>Asanam</i> (Yogic posture), <i>pranayamam</i> (Yogic breathing), <i>prathiyakaram</i> (Withdrawal of senses), <i>tharanai</i> (Focused thoughts), <i>thiyanam</i> (Meditation), and <i>samadhi</i> (Eternal bliss).	CK	NK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	<i>Pranayamam</i> (Yogic breathing ) Explain <i>pranayamam</i> . Enumerate the philosophy of <i>pranayamam</i> . State the benefits and the regulations of <i>pranayamam</i> .	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	Demonstrate <i>Pranayamam</i>	PSY-GUD	MK	SH	L_VC,D	DOPS,DOP S,VV-Viva	F&S		-	NLHT9.1
CO2	Define <i>yogam</i>	CK	DK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	Explain the types, principles, and philosophy of <i>yogam</i> .	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	Describe the advantages of <i>yogam</i> with factors influencing yoga practice.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH

CO2	Discuss and demonstrate various yoga postures.	CAP	MK	SH	L_VC	DOPS,DOPS, VV-Viva	F&S		-	NLHT9.2
CO1, CO2, CO6	Therapeutic applications of <i>yogam</i> on patients - Assess the complaints of the patient and confirm the diagnosis by <i>Siddha</i> and modern parameters	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP9.1
CO1, CO2, CO6	Educate the patients on safety of <i>yoga</i> practices for orthopaedic health.	PSY-GUD	MK	SH	CBL	P-RP,CBA	S		-	NLHP9.2
CO1, CO2, CO6	Develop patient-specific yoga modifications to accommodate physical limitations.	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP9.3
CO1, CO2, CO6	Demonstrate yoga to improve range of motion and flexibility.	PSY-GUD	NK	SH	CBL	CBA	S		-	NLHP9.4
CO1, CO2, CO6	Evaluate the long-term benefits of yoga in managing and preventing orthopaedic diseases by documenting the progress	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP9.5
CO1, CO2, CO6, CO7	Integrate breathing exercises ( <i>Pranayamam</i> ) to aid in pain management and stress reduction.	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP9.6
CO2	Demonstrate the procedure of <i>thiyanam</i> (Meditation).	PSY-GUD	DK	SH	D,L_VC	DOPS, VV-Viva, DOPS	F&S		-	NLHT9.3
CO2	Demonstrate various posture of <i>mudras</i> .	PSY-GUD	MK	SH	D,RP,L_VC	DOPS, VV-Viva, DOPS	F&S		-	NLHT9.4
CO2	Demonstrate <i>tharanai</i> (Focused thoughts).	PSY-	MK	SH	D,L_VC	VV-Viva, D	F&S		-	NLHT9.5

		GUD				OPS,DOPS				
CO2	Discuss and demonstrate various <i>yoga</i> postures with general health benefits.	CAP	MK	SH	D,L_VC	DOPS,DOPS, VV-Viva	F&S		-	NLHT9.6
CO2	Discuss and demonstrate <i>Yoga</i> postures in various disease conditions.	CAP	MK	SH	D,L_VC,RP	VV-Viva,DOPS,DOPS	F&S		-	NLHT9.7
CO2	Discuss the contraindication of various <i>yoga</i> postures.	CAP	MK	SH	L_VC,D	DOPS,DOPS, VV-Viva	F&S		-	NLHT9.8

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 9.1	Demonstration of <i>Pranayama</i> steps	<p>The teacher will explain and demonstrate the <i>pranayama</i> steps by using lectures with video clips. Objective: To assess students' ability to perform and understand the steps of <i>pranayama</i> correctly. Preparation:</p> <p>A) A quiet and comfortable space. B) Yoga mats for each student. C) A checklist for assessment. D) Timer or clock for time management.</p> <p>Steps of the DOPS Activity</p> <p><b>1. Introduction</b> Explain the importance of <i>pranayama</i> in promoting physical and mental well-being. Outline the specific types of <i>pranayama</i> that will be assessed.</p> <p><b>2. Demonstration</b> The instructor performs each type of <i>pranayama</i> while explaining the technique, breathing patterns, and posture. Emphasize key points such as breath control, rhythm, posture, and focus.</p> <p><b>3. Student Practice</b> Students practice each type of <i>pranayama</i> under the instructor's supervision. Provide feedback and corrections as needed to ensure correct technique.</p> <p><b>4. Assessment</b></p>

		<p>Students are assessed individually on their ability to perform each type of <i>pranayama</i>.  Use a checklist to evaluate the following criteria:  A) Posture: Is the student sitting comfortably with a straight spine?  B) Breathing Technique: Is the student following the correct breathing pattern (Inhalation, exhalation, retention)?  C) Focus and Calmness: Is the student maintaining focus and calm throughout the practice?  Consistency: Can the student maintain a consistent rhythm and flow?  <b>5. Feedback</b>  Provide immediate constructive feedback to each student.  Highlight strengths and areas for improvement.  Assessment Criteria:  Understanding of the techniques.  Ability to explain the process clearly.  Awareness of the benefits and precautions.</p>
NLHT 9.2	Demonstration of yoga postures with video clips.	<p>The teacher should teach students various yoga postures (Asanas) by using the method of lecture with video clips, and discuss their benefits.  Explain the purpose and benefits of incorporating yoga into daily life.  <b>Demonstration</b>  Instructor Demonstration:  Provide a brief overview of the types of yoga postures (E.g., standing, seated, twisting, balancing, and relaxation poses)  Emphasizing correct alignment and breathing.  <b>DOPS Activity</b>  Materials can be used:  Yoga mat, foldable blanket, foam roller, exercise ball, wheel, wedge, bolster, belt or strap, resistance band, meditation cushion, antigravity wall rope, headstand bench.  Format:  Students are assessed individually or in small groups.  Each student selects or is assigned a posture to demonstrate.  <b>Assessment Criteria:</b></p>

		<p>Understanding of the Posture: Ability to describe the posture, its benefits, and precautions.          Execution: Correct alignment, breathing flow in and out of each posture.          Adaptability: Ability to modify the posture based on individual flexibility and strength.</p> <p><b>Review and Reflection</b>          Conduct a group discussion on the experience.          Encourage students to reflect on their challenges and progress.          Discuss the importance of regular practice and mindfulness in yoga.          Students are assessed by performing these postures correctly through the Demonstration of practical skills (DOPS) / VIVA.</p>
NLHT 9.3	Demonstration of <i>Thiyanam</i> (Meditation).	<p>The teacher should demonstrate to the students <i>Thiyanam</i> (Meditation) by using the method of lecture with the video clip.          The DOPS (Direct Observation of Procedural Skills) assessment will focus on several key areas:</p> <p><b>1. Preparation and Posture:</b>          Correct sitting posture (Cross-legged or in a chair with feet flat)          Spine alignment.          Relaxed shoulders and hands placed appropriately (On knees or lap)</p> <p><b>2. Breathing Technique:</b>          Awareness of breathing pattern          Slow, deep breaths.</p> <p><b>3. Focus and Concentration:</b>          Ability to maintain focus on a chosen object (Breath, mantra, visualization).          Minimal distractions or fidgeting.          Returning to focus when attention wanders.</p> <p><b>4. Duration and Consistency:</b>          Ability to sustain meditation for the required duration.          Consistent practice during the session.</p> <p><b>5. Ending the Session:</b>          Gradual return to awareness          Reflective feedback on the experience.</p>

		<p>Assessment Criteria</p> <p>Clarity of Instructions: Evaluate the student’s ability to provide clear, calm, and concise guidance.</p> <p>Posture and Breathing Guidance: Assess the accuracy and effectiveness of instructions related to posture and breath control.</p> <p>Pacing and Timing: Consider the student’s ability to pace the meditation session appropriately and adhere to the time limits.</p> <p>Environment Setting: Evaluate how well the student creates a conducive environment for <i>Thiyanam</i> (Meditation).</p>
NLHT 9.4	Demonstration of various posture of <i>mudhras</i> .	<p>The Teacher should create a lecture using powerpoint to demonstrate various postures of <i>mudras</i> can be an effective teaching method.</p> <p>Overview of their use in yoga and meditation.</p> <p>Benefits of practicing <i>mudras</i> (e.g., enhancing focus, improving health). Description and steps to perform.</p> <p>Encourage interaction by asking questions, and explaining the correct posture and common mistakes.</p> <p>How to integrate <i>mudras</i> into daily practice.</p> <p>Students are assessed by performing various postures of <i>Mudras</i> correctly through the Demonstration of practical skills (DOPS) / VIVA.</p>
NLHT 9.5	Demonstration of <i>Tharanai</i> (Focused thoughts) .	<p>The teacher should demonstrate to the students with <i>Tharanai</i> (Focused thoughts) by using the method of lecture with the video clip.</p> <p>For a student activity focused on <i>Tharanai</i> (Focused Thoughts) demonstration in a viva setting, the components can be structured as follows:</p> <p><b>1. Introduction</b></p> <p>Brief overview of <i>Tharanai</i> (Focused Thoughts).</p> <p>Explanation of how focused thinking improves problem-solving and critical analysis.</p> <p><b>2. Preparation Phase</b></p> <p>Prepare students for the viva demonstration.</p> <p>A topic or problem statement is given to the students.</p>

		<p>Guidelines on how to approach the problem using focused thought. Time for students to organize their thoughts and structure their responses.</p> <p><b>3. Demonstration Phase</b> Conduct the viva to assess students' ability to maintain focused thoughts. Students present their thoughts on the given topic / Problem. Focus on clarity, relevance, and coherence in their responses. Emphasize the importance of staying on-topic and avoiding distractions.</p> <p><b>4. Question and Answer Session</b> Components: The panel or instructor poses questions related to the topic. Students demonstrate their ability to think critically and maintain focused responses. Encourage elaboration while staying concise and relevant.</p> <p><b>5. Conclusion</b> Recap of the main points discussed during the activity. Reinforce the importance of developing focused thinking skills for academic and professional success. Students are assessed by performing <i>Tharanai</i> (Focused thoughts) correctly through the Demonstration of practical skills (DOPS) / VIVA.</p>
NLHT 9.6	Demonstration of various <i>yoga</i> postures with general health benefits.	<p>The teacher should demonstrate to the student's various <i>yoga</i> postures with general health benefits by using the method of lecture with video clips and discussing their contraindications.</p> <p><b>1. Visual Demonstration:</b></p> <ul style="list-style-type: none"> <li>• Use a video or live demonstration to show each posture.</li> <li>• Encourage students to observe the alignment and breathing techniques.</li> </ul> <p><b>2. Guided Practice:</b></p> <ul style="list-style-type: none"> <li>• Lead students through each posture step-by-step.</li> </ul> <p><b>3. Interactive Session:</b></p> <ul style="list-style-type: none"> <li>• Pair students to observe and correct each other's postures under supervision.</li> <li>• Foster a supportive environment for feedback.</li> </ul> <p><b>4. Question and Answer:</b></p> <ul style="list-style-type: none"> <li>• Allow students to ask questions about the benefits and modifications of each pose.</li> </ul> <p>DOPS (Direct Observation of Procedural Skills) activity:</p>

		<ul style="list-style-type: none"> <li>• Preparation: Ensure students understand the importance of each yoga posture and the health benefits.</li> <li>• Observation: Students perform each posture under the supervision of the instructor. The instructor observes and assesses each student's posture, alignment, and breathing.</li> <li>• Feedback: Provide constructive feedback focusing on strengths and areas for improvement.</li> <li>• Documentation: Record observations and feedback on a standardized form. Students are assessed by performing these postures correctly through the Demonstration of practical skills (DOPS) / VIVA.</li> </ul>
NLHT 9.7	Demonstration of <i>yoga</i> postures in various disease conditions.	<p>The teacher should demonstrate to the students various <i>Yoga</i> postures in various disease conditions by using the method of lecture with video clips and discuss their contraindication.</p> <p><b>1. Visual Demonstration:</b> Use a video or live demonstration to show each posture. Encourage students to observe the alignment and breathing techniques.</p> <p><b>2. Guided Practice:</b> Lead students through each posture step-by-step.</p> <p><b>3. Interactive Session:</b> Pair students to observe and correct each other's postures under supervision. Foster a supportive environment for feedback.</p> <p><b>4. Question and Answer:</b> Allow students to ask questions about the benefits and modifications of each pose.</p> <p><b>DOPS (Direct Observation of Procedural Skills) Activity:</b></p> <p><b>1. Preparation:</b> Ensure students understand the importance of each yoga posture in Various disease conditions.</p> <p><b>2. Observation:</b> Students perform each posture under the supervision of the instructor. The instructor observes and assesses each student's posture, alignment, and breathing.</p>



		<p><b>3. Feedback:</b> Provide constructive feedback focusing on strengths and areas for improvement.</p> <p><b>4. Documentation:</b> Record observations and feedback on a standardized form. Students are assessed by performing these postures correctly through the Demonstration of practical skills (DOPS)/ VIVA.</p>
NLHT 9.8	Discussion on the contraindication of various <i>yoga</i> postures.	<p>The teacher should demonstrate to the students various <i>yoga</i> postures (<i>Asanas</i>) by using the method of lecture with video clips and discussing their contraindications.</p> <p><b>1. Introduction</b> Explain the contraindications of various <i>yoga</i> postures.</p> <p><b>2. Demonstration</b> Instructor Demonstration: Provide a brief overview of the types of <i>yoga</i> postures (e.g., standing, seated, twisting, balancing, and relaxation poses) Emphasizing correct alignment and breathing.</p> <p><b>DOPS (Direct observation of procedural skills) Activity</b></p> <p><b>1. Format:</b> Students are assessed individually or in small groups. Each student selects or is assigned a posture to demonstrate.</p> <p><b>2. Assessment Criteria:</b> Understanding of the Posture: Ability to describe the posture, its benefits, and precautions. Execution: Correct alignment, breathing flow in and out in each posture. Adaptability: Ability to modify the posture based on individual flexibility and strength.</p> <p><b>3. Review and Reflection:</b> Conduct a group discussion on the experience. Encourage students to reflect on their challenges and progress. Discuss the importance of regular practice and mindfulness in <i>yoga</i> Students are assessed by performing these postures correctly through the Demonstration of practical skills (DOPS) / VIVA.</p>

## Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 9.1	Application of <i>Yogam</i>	<p>The teacher will conduct case-based learning in Therapeutic applications of Yogam on patients by Confirming the Diagnosis by Siddha and Modern Parameters, Documenting the Progress. Examine the patient's vital signs and inspect their joints thoroughly. Assess the patient's <i>kanmenthirium</i> along with <i>vidayangal</i>, <i>uyir thathukal</i>, <i>udal thathukal</i>, and <i>envagai thervu</i> to ensure a comprehensive understanding of their condition. Upon confirming the diagnosis, select the appropriate yoga poses tailored to the patient's needs, and explain the treatment protocol clearly, obtaining their verbal consent before proceeding. Advise the patient to empty their bladder and bowel before starting the practice to avoid any discomfort during the session. Recommend that the patient wear loose-fitting, breathable clothing to facilitate a full range of motion and comfort during the exercises. Instruct the patient to perform a gentle warm-up to prepare their muscles and reduce the risk of injury before beginning the poses. Ensure the patient follows the asanas under the guidance of a healthcare professional to maintain proper form and safety. Encourage the patient to continue the training until they can perform the poses independently, fostering confidence and self-reliance in their practice.</p> <p>Therapeutic applications of yogam - Case-based assessment</p> <p><b>1. Case Study Analysis (60 minutes)</b></p> <p>Students must choose one case study and answer the following questions:</p> <p>Identify the Condition: Describe the medical or psychological condition presented in the case.</p> <p>Yoga Practices: Recommend specific yoga practices (asanas, pranayama, meditation) suitable for the condition.</p> <p>Therapeutic Benefits: Explain the potential therapeutic benefits of the recommended yoga practices.</p> <p>Precautions: Highlight any precautions or contraindications associated with the yoga practices for this particular case.</p> <p>Assessment Criteria:</p> <p>Understanding of the condition</p> <p>Appropriateness of yoga practices recommended</p>

		<p>Depth of explanation regarding therapeutic benefits  Awareness of precautions  <b>2. Practical Application (60 minutes)</b>  To assess students' practical understanding and ability to demonstrate yoga practices suited for therapeutic purposes.  Demonstrate 2-3 yoga poses (asanas) suitable for the case.  Explain the significance of each pose during the demonstration.  Show one breathing exercise (pranayama) and discuss its benefits  <b>3.Reflective Discussion (60 minutes)</b>  To evaluate students' reflective thinking and their ability to connect theoretical knowledge with practical applications.  Students will participate in a group discussion moderated by the teacher.  Engagement in discussion  Quality of insights and reflection  Ability to connect theory with practice  Students can use the Case-Based Assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation.  The Total duration of the activity is 3 Hrs</p>
NLHP 9.2	Education of the patients safety on yoga practice for orthopedic health	<p>The teacher will conduct case-based learning to educate the patients on the safety of yoga practices for orthopaedic health by documenting the progress .  Structure of the case-based assessment:  <b>1.Introduction (15 minutes)</b>  Brief overview of the importance of yoga in orthopedic health.  <b>2.Case studies presentation (20 minutes)</b>  Three different case studies will be presented, each highlighting a common orthopedic condition:  <b>Case 1:</b> Patient with chronic lower back pain.  <b>Case 2:</b> Patient recovering from knee replacement surgery.  <b>Case 3:</b> Patient with osteoporosis.  <b>3.Group discussion and analysis (30 minutes)</b>  Students will be divided into small groups. Each group will be assigned one case to discuss:</p>

		<p>Identify the potential risks and benefits of yoga for the assigned patient.          Discuss which yoga poses are safe and which should be avoided.          Develop a brief, tailored yoga plan for the patient.</p> <p><b>4.Role-playing scenarios (40 minutes)</b>          Each group will present their case to the class in a role-playing format:          One student will play the role of the healthcare provider.          Another student will play the role of the patient.          The provider will explain the yoga plan, address the patient’s concerns, and provide safety tips.          Feedback will be given by peers and the instructor on communication skills, accuracy of information, and patient engagement.</p> <p><b>5.Wrap-up and reflection (15 minutes)</b>  <b>Assessment criteria:</b>          Understanding of orthopaedic conditions:          Identifies appropriate and inappropriate yoga practices for each condition.</p> <p><b>Communication skills:</b>          Effectively explains the safety and benefits of yoga to patients.</p> <p><b>Patient-cantered care:</b>          Yoga plan to the individual patient’s needs and limitations.          Consider patient concerns and preferences.</p> <p><b>Critical thinking and problem-solving:</b>          Analyse the case studies thoroughly.          Provides well-reasoned justifications for the recommended yoga practices.          Students can use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation.          The total duration of the activity is 2 hrs.</p>
NLHP 9.3	Development of specific yoga modifications to patients.	<p>The teacher will conduct case-based learning in the patient specific yoga modifications to accommodate physical limitations by documenting the progress.          Examine the vital signs and inspect the joints of the patient.          Analyse the <i>kanmenthirium</i> and its <i>vidayangal</i>, <i>uyir thathukal</i>, <i>udal thathukal</i>, and <i>envagai thervu</i> of the patient.</p>

		<p>After confirming the diagnosis and choosing the needed yoga poses specific to the patient, inform them about the treatment protocol by getting verbal consent from them.</p> <p>Ask the patient to empty the bladder and bowel before practice which will prevent discomfort.</p> <p>The patient is asked to opt for loose-fitting, breathable clothing that allows for a full range of motion.</p> <p>Before diving into the poses, the patient is asked to do a gentle warm-up to prepare muscles.</p> <p>The patient is asked to perform the asanas following the instructions from healthcare professionals.</p> <p>The training can be continued till the patient performs on his own.</p> <p>Students can use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation.</p> <p>The total duration of the activity is 2 hrs.</p>
NLHP 9.4	Demonstration of Yoga to improve range of motion and flexibility.	<p>The teacher will conduct case-based learning in yoga to improve range of motion and flexibility by documenting the progress.</p> <p>Examine the vital signs and inspect the joints of the patient.</p> <p>Analyse the <i>kanmenthirium</i> and its <i>vidayangal</i>, <i>uyir thathukal</i>, <i>udal thathukal</i>, and <i>envagaitervu</i> of the patient.</p> <p>After confirming the diagnosis and choosing the needed yoga poses specific to the patient, inform them about the treatment protocol by getting verbal consent from them.</p> <p>Ask the patient to empty the bladder and bowel before practice which will prevent discomfort.</p> <p>The patient is asked to opt for loose-fitting, breathable clothing that allows for a full range of motion.</p> <p>Before diving into the poses, the patient is asked to do a gentle warm-up to prepare muscles.</p> <p>The patient is asked to perform the asanas following the instructions from healthcare professionals.</p> <p>The training can be continued till the patient performs on his own.</p> <p>Students can use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation.</p> <p>The total duration of the activity is 2 hrs.</p>
NLHP 9.5	Application of long-term benefits of yoga in managing and preventing orthopaedic diseases	<p>The teacher will conduct case-based learning of the long-term benefits of Yoga in orthopaedic diseases by documenting the progress</p> <p><b>1. Introduction (30 minutes)</b></p>

		<p>Provide students with foundational knowledge about orthopedic diseases and the role of yoga in their management and prevention.</p> <p><b>2. Case Study Distribution (15 minutes)</b></p> <p><b>3. Case Analysis and Documentation (1 hour)</b>  Allow students to analyse their assigned cases and document the role of yoga in managing and preventing orthopedic diseases.</p> <p><b>4. Presentation and Discussion (45 minutes)</b>  Each student or pair presents their case findings and proposes a yoga regimen.  Class discussion on the feasibility and effectiveness of the yoga interventions.</p> <p><b>5. Summary and Reflection (30 minutes)</b>  Summarize key takeaways about the role of yoga in orthopedic health.  Reflect on the importance of documenting progress in long-term health management.  Discuss the challenges and limitations of integrating yoga into treatment plans.  Students can use the Case-Based Assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation.  The Total duration of the activity is 3 Hours</p>
NLHP 9.6	Application of breathing exercises ( <i>Pranayama</i> ) to pain management and stress reduction.	<p>The teacher will conduct case-based learning in Breathing Exercises (Pranayama) to aid in Pain Management and Stress Reduction by Documenting the Progress</p> <p><b>1. Introduction (15 minutes)</b>  Brief on the importance of Breathing Exercises (Pranayama) in pain management and stress reduction.</p> <p><b>2. Case Study Presentation (45 minutes)</b></p> <p><b>3. Group Discussion and Analysis (30 minutes)</b>  Break students into small groups  Groups prepare a brief presentation on their findings</p> <p><b>4. Presentation and Feedback (30 minutes)</b>  Each group presents their analysis and proposed Breathing Exercises (Pranayama)</p> <p><b>5. Practical Application (30 minutes)</b>  Guided practice of selected Breathing Exercises (Pranayama) (E.g., diaphragmatic breathing, alternate nostril breathing, 4-7-8 breathing)  Emphasis on the correct technique and potential benefits.</p>

### 6. Individual Assessment (30 minutes)

Written or oral questions related to:

The physiological effects of Breathing Exercises (Pranayama)

The application of specific techniques for different conditions

Short practical demonstration where students guide a peer through a breathing exercise Assessment

Criteria: Understanding of case specifics and the ability to modify Breathing exercises accordingly.

Group participation and contribution to the discussion.

Clarity and accuracy of the presentation.

Practical demonstration of breathing exercises.

Students can use the Case-Based Assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation.

The Total duration of the activity is 3 Hours

### Topic 10 GERIATRICS (LH :9 NLHT: 4 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Explain the postulated mechanism and the physiological effects of aging. State the signs and symptoms of age-related physiological changes and their consequences and diseases in the elderly.	CC	MK	KH	L,L&PPT T ,L&GD	VV-Viva,C L-PR	F&S		-	LH
CO5	Describe the characteristics of diseases in old age and explain the principles and management of geriatric diseases..	CK	MK	KH	L&PPT ,L	T-OBT,M- CHT	F&S		-	LH
CO5	Describe the definition, causes, presentation and management of urinary incontinence. List the causes of postural hypotension and discuss the mechanisms, risk factors and management of falls and collapse	CK	NK	K	L&GD, L&PPT	VV-Viva,M -POS,COM ,CL-PR	F&S		H-MM	LH
CO5	Define delirium and describe the presentation, clinical assessment, and management.	CC	MK	K	L&PPT ,L&GD	VV-Viva	F&S		-	NLHT10.1
CO5	Describe the factors, causes, pathophysiology, signs and	CC	MK	K	L&PPT	T-CS,CL-	F&S		H-MM	LH

	symptoms, differential diagnosis and investigation of chronic cardiac failure. Define hypertension and extend the risk factors, pathogenesis, complication and diagnosis. Describe and analyse the causes, pathophysiology, signs and symptoms, and diagnosis of chronic mitral regurgitation.				,L_VC, L&GD, FC	PR				
CO5	Describe the definition, causes, pathophysiology, diagnosis, and care planning for chronic obstructive pulmonary diseases Define migraine and describe the causes, symptoms, and diagnosis. Elaborate on the definition, causes, clinical features, and investigation of polymyositis and dermatomyositis.	CAP	DK	KH	L&PPT ,TBL,L _VC,FC ,L&GD	CL-PR,T-C S,VV-Viva	F&S		H-MM, H-AM	LH
CO5	Explain the definition, causes, pathogenesis, clinical features and management of spondyloarthropathy.	CAP	MK	KH	CBL	T-CS,VV- Viva	F&S		-	NLHT10.2
CO5	Describe the definition, causes, clinical features, pathophysiology, diagnosis, and treatment of osteomalacia in the elderly. Explain the risk factors, clinical presentation, pathology, diagnosis, stages, and treatment of prostate cancer in the elderly, and list the principles of breast cancer management.	CK	MK	KH	L_VC,L &PPT ,L&GD	VV-Viva,P RN,T-CS	F&S		H-SMM	LH
CO5	Explain the definition, risk factors, pathophysiology, clinical history, clinical evaluation, diagnosis, and treatment of constipation and faecal incontinence in old age. Outline sleep and circadian rhythm disturbances in older adults and extend the changes in sleep architecture during the age of non-rapid and rapid eye movement sleep.	CK	MK	K	DIS,L& PPT ,L_VC	C-INT,VV- Viva,T-CS	F&S		V-UT,H- MM	LH
CO5	Explain the nutritional deficiency in old age and describe the methods of prevention of nutritional deficiency.	CK	MK	K	L&PPT ,L,DIS	QZ	F&S		-	LH
CO5	Explain the recommended intake of nutrients.	CAN	MK	K	L&GD	QZ	F&S		-	NLHT10.3



CO5	Discuss the care of chronically ill elderly patients and describe the care of elderly patients with terminal illnesses. Outline the health promotion and health education for the elderly.	CC	DK	K	L&GD	VV-Viva	F&S		-	LH
CO5	Explain the prevention of diseases and promoting health in old age	CAP	DK	K	L	VV-Viva	F&S		-	NLHT10.4
CO5, CO7	Observe the basic history taking and common complaints in geriatrics.	PSY-GUD	MK	K	DIS	QZ	F		-	NLHP10.1
CO5	Demonstrate by hands - on training of physical examination	PSY-GUD	MK	SH	D	P-EXAM	F&S		-	NLHP10.2
CO5	Demonstrate by hands-on training in neuropsychiatric examination	PSY-GUD	MK	SH	D-BED	P-EXAM	F&S		-	NLHP10.3
CO5	Demonstrate by hands-on training in functional examination.	PSY-GUD	MK	SH	D-BED	P-EXAM	F&S		-	NLHP10.4
CO5	Evaluate the gait in an older person	CE	DK	KH	CBL	P-EXAM	F&S		-	NLHP10.5
CO5	Perform the assessment of nutrition for an older person	PSY-GUD	MK	SH	CBL	P-EXAM	F&S		-	NLHP10.6
CO5	Assess the cognitive function in geriatric patients	PSY-GUD	DK	SH	D-BED	P-EXAM	F&S		-	NLHP10.7
CO5, CO7	Perform the assessment of urinary incontinence for an older person	PSY-GUD	NK	SH	D-BED	P-EXAM	F&S		-	NLHP10.8
CO5, CO7	Conduct field visits to take a survey of nutrition assessment of older people	PSY-GUD	MK	SH	FV	P-SUR	F		-	NLHP10.9

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
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NLHT 10.1	Delirium	<p>The teacher will explain delirium by using a lecture with a powerpoint presentation and group discussion.</p> <p><b>A. Powerpoint presentation</b></p> <p>Slide breakdown:</p> <ol style="list-style-type: none"> <li>1.introduction</li> </ol> <p>Title: "Understanding delirium"</p> <p>Objectives for the session.</p> <ol style="list-style-type: none"> <li>2.Definition</li> <li>3.Epidemiology</li> <li>4.Pathophysiology</li> <li>5.Clinical presentation</li> <li>6.Assessment</li> </ol> <p>Tools:Confusion assessment method (CAM), delirium rating scale, etc.</p> <p>Importance of collateral history and clinical observation.</p> <p>Key investigations (e.g., labs, imaging to rule out causes).</p> <ol style="list-style-type: none"> <li>7.Management.</li> <li>8.Prevention</li> </ol> <p><b>B. Group discussion</b></p> <ol style="list-style-type: none"> <li>1.Divide participants: form small groups (4–5 participants each).</li> <li>2.Discussion topics:</li> </ol> <p>Challenges in diagnosing delirium.</p> <p>Managing delirium in resource-limited settings.</p> <p>Ethical considerations: Consent and patient safety.</p> <p>Students will perform each step of the assessment activity through a viva on delirium.</p> <ol style="list-style-type: none"> <li>1. Define delirium</li> <li>2. Describe the clinical presentation</li> <li>3. Clinical assessment</li> </ol> <p>History and physical examination:</p> <p>Acute changes in mental status.</p> <p>Identify underlying causes (E.g., infections, medications).</p> <p>Cognitive tests:</p> <p>Confusion assessment method (CAM).</p>
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		<p>Mini-mental state examination (MMSE) or montreal cognitive assessment (MOCA).  Laboratory and imaging:  Blood tests: CBC, electrolytes, renal / liver function, infection markers.  Imaging (E.g., ct / mri) if structural causes are suspected.  4. Management of delirium</p>
NLHT 10.2	Spondyloarthropathy (SpA)	<p>The teacher will explain spondyloarthropathy by using case-based learning.</p> <p><b>1. Introduction</b>  Begin by presenting a clinical case scenario that is representative of a patient with spondyloarthropathy. The case should include key features of the disease to provoke discussion and curiosity.</p> <p><b>2. Definition:</b>  Ask students to define spondyloarthropathy (Spa), a group of inflammatory joint diseases primarily affecting the spine and sacroiliac joints. Highlight that it includes:  Ankylosing spondylitis  Psoriatic arthritis  Reactive arthritis  Enteropathic arthritis  Undifferentiated spondyloarthropathy</p> <p><b>3. Causes and risk factors:</b>  Guide students to explore the causes and risk factors associated with spa.</p> <p><b>4. Pathogenesis:</b>  Explain the immune mechanisms involved in spa, particularly the innate immune system</p> <p><b>5. Clinical features</b></p> <p><b>6. Diagnosis:</b>  Clinical history: Emphasize key aspects such as the duration of symptoms, family history, and risk factors (E.g., hla-b27 positivity).  Physical examination: Focus on assessing spinal mobility, sacroiliac joint tenderness, and peripheral joint involvement.  Imaging: Role of x-rays and MRI in identifying sacroiliitis and structural changes.  Laboratory tests: Discuss the utility of hla-b27, inflammatory markers (E.g., esr, crp), and the absence</p>

		<p>of rheumatoid factor in spa.</p> <p><b>7. Management</b></p> <p>Students will perform each step of the assessment activity through theory case study on spondyloarthropathy.</p> <p><b>Theory case study</b></p> <p>1. Case presentation</p> <p>Provide the students with a clinical case scenario.</p> <p>2. Questions to answer: Students must address the following key points:</p> <p>Definition: What is spondyloarthropathy?</p> <p>Causes: Discuss genetic and environmental factors involved in the disease.</p> <p>Pathogenesis: Explain the immunological mechanisms, role of hla-b27, and inflammatory pathways.</p> <p>Clinical features: Elaborate on axial involvement, peripheral arthritis, enthesitis, extra-articular manifestations, and systemic features.</p> <p>Management: Non-pharmacological (Physiotherapy, exercise) and lifestyle interventions.</p> <p>3. Expected format:</p> <p>Introduction and background</p> <p>Explanation of each aspect (Definition, causes, etc.)</p> <p>A summarized conclusion with a holistic view of the case.</p> <p><b>Assessment criteria</b></p> <p>Clarity and depth of explanation.</p> <p>Ability to connect theoretical knowledge to the clinical case.</p> <p>Critical thinking and problem-solving skills.</p> <p>Communication skills and confidence in answering questions.</p>
NLHT 10.3	The recommended intake of nutrients	<p>The teacher will explain the recommended intake of nutrients using lecture and group discussions:</p> <p><b>Method:</b></p> <p>Start with a brief lecture to introduce the key concepts of nutrient intake. Use visual aids like slides, charts, and infographics to display the recommended daily allowance (RDA) for essential nutrients such as proteins, fats, vitamins, and minerals.</p> <p>Divide the class into small groups and assign each group a different nutrient (E.g., one group discusses protein, another discusses vitamins, etc.). Ask them to explore how those nutrient impacts health,</p>

		<p>common food sources, and the consequences of an imbalance.</p> <p><b>How to implement:</b></p> <ol style="list-style-type: none"> <li>1. Break down each nutrient and explain its role in the body, sources, and the consequences of both deficiency and excess.</li> <li>2. Use charts to compare daily values for different age groups, genders, or special conditions (E.g., pregnancy, athletes).</li> <li>3. Provide each group with materials such as articles, research, or guidelines for reference.</li> <li>4. Have each group present their findings, encouraging questions and discussion among all groups to promote peer-to-peer learning.</li> </ol> <p>Students will perform each step of the assessment activity through quiz on recommended nutrient intake</p> <p><b>Instructions:</b></p> <ol style="list-style-type: none"> <li>1. The quiz consists of multiple-choice, true / false, and short-answer questions.</li> <li>2. Answer all questions based on your knowledge or notes provided during the study session.</li> <li>3. This is a learning-based assessment, so ensure thoughtful responses.</li> </ol> <p><b>Assessment strategy:</b></p> <p>Mcqs &amp; true/false: 1 Point each.</p> <p>Short answers: Upto 3 points each for completeness and accuracy.</p> <p>Reflection activity (Bonus):</p> <p>Write a short paragraph (4-5 sentences) about a recent change you've made in your diet to meet your nutrient needs.</p>
NLHT 10.4	Prevention of diseases and promoting health in old age	<p>The teacher will explain the prevention of diseases and promoting health in old age through lecture teaching method.</p> <p>Introduction:</p> <p>Understanding aging and health</p> <ol style="list-style-type: none"> <li>1. Nutrition and diet</li> <li>2. Physical activity</li> <li>3. Preventive healthcare</li> <li>4. Mental health and cognitive function</li> <li>5. Chronic disease management</li> </ol>

		<p>6. Falls prevention  7. Sleep hygiene  8. Healthy habits  Students will perform each step of the assessment activity through viva on prevention of diseases and promoting health in old age.  Structure  <b>1. General questions (Basic understanding)</b>  Define aging and its impact on health.  What are the most common health problems faced by the elderly?  Explain the importance of preventive healthcare in old age.  <b>2. Disease prevention (Focused questions)</b>  What steps can be taken to prevent chronic diseases such as diabetes, hypertension, and arthritis in old age?  How does vaccination benefit the elderly? Give examples of recommended vaccines.  What role does nutrition play in disease prevention for older adults?  <b>3. Scenario-based questions (Critical thinking)</b>  <b>4. Open-ended questions (Exploratory discussion)</b></p>
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**Non Lecture Hour Practical**

<b>S.No</b>	<b>Name of Practical</b>	<b>Description of Practical Activity</b>
NLHP 10.1	Basics of history taking-common complaints in geriatrics	<p>The teacher will guide students in performing and observing basic history-taking techniques and common complaints in geriatrics through discussion.  <b>1. Prepare the patient for the clinical examination</b>  Introduce yourself: Greet the patient and explain the purpose of the examination to ensure they feel comfortable.  Ensure privacy: Make sure the examination room is private and that the patient’s confidentiality is respected.  Consent: Obtain verbal consent from the patient before proceeding with the examination.  Positioning: Ask the patient to sit or lie in a comfortable position depending on the type of examination. Ensure they are adequately covered to maintain their dignity.</p>

Prepare the necessary equipment: Gather tools for the examination (e.g., stethoscope, thermometer, blood pressure cuff, otoscope, gloves).

## **2. Take the history of the patient, complaints, and duration with vitals**

Chief complaint: Ask the patient to describe in their own words why they are seeking medical help (e.g., pain, discomfort, concerns).

History of present illness:

Inquire about the nature of the symptoms (e.g., onset, duration, intensity, and frequency).

Ask about any aggravating or relieving factors.

Record associated symptoms (e.g., fever, nausea).

Past medical history:

Ask about any previous illnesses or surgeries.

Inquire about chronic conditions (e.g., diabetes, hypertension).

Medication history:

Record any current medications (Including doses and duration).

Ask about any allergies.

Family history:

Ask about any family history of chronic conditions (e.g., heart disease, cancer).

Social history:

Inquire about lifestyle factors such as smoking, alcohol consumption, diet, and exercise.

Vitals: Measure the following:

Temperature: Using a thermometer.

Blood pressure: Using a sphygmomanometer.

Heart rate: Palpate the pulse or use a stethoscope.

Respiratory rate: Observe the patient's breathing.

Oxygen saturation (Optional): Using a pulse oximeter.

Weight and height (Optional): For BMI calculation.

## **3. Assess the complete history**

Review all details: Go through the patient's history in detail and ensure you haven't missed anything important.

Organize the history: Summarize the key aspects, including:

Chief complaint and its details.

Relevant past medical, surgical, and family history.

		<p>Social and medication history.  Document clearly: Ensure all history and findings are accurately documented in the patient's medical record.  The students will be able to perform and observe basic history taking and identify common complaints in geriatrics through a quiz.  The total duration of the activity is 1 hour.</p>
NLHP 10.2	Physical examination	<p>The teacher will guide students through hands-on training in physical examination techniques by demonstrating the procedures.</p> <p><b>1. Prepare the patient for physical examination (10-15 minutes)</b>  Create a comfortable environment: Ensure the examination room is well-lit, clean, and private to make the patient feel at ease.  Introduce yourself: Greet the patient, explain your role, and explain the purpose of the examination.  Confidentiality and consent: Obtain verbal consent for the examination, ensuring the patient understands that they can stop at any point.  Patient positioning: Ensure the patient is dressed appropriately or offer a gown if needed. Guide them into a comfortable position for the examination (Usually sitting or lying down).</p> <p><b>2. Analyse demographic data, complaints, and history (20-25 minutes)</b>  Demographic data: Collect essential patient information such as:  Age  Gender  Occupation  Medical history  Current medications and allergies  Chief complaints: Ask the patient to describe the primary issue(s) they're facing, including:  Symptoms (E.g., pain, shortness of breath, dizziness)  Onset, duration, and severity of the symptoms  History of present illness: Probe deeper into the complaint to understand the context, using questions like:  When did the symptoms start?  Have they gotten better or worse over time?</p>



What makes the symptoms better or worse?

Past medical history:

Any previous medical conditions or surgeries

Family history of significant illnesses (Heart disease, cancer, diabetes)

Immunizations and vaccinations

Social history:

Smoking, alcohol, and drug use

Dietary habits and exercise routine

Vitals: Check the following vital signs:

Blood pressure

Pulse rate

Respiratory rate

Temperature

Oxygen saturation

Height and weight

### **3. Assess the physical examination (20-25 minutes)**

General observation: look for signs of distress, pallor, obesity, or unintentional weight loss.

Head and neck: Examine the head, eyes, ears, nose, mouth, and throat.

Cardiovascular system: Auscultate the heart, check pulses, and assess for any murmurs or abnormal sounds.

Respiratory system: Inspect the chest, palpate for tenderness, and auscultate the lungs for abnormal sounds (Wheezing, crackles).

Abdomen: Palpate for tenderness, listen for bowel sounds, and check for distention or any abnormal masses.

Musculoskeletal system: Assess joint range of motion, strength, and any signs of swelling or deformity.

Neurological system: Check reflexes, coordination, and sensory functions. skin: inspect for any abnormalities (Rashes, lesions, or discoloration).

The students will be able to perform and demonstrate physical examination techniques through hands-on training, assessed via a practical exam.

The total duration of the activity is 1 hour.

NLHP 10.3	Neuropsychiatric examination	<p>The teacher will guide students through hands-on training in neuropsychiatric examination by demonstrating at the bedside.</p> <p><b>1. Prepare the patient for neuropsychiatric examination (10-15 minutes)</b></p> <p>Introduce yourself: Greet the patient, introduce yourself, and explain the purpose of the examination.</p> <p>Privacy and comfort: Ensure the patient feels comfortable and that the examination environment is private and free from distractions.</p> <p>Consent: Obtain verbal or written consent for the examination.</p> <p>Confidentiality: Assure the patient that their information will be kept confidential.</p> <p>Patient relaxation: Encourage the patient to relax and ensure they feel safe. This may include helping them get comfortable on the examination table or chair.</p> <p>Provide instructions: Explain the steps of the examination so the patient knows what to expect.</p> <p><b>2. Analyse demographic data, complaints, duration, and history with vitals (20-25 minutes)</b></p> <p>Demographic data:</p> <p>Age, gender, occupation, educational level, and cultural background.</p> <p>Previous medical and psychiatric history.</p> <p>Presenting complaints:</p> <p>Ask the patient about their main concerns (E.g., mood disturbances, cognitive issues, hallucinations).</p> <p>Encourage the patient to describe symptoms in their own words.</p> <p>Duration of complaints:</p> <p>determine when the symptoms began and if they have worsened or improved over time.</p> <p>Medical and psychiatric history:</p> <p>Personal history of mental illness or neurological conditions.</p> <p>Family history of mental illness.</p> <p>Any prior treatment, medications, or hospitalizations.</p> <p>Vital signs:</p> <p>Measure temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation. These are important as physical illnesses can affect the Neuropsychiatric status.</p> <p><b>3. Assess the neuropsychiatric examination (20-25 minutes)</b></p> <p>1. Mental status examination (MSE):</p> <p>Appearance: Note the patient's general appearance (Hygiene, dress, and posture).</p> <p>Behavior: Observe the patient's interactions, level of engagement, and movement (E.g., restlessness, tremors).</p>
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		<p>Speech: Evaluate the speech for rate, volume, fluency, and coherence.  Mood and affect: Ask the patient how they feel and assess their emotional state.  Thought content and process: Listen for signs of delusions, hallucinations, or disorganized thinking.  Cognition:  Orientation: Ask about the date, time, location, and identity.  Attention and concentration: Perform tasks like asking the patient to recite numbers backward.  Memory: Test short-term and long-term memory (E.g., ask about recent events or distant memories).  Executive function: Ask the patient to perform tasks that involve planning and judgment (E.g., “what would you do if you found a wallet on the street?”).</p> <p>2.Neurological examination:  Assess cranial nerves, motor function, reflexes, sensory systems, and coordination.  Check for signs of neurological conditions such as tremors, paralysis, or coordination issues.</p> <p>3.Psychiatric assessment:  Evaluate for signs of depression, anxiety, psychosis, or other psychiatric disorders.  Use structured assessments.</p> <p>4.Risk assessment:  Assess for any suicidal ideation, self-harm, or risk to others.</p> <p>5.Conclusion (5-10 minutes)</p> <p>6.Summarize findings: Provide a summary of your findings to the patient.</p> <p>7.Provide next steps: Discuss the next steps in care, which may include further tests, referrals, or treatment options.</p> <p>8.Answer questions: Allow the patient to ask questions and address any concerns they might have.</p> <p>The students will be able to demonstrate proficiency in neuropsychiatric examination through hands-on training and assessment during a practical exam.  The total duration of the activity is 1 hour.</p>
NLHP 10.4	Functional examination	<p>The teacher will guide students in performing and demonstrating functional examinations through hands-on training at the bedside.</p> <p><b>1. Prepare the patient for functional examination (15 minutes)</b></p> <p><b>A. Introduction and explanation (5 minutes):</b>  Greet the patient and introduce yourself.</p>

Explain the purpose of the functional examination.

Assure the patient of their comfort and privacy.

**B. Patient comfort and positioning (5 minutes):**

Ensure the patient is in a relaxed state.

Position the patient appropriately depending on the examination (e.g., sitting, standing, or lying down).

Provide necessary support if the patient has mobility issues.

**C. Consent and safety measures (5 minutes):**

Obtain verbal consent from the patient to proceed.

Ensure all necessary safety measures are in place, such as an emergency protocol in case of discomfort or distress.

**2. Analyse demographic data, complaints and duration, and the history of the patient, with vitals (20 minutes)**

**A. Review demographic data (5 minutes):**

Name, age, gender, and contact details.

Current living situation, occupation, and lifestyle factors (e.g., sedentary or active).

**B. Patient complaints and duration (10 minutes):**

Discuss the primary complaint(s) that led to the examination.

Ask the patient to describe the nature of the complaint(s): Onset, intensity, frequency, and aggravating/relieving factors.

Establish how long the complaints have been present and the pattern of progression.

**C. Medical history and vitals (5 minutes):**

Gather relevant medical history, including any chronic conditions, previous surgeries, medications, or treatments.

Record vitals: Blood pressure, heart rate, respiratory rate, and temperature.

Note any significant family history of relevant conditions (e.g., musculoskeletal, neurological, cardiovascular).

**3. Assess the functional examination (25 minutes)**

**A. Musculoskeletal assessment (10 minutes):**

Evaluate the patient's range of motion (ROM), strength, and joint stability.

Observe for any deformities, swelling, or abnormal movements.

Test for pain levels using standard assessment scales (e.g., vas, mcgill).

**B. Neurological assessment (5 minutes):**

		<p>Check sensory function (Light touch, pinprick, temperature).          Assess reflexes and motor strength.          Perform coordination tests (e.g., finger-to-nose test, heel-to-shin).  <b>C. Functional tests (5 minutes):</b>          Conduct tasks like walking tests, balance assessments, or functional movement tests (e.g., sit-to-stand, squatting).          Observe the patient's performance and identify any limitations or compensations.  <b>D. Interpretation and discussion (5 minutes):</b>          Summarize the findings of the functional examination.          Discuss the results with the patient and explain the next steps (e.g., follow-up, therapy options, further tests).  <b>Conclusion (5 minutes):</b>          Provide a brief recap to the patient about their current condition and the findings.          Answer any questions the patient may have.          Schedule any necessary follow-up appointments or treatments.          The students will be able to perform functional examinations through hands-on training during the practical exam.          The total duration of the activity is 1 hour.</p>
NLHP 10.5	Gait	<p>The teacher will guide students in performing and evaluating the gait of an older person through case-based learning.  <b>1. Observation of gait (10 minutes)</b>          Definition and purpose: Briefly define gait as the pattern of movement or walking. The aim of observing gait is to identify any abnormalities or deviations from the normal walking pattern that could indicate underlying issues.          Key indicators to look for:          Posture: Head and trunk alignment          Step length, width, and height          Foot placement (E.g., toe-in, toe-out, or dragging)          Arm swing          Balance and coordination</p>

Practical observation: Have the participant or subject walk and observe their gait, noting any irregularities.

## **2. Assess the gait in older persons (15 minutes)**

Gait changes with aging: Discuss how aging impacts gait:

Decreased muscle strength

Joint stiffness (Especially in hips and knees)

Decreased balance and coordination

Slower walking speed

Risk factors for falls in older adults: Highlight the importance of gait assessment in older adults to prevent falls and maintain mobility.

Discussion: Engage participants in a discussion about common gait abnormalities seen in older adults (E.g., shuffling, widened base of support).

## **3. Analyze the phases of gait (10 minutes)**

The two main phases:

Stance phase: When one foot is on the ground. It includes:

Initial contact

Loading response

Midstance

Terminal stance

Pre-swing

Swing phase: when one foot is off the ground. It includes:

Initial swing

Midswing

Terminal swing

Key points in gait cycle: Discuss what happens at each stage of the cycle and its significance in normal walking.

## **4. Discussion of parameters of gait (10 minutes)**

Key parameters to measure:

Cadence: The number of steps per minute.

Step length: The distance between the heel strike of one foot and the heel strike of the other foot.

Stride length: The distance between two successive steps of the same foot.

Walking speed: Total distance travelled divided by time.

		<p>Base of support: The distance between the feet.  Step width: The lateral distance between the feet.  Implications of gait parameters: Discuss how deviations in these parameters could indicate issues such as neurological disorders, orthopaedic conditions, or risk of falls.</p> <p><b>5. Assessment tools for gait (15 minutes)</b></p> <p>Tools to assess gait:</p> <p>Timed up and go (Tug) test: measures the time taken to rise from a chair, walk a short distance, return, and sit back down. This is useful for evaluating balance and mobility.</p> <p>Six-minute walk test (6MWT): Measures endurance and overall walking ability.</p> <p>Gait velocity: Measures walking speed as an indicator of health status.</p> <p>Berg balance scale (BBS): Assesses balance, which is closely related to gait.</p> <p>Gait rite system: A computerized system that measures various aspects of gait, such as step time and length.</p> <p>Wrap-up and Q&amp;A (5 minutes)</p> <p>Review key points covered in the activity.</p> <p>Open the floor for any questions or clarifications on assessing and analyzing gait.</p> <p>Students will be able to perform and evaluate the gait of an older person through a practical exam.</p> <p>The total duration of the activity is 1 hour.</p>
NLHP 10.6	Nutrition	<p>The teacher will guide students in performing a nutrition assessment for an older adult through case-based learning.</p> <p>Plan for the 1-hour nutrition assessment</p> <p><b>Step 1: Prepare the patient for the assessment (10 minutes)</b></p> <p>Establish rapport: Greet the patient warmly, introduce yourself, and explain the purpose of the assessment.</p> <p>Ensure comfort: Confirm the patient is seated or positioned comfortably in a quiet, private space.</p> <p>Clarify consent: Obtain verbal or written consent to proceed with the assessment.</p> <p>Gather tools: Ensure any required tools or forms (e.g., scales, measuring tape, forms for data collection) are ready and accessible.</p> <p><b>Step 2: Analyse demographic data, complaints, and history with vitals (15 minutes)</b></p> <p>1. Demographic data:</p>

		<p>Age, gender, occupation, lifestyle, and cultural background.</p> <p>2.Chief complaints and duration: Document the patient’s main concerns (e.g., weight changes, appetite loss) and the duration of symptoms.</p> <p>3.Medical history: Note any past illnesses, surgeries, medications, or allergies.</p> <p>4.Family history: Record any hereditary conditions.</p> <p>5.Vitals assessment: Measure and document weight, height, bmi, blood pressure, heart rate, and any other relevant metrics.</p> <p><b>Step 3: Perform the nutrition assessment (35 minutes)</b></p> <p>1.Dietary intake analysis: Use a 24-hour dietary recall or food frequency questionnaire to understand eating patterns.</p> <p>2.Anthropometric measurements: Confirm measurements like weight, height, waist circumference, and bmi.</p> <p>3.Biochemical data (If available): Review lab results for indicators like glucose, cholesterol, or vitamin levels.</p> <p>4.Clinical assessment: Check for signs of nutrient deficiencies (e.g., skin, hair, nails, oral cavity).</p> <p>5.Lifestyle factors: Assess activity levels, sleep patterns, and stress levels.</p> <p>6.Evaluation: Summarize findings and identify potential areas for intervention.</p> <p>The students will be able to demonstrate their ability to assess the nutrition of an older person through a practical exam.</p> <p>The total duration of the activity is 1 hour.</p>
NLHP 10.7	Cognitive function	<p>The teacher will guide students in performing and assessing cognitive function in geriatric patients through bedside demonstrations.</p> <p><b>1. Prepare the patient for the assessment (5 minutes)</b></p> <p>Establish rapport: Greet the patient and create a comfortable environment.</p>



		<p>Explain the process: Briefly describe the purpose and steps of the assessment.  Obtain consent: Ensure the patient is informed and agrees to proceed.  Set the environment: Minimize distractions, ensure proper lighting, and arrange seating appropriately.</p> <p><b>2. Analyze patient information (15 minutes)</b></p> <p>Demographic data: Record age, gender, occupation, and other relevant details.  Chief complaints &amp; duration: Document the main concerns or symptoms and their timeline.  Patient history: Collect details on:  Past medical and surgical history  Family history  Social and lifestyle habits  Current medications and allergies  Vital signs: record vitals (e.g., temperature, pulse, blood pressure, respiratory rate, oxygen saturation).</p> <p><b>3. Perform the cognitive function assessment (40 minutes)</b></p> <p>Orientation: Assess awareness of time, place, and person.  Memory: Test immediate, short-term, and long-term memory (e.g., recall tests).  Attention and concentration: Evaluate with tasks like digit span or serial subtraction.  Language skills: Test naming, repetition, comprehension, and fluency.  Visuospatial abilities: Use tasks like drawing or copying geometric figures.  Executive functions: Assess planning, problem-solving, and abstract thinking.</p> <p>The students will be able to assess the cognitive function of geriatric patients through a practical exam.  The total duration of the activity is 1 hour.</p>
NLHP 10.8	Urinary incontinence	<p>The teacher will guide the students in performing the assessment of urinary incontinence in older adults through a bedside demonstration.</p> <p>Step 1: Prepare the patient for the assessment (10 minutes)</p> <p><b>1.Introduce yourself</b></p> <p>Greet the patient and introduce yourself.  Explain the purpose and process of the assessment.</p> <p><b>2.Ensure privacy and comfort</b></p> <p>Choose a quiet and private space.  Ensure the patient is in a comfortable position and appropriately dressed.</p>

### **3.Obtain consent**

Explain the importance of honest and complete information for accurate assessment.

Secure verbal or written consent for the assessment.

### **4.Address any immediate needs**

Ask if the patient needs to use the restroom before starting.

Provide any necessary aids (e.g., water, tissues).

Step 2: Analyze demographic data, complaints, duration, and history with vitals (15 minutes)

#### **1.Demographic information**

Age, gender, occupation, and lifestyle habits.

#### **2.Presenting complaints**

Note the specific urinary incontinence concerns (e.g., leakage during coughing, urgency).

Ask about triggers, frequency, and severity of symptoms.

#### **3.Duration of symptoms**

Determine how long the patient has been experiencing the issues.

#### **4.Medical and surgical history**

Inquire about past illnesses, surgeries, childbirth history (For women), and medications.

Note any neurological, urological, or pelvic floor issues.

#### **5.lifestyle and habits**

Assess fluid intake, caffeine consumption, smoking, and physical activity.

#### **6.vitals check**

Measure blood pressure, heart rate, and other relevant vitals.

Step 3: Perform the urinary incontinence assessment (35 minutes)

#### **1.Physical examination**

Assess the abdomen for bladder distension or tenderness.

Perform a pelvic exam (If applicable) to evaluate muscle tone and prolapse.

#### **2.Bladder diary review (If available)**

Discuss patterns in voiding, leakage, and fluid intake based on the patient's notes.

#### **3.Specialized testing (If relevant and feasible)**

Perform a stress test (Cough test) if indicated.

Check for post-void residual volume using a bladder scanner (If accessible).

#### **4.Assess the impact on quality of life**

Use standardized questionnaires (e.g., international consultation on incontinence questionnaire).

		<p>Discuss the emotional, social, and physical impacts of incontinence.</p> <p><b>5. Educate the patient</b>  Briefly explain possible types of incontinence (e.g., stress, urge, overflow, functional).  Provide reassurance about management options and next steps.  Documentation and wrap-up (5 minutes)</p> <p><b>1. Summarize findings</b>  Briefly summarize key observations for the patient.</p> <p><b>2. Plan next steps</b>  Discuss the need for further tests or referrals, if necessary.  Provide educational materials or preliminary advice (e.g., pelvic floor exercises).</p> <p><b>3. Record documentation</b>  Ensure all findings and patient feedback are documented in detail.  The students will be able to effectively perform an assessment of urinary incontinence in an older adult during a practical exam.  The total duration of the activity is 1 hour.</p>
NLHP 10.9	Survey of nutrition assessment of older people with or without systemic illness in nearby locality of your college.	<p>The teacher will guide students in conducting field visits to survey the nutrition assessment of older individuals.</p> <p>Activity plan: Nutrition assessment survey  Objective: Conduct a nutrition assessment survey of older people in a nearby locality and submit findings.  Preparation (20 minutes)</p> <p><b>1. Create a nutrition assessment question template (10 minutes)</b>  Prepare a concise template with clear and relevant questions, such as:  age, gender, weight, height, and any chronic conditions.  Dietary habits (Meals per day, types of food, frequency of certain foods).  Access to and affordability of nutritious food.  Any self-reported nutrition-related issues or concerns.  Ensure questions are simple, easy to understand, and brief.</p> <p><b>2. group and role allocation (10 minutes)</b>  Divide students into groups or assign roles (If individual work is an option).</p>

Explain the survey process and distribute question templates to the students.  
 Practical survey execution (90 minutes)  
 Visit locality and conduct survey (70 minutes)  
**1.Obtain permission from local authority (5-10 minutes)**  
 one group or team leader communicates with the local authority to explain the purpose of the survey and obtains permission.  
**2.Conduct the survey (60 minutes)**  
 Students interview older people using the prepared question template.  
 Ensure all interactions are respectful and brief to maximize the number of participants surveyed.  
**3.Data compilation and initial observations (10 minutes)**  
 Gather all completed templates.  
 Briefly discuss observations and key findings within the group.  
 Wrap-up and reporting (10 minutes)  
 Submit findings: Compile survey data into a brief report or summary document.  
 Include the following:  
 Number of participants.  
 Key trends or issues identified.  
 Any recommendations or notable observations.  
 Hand over the report to the designated authority by the end of the second term.  
 Key points for efficiency:  
 Use pre-printed templates for faster data collection.  
 Keep the survey team small and organized.  
 Focus on collecting quality responses over quantity.  
 The students will be able to conduct field visits and carry out a practical survey to assess the nutritional status of older individuals.  
 The total duration of the activity is 2 hours.

**Topic 11 INTRODUCTION TO ORTHOPAEDICS (LH :12 NLHT: 4 NLHP: 12)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5		CK	MK	K	L,L&G	QZ ,VV-	F&S		-	LH

	Define orthopaedics and list the common terminologies used in orthopaedics.				D	Viva,WP				
CO5	Define and discuss the aetiology and explain the clinical features of Congenital talipes equinovarus, Winging of scapula and Sprengel shoulder	CC	MK	K	L&PPT	QZ ,VV-Viva	F&S		-	LH
CO5	Define Osteogenesis imperfecta and explain the aetiology and clinical features of osteogenesis imperfecta.	CC	DK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define and describe the aetiology and clinical features of Neurofibromatosis.	CC	NK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define and explain the mode of spread, involvement of metaphysis, and classification of osteomyelitis.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Describe the aetiology, pathophysiology, clinical features, investigations, differential diagnosis, conservative treatment, and complications of Acute osteomyelitis.	CAP	DK	KH	CBL,X-Ray,L&PPT	CL-PR,CB A,PRN	F&S		-	NLHT11.1
CO5	Enlist the Cierny-mader classification of chronic osteomyelitis.	CC	MK	K	L	VV-Viva, WP,QZ	F&S		-	LH
CO5	Define Brodie's abscess and explain its aetiology, clinical presentation and radiograph.	CC	MK	K	X-Ray, L&PPT	CBA	F&S		-	LH
CO5	Define Tuberculosis of the spine. and distinguish the sites of the lesion, pathology, clinical features, physical findings, investigation, radiographs, and differential diagnosis.	CC	MK	KH	X-Ray, L&GD, L&PPT	T-CS	F&S		-	NLHT11.2
CO5	Describe the definition, pathogenesis, clinical features, deformities, and stages, as well as the investigations of Tuberculosis of the hip joint.	CC	DK	KH	X-Ray, L&PPT	S-LAQ,COM	F&S		-	LH
CO5	Discuss the definition, pathology, clinical features, investigations,	CC	DK	KH	L&PPT	CBA	F&S		-	LH

	differential diagnosis, and conservative management of Tuberculosis of the knee joint.				,X-Ray					
CO5	Define and describe the aetiology, pathophysiology, clinical features, classification, investigation, radiological features and conservative treatment of Rickets.	CC	MK	KH	X-Ray, L&PPT	C-VC,CL-PR,QZ,PUZ	F&S		-	NLHT11.3
CO5	Define and describe the aetiology, pathology, clinical features, investigation, radiograph, differential diagnosis, and complications of Scurvy and Osteomalacia.	CC	MK	K	L&PPT, X-Ray	WP,VV-Viva,M-POS,PUZ	F&S		-	LH
CO5	Define osteoporosis and list the types, causes, risk factors, clinical features, investigations, conservative management of osteoporosis and prevention of osteoporotic fractures.	CC	NK	KH	L&PPT, X-Ray, L_VC	CBA	F&S		-	NLHT11.4
CO5	Define and explain the aetiopathology, clinical features, radiological features, investigations and complications of Paget's disease.	CC	MK	KH	L&PPT	CBA,VV-Viva	F&S		-	LH
CO5	Describe the definition, causes, clinical features and investigations of Acromegaly.	CC	MK	K	L&PPT	VV-Viva,T-CS	F&S		-	LH
CO5, CO7	Observe the basic history taking and common complaints in orthopaedics cases.	PSY-GUD	DK	KH	CBL,D	CBA,P-EXAM,P-CASE	F		-	NLHP11.1
CO5, CO7	Demonstrate by hands-on training of General joint examination	PSY-GUD	MK	SH	D-BED, L_VC,CBL	CBA,P-EXAM,P-CASE	F&S		-	NLHP11.2
CO5, CO7	Evaluate the given patient for clinical case writing of orthopaedic disease.	CS	MK	SH	D-BED, CBL	P-EXAM,P-CASE,OSCE	F&S		-	NLHP11.3
CO5,	Perform field visits to traditional and modern orthopedic hospitals	PSY-	MK	KH	FV	TR,P-PRF	F&S		-	NLHP11.4

CO7 | to handle various orthopedic conditions.

GUD

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 11.1	Acute Osteomyelitis	<p>The teacher will explain Acute osteomyelitis by using a lecture with Powerpoint presentation, case-based learning, and x-ray identification.</p> <p><b>1. Powerpoint presentation</b> This provides an overview of the topic with visuals, diagrams, and structured content. Slide Structure: 1.Introduction Definition of acute osteomyelitis Importance of early diagnosis and management 2.Aetiology 3.Pathophysiology 4.Clinical features 5.Investigations 6.Differential diagnosis 7.Conservative treatment 8.Complications 9.Conclusion &amp; key takeaways</p> <p><b>2. Case-based learning (CBL)</b> A patient case helps students apply their knowledge practically.</p> <p><b>3. X-ray identification (Radiology session)</b> Teach students to identify early vs late radiographic signs of osteomyelitis. The students will perform each step of the assessment activity through a presentation, class presentation and case-based assessment activity on Acute osteomyelitis</p>
NLHT 11.2	Spinal tuberculosis (Pott's disease)	<p>The teacher will explain tuberculosis of spine through lecture with Powerpoint presentations, lecture, group discussions and x-ray identification.</p>

## **1. Lecture with powerpoint presentation**

Slide Breakdown:

Slide 1: Title

Title: "Tuberculosis of the Spine: definition, pathology, and diagnosis"

Brief Introduction: overview of the importance of understanding spinal tuberculosis.

Slide 2: Definition

Slide 3: Sites of lesion

Slide 4: Pathology

Slide 5: Clinical feature

Slide 6: Physical findings

Slide 7: Investigation

Slide 8: Radiographs.

Slide 9: Differential diagnosis.

## **2. Group discussion approach**

Structure for Group discussion:

Group formation: Divide students into smaller groups (3-4 per group).

Discussion Topic 1: Clinical presentation

Ask the groups to discuss the typical clinical features and physical signs of spinal tuberculosis.

Encourage the group to reflect on how these features can overlap with other spinal conditions.

Discussion Topic 2: Diagnostic challenges

Challenge the groups to consider diagnostic difficulties and the importance of distinguishing tuberculosis from other spinal conditions (e.g., pyogenic infections, malignancies).

Encourage them to consider radiographic findings and how they help confirm the diagnosis.

Discussion Topic 3: Treatment approaches

Discuss the treatment options for spinal tuberculosis, emphasizing the importance of anti-tubercular therapy and the potential need for surgery.

Ask students to explore complications and management strategies for advanced disease, including neurological impairment and spinal deformities.

Conclusion of discussion:

Summarize the key takeaways from each group.

Emphasize the importance of early recognition and comprehensive management in improving patient outcomes.



		<p>The students will perform each step of the assessment activity through a Theory case study on tuberculosis of the spine:</p> <p><b>Assessment Outline</b></p> <ol style="list-style-type: none"> <li>1. Define and distinguish sites of lesion</li> <li>2. Pathology</li> <li>3. Clinical features</li> <li>4. Physical findings</li> <li>5. Investigations</li> <li>6. Radiographs</li> <li>7. Differential diagnosis</li> </ol>
NLHT 11.3	Rickets	<p>The teacher will explain rickets by using a lecture with PowerPoint presentation, x-ray identification.</p> <p>Slide 1: Title slide</p> <p>Slide 2: Introduction</p> <p>Brief overview of rickets as a disease affecting bone mineralization, typically in children.</p> <p>Significance of understanding rickets in paediatric healthcare.</p> <p>Slide 3: Aetiology</p> <p>Slide 4: Pathophysiology of Rickets</p> <p>Slide 5: Clinical features of Rickets</p> <p>Slide 6: Classification of Rickets</p> <p>Slide 7: Investigations for Rickets</p> <p>Slide 8: Radiological Features</p> <p>Slide 9: Conservative treatment of Rickets</p> <p>Slide 10: References</p> <p>The students will perform each step of the assessment activity through quiz, puzzles, class presentation, and clinical video cases on Rickets.</p> <p>Materials needed</p> <p>Slides for the class presentation.</p> <p>Clinical video cases</p> <p>Quiz handouts or online quiz platform.</p>

NLHT 11.4	Osteoporosis	<p>The teacher will explain osteoporosis by using a lecture with Powerpoint presentation, a lecture with video clips, and x-ray identification.</p> <p>Slide 1: Title slide  Title: osteoporosis: overview, diagnosis, and management  Subtitle: A Comprehensive guide on osteoporosis and fracture prevention</p> <p>Slide 2: Introduction  Introduction to osteoporosis  Briefly define osteoporosis: A condition characterized by weakened bones and an increased risk of fractures.  Importance of understanding osteoporosis for early detection and effective management.  Video Clip: A short animation or explanation of bone density loss.</p> <p>Slide 3: What is Osteoporosis?  Definition  Effect on bones  Video clip</p> <p>Slide 4: Types of osteoporosis  Slide 5: Causes of osteoporosis  Slide 6: Risk factors for osteoporosis  Slide 7: Clinical features of osteoporosis:  Video Clip: Animation showing typical fractures associated with osteoporosis.</p> <p>Slide 8: Investigations for osteoporosis  Slide 9: Conservative management of osteoporosis  Slide 10: Prevention of osteoporotic fractures</p> <p>Students will perform each step of the assessment activity through a Case-based assessment of osteoporosis.</p> <p>Instructions for students:  Read the provided case scenario carefully.  Address the following questions based on the scenario and your knowledge.  Include detailed explanations supported by evidence, where applicable.</p> <p>Tasks for students:  1. Define osteoporosis  Write a brief definition of osteoporosis.</p>
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		<p>Highlight its impact on bone health and fragility.</p> <p>2. List the types of osteoporosis Identify the primary and secondary forms. Provide examples of conditions leading to secondary osteoporosis.</p> <p>3. Identify causes and risk Factors Analyse the risk factors (e.g., age, lifestyle). List general causes of osteoporosis (both modifiable and non-modifiable).</p> <p>4. Discuss the clinical features Identify symptoms and signs of osteoporosis. Explain potential complications.</p> <p>5. Explain the investigations Discuss the importance of the DXA (Dual-energy X-ray Absorptiometry) scan and interpreting the T-score. List other diagnostic tests and biomarkers useful for osteoporosis evaluation.</p> <p>6. Conservative management of osteoporosis Suggest non-pharmacological interventions Dietary recommendations. Exercise modifications. Lifestyle changes.</p> <p>7. Prevention of Osteoporotic Fractures Discuss strategies to prevent fractures in at-risk individuals. Highlight fall prevention techniques.</p>
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**Non Lecture Hour Practical**

<b>S.No</b>	<b>Name of Practical</b>	<b>Description of Practical Activity</b>
NLHP 11.1	Basics of history taking and common complaints in orthopaedics.	<p>The teacher will guide students in performing and observing basic history taking and common complaints in orthopaedic cases through case-based learning and demonstrations.</p> <p><b>1. Preparation for History Taking</b> Time allocation: 30 minutes 1.Set Up the environment (10 minutes):</p>

Ensure the room is quiet, private, and comfortable for the patient.

Have all necessary materials, such as a notepad, pen, and patient chart.

2. Introduce yourself (5 minutes):

Greet the patient warmly.

Explain the purpose of the history-taking session.

Obtain informed consent for the session, reassuring the patient about confidentiality.

3. Build rapport (15 minutes):

Begin with open-ended questions to make the patient comfortable.

Encourage the patient to speak freely without interruptions.

Maintain an empathetic and non-judgmental demeanour.

## **2. Analyze demographic data, complaints, duration, history, and vitals**

Time allocation: 1 hour

1. Demographic data (10 minutes):

Confirm the patient's name, age, gender, occupation, and contact details.

Note relevant social, cultural, and lifestyle factors.

2. Chief complaints (15 minutes):

Document the patient's primary concerns in their own words.

Ask follow-up questions to clarify the nature, location, and severity of the complaints.

3. History of present illness (20 minutes):

Explore the timeline of the condition (onset, progression, duration).

Investigate associated symptoms and any triggering or relieving factors.

4. Vitals assessment (15 minutes):

Record vital signs: temperature, pulse, respiration rate, blood pressure, and oxygen saturation.

Note any abnormalities or patterns.

## **3. Assess the history and complaints in orthopaedics**

Time allocation: 1.5 hours

1. Focused orthopaedic history (50 minutes):

Inquire about pain: location, quality (sharp, dull), intensity (scale of 1–10), and radiation.

Investigate functional limitations: difficulty in movement, reduced range of motion.

Check for a history of trauma, fractures, or surgeries related to the musculoskeletal system.

Ask about systemic symptoms: fever, weight loss, or night sweats.

2. Past medical and family history (20 minutes):

		<p>Record previous illnesses, surgeries, or hospitalizations.  Explore family history for hereditary orthopaedic conditions.  3.Lifestyle and social history (20 minutes):  Discuss physical activity, occupational stress, or repetitive motions.  Note habits such as smoking, alcohol use, or diet impacting bone health.  Time for review and documentation  Remaining time: 30 minutes  Summarize the findings clearly and systematically.  Review the patient’s history for completeness and accuracy.  Prepare a concise report for further evaluation or discussion.  The students will be able to perform basic history taking and identify, common complaints in orthopaedic cases through practical exams, practical case-taking exercises, and case-based assessments.  The total duration of the activity is 3 hours.</p>
NLHP 11.2	General examination of the joints	<p>The teacher will guide students through hands-on training in General Joint Examination, utilizing a combination of lectures, video clips, case-based learning, and bedside demonstrations to facilitate learning General joint examination .  Steps:  <b>Phase 1: Preparation (30 minutes)</b>  Introduction (5 minutes):  Greet the patient and establish rapport.  Explain the procedure and purpose of the examination.  Preparation (10 minutes):  Ensure the patient is comfortably seated or lying in a well-lit, private area.  Gather necessary materials: gloves, goniometer, stethoscope, notebook, and pen for notes.  Basic checks (15 minutes): Verify the patient’s identity.  Obtain informed consent for the examination.  Ensure proper attire for easy joint access.  <b>Phase 2: Data collection and analysis (60 minutes)</b>  Demographics and complaints (15 minutes):</p>

Record age, sex, occupation, and lifestyle.  
Note presenting complaints (e.g., pain, stiffness, swelling) and duration.  
History taking (20 minutes):  
Past medical history: prior injuries, surgeries, or conditions (e.g., arthritis).  
Family history: genetic predispositions to joint diseases.  
Current medications and any known allergies.  
Vitals and general examination (25 minutes):  
Check vitals: blood pressure, heart rate, respiratory rate, temperature.  
Observe general health indicators: skin condition, posture, and gait.  
Phase 3: General joint examination (90 minutes)  
Inspection (30 minutes):  
Observe for swelling, redness, deformities, or asymmetry.  
Assess joint alignment and muscle bulk.  
Palpation (20 minutes):  
Feel for tenderness, warmth, and crepitus in each joint.  
Examine skin temperature and localized swelling.  
Range of motion (20 minutes):  
Evaluate active and passive range of motion for major joints (shoulder, elbow, wrist, hip, knee, ankle).  
Use a goniometer if necessary for precise measurements.  
Special tests (20 minutes):  
Perform specific tests for stability, strength, and function of joints (e.g., drawer test, McMurray test).  
Phase 4: Conclusion (30 minutes)  
Summary and discussion (15 minutes):  
Summarize findings with the patient.  
Answer any questions or address concerns.  
Documentation (10 minutes):  
Record detailed observations and test results.  
Plan follow-up (5 minutes):  
Advise on the next steps, including referrals, imaging, or therapy if needed.  
The students will be able to demonstrate their skills in the General joint examination through hands-on training, practical exams, practical case-taking, and case-based assessments.  
The total duration of the activity is 3 hours.

NLHP 11.3	Clinical case writing and presentation of orthopaedic disease.	<p>The teacher will guide students in evaluating a given patient for an orthopaedic Clinical case through case-based learning and bedside demonstrations.</p> <p><b>Preparation for Clinical examination (10 minutes)</b>  Ensure the patient is comfortable and briefed about the process.  Gather necessary tools and documentation materials.</p> <p><b>Analysis of demographics and history (20 minutes)</b>  Record demographic data (age, gender, occupation, etc.).  Discuss complaints, their duration, and detailed medical history.  Note vital signs (pulse, blood pressure, temperature, respiratory rate).</p> <p><b>General and systemic examination (30 minutes)</b>  Conduct a general physical examination (e.g., appearance, hydration, consciousness).  Perform a systemic examination covering all major systems (cardiovascular, respiratory, gastrointestinal, etc.).</p> <p><b>Assessment using siddha and modern concepts (20 minutes)</b>  Evaluate findings through the lens of siddha principles (e.g., <i>body constitution, pulse diagnosis</i>).  Cross-reference with modern medical paradigms for correlation.</p> <p><b>Clinical Investigation and interpretation (30 minutes)</b>  Order relevant investigations (lab tests, imaging).  Interpret findings in the context of clinical examination.</p> <p><b>Diagnosis and documentation (20 minutes)</b>  Use differential diagnosis to identify the most probable condition.  Document findings comprehensively.</p> <p><b>Treatment Plan (20 minutes)</b>  Prescribe a treatment plan following Siddha guidelines.  Consider modern treatments if applicable.</p> <p><b>Patient counselling and follow-Up Plan (20 minutes)</b>  Explain the diagnosis and treatment to the patient.  Provide instructions for lifestyle changes, medications, and follow-up visits.</p> <p>The students will be able to perform and evaluate the clinical assessment of a patient presenting with orthopaedic disease through practical exams, case taking, and OSCE (objective structured clinical examination).</p>
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		The total duration of the activity is 3 hours.
NLHP 11.4	Field visit to orthopaedic traditional Hospital and modern Hospital.	<p>The teacher will guide students in conducting field visits to both traditional and modern orthopaedic hospitals, where they will have the opportunity to observe and handle various orthopaedic conditions.</p> <p>Preparation (Before the Visit)</p> <p>Choose Hospitals:  Select one nearby Siddha hospital and one modern hospital (orthopaedic specialists).  Confirm that both facilities handle bone and joint diseases.</p> <p>Seek Permission:  Contact the hospitals in advance to explain the purpose of the visit.  Request permission to observe their methods, ensuring confidentiality where needed.</p> <p>Group Formation:  Divide students into small groups for better engagement.  Assign roles (e.g., note-taker, observer, and question facilitator).</p> <p>Visit Schedule:</p> <p><b>Part 1: Traditional Hospital (1 Hour)</b>  Introduction (10 minutes): Meet the practitioner and get an overview of their approach to orthopaedic care.  Observation &amp; Interaction (30 minutes):  Observe treatments, techniques, or consultations.  Ask questions about patient assessment and treatment outcomes.  Documentation (20 minutes):  Groups record detailed observations and responses.</p> <p><b>Part 2: Modern Hospital (1 Hour)</b>  Introduction (10 minutes): Meet the orthopaedic specialist and understand their approach.  Observation &amp; Interaction (30 minutes):  Observe methods such as X-rays, surgical planning, or physiotherapy sessions.  Discuss advancements like joint replacements or minimally invasive surgery.  Documentation (20 minutes):  Groups record observations, noting the differences from traditional methods. (Siddha)</p> <p><b>Post-Visit Discussions &amp; Assignment (1 Hour)</b></p>



1.Group Discussion (30 minutes)  
 Compare Siddha vs. modern approaches.  
 Share observations, highlighting the pros and cons of each method.

2.Assignment Instructions (10 minutes)  
 Each group drafts a report including:  
 Overview of the traditional and modern hospital visits.  
 Differences in patient assessment, treatment techniques, and outcomes.  
 Suggestions or reflections on combining the strengths of both methods.

3.Wrap-Up (20 minutes)  
 Submit individual/group reports for evaluation.  
 The students will be able to perform field visits to both traditional and modern orthopaedic hospitals, gaining hands-on experience in handling various orthopaedic conditions. This learning is assessed through practical performance, with feedback provided via trainers' reports to track progress and outcomes.  
 The total duration of the activity is 3 hours.

**Topic 12 DISEASES OF THE BONES AND JOINTS (LH :9 NLHT: 4 NLHP: 14)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Define and describe the aetiology, pathology, clinical features, radiological features, and investigation of Gonococcal arthritis, Syphilitic arthritis, and Rheumatic arthritis.	CC	NK	K	L&PPT	S-LAQ	F&S		-	LH
CO5	Define and describe the aetiology, pathology, clinical features, orthopaedic deformities, investigation, radiological features, differential diagnosis, conservative management and siddha aspect of treatment of Rheumatoid arthritis.	CAP	MK	KH	X-Ray, L&GD, CBL	CBA,CL-PR	F&S		-	NLHT12.1
CO5	Define ankylosing spondylitis and explain its causes, pathology, clinical features, differential diagnosis, investigations, management and Siddha aspect of treatment.	CAP	MK	KH	L&PPT	CL-PR	F&S		-	LH

CO5	Define monosodium urate arthropathy (gout) and describe the sites, aetiopathology, clinical features, investigation, radiological findings, management and siddha aspect of treatment.	CAP	MK	KH	X-Ray, CBL,L &PPT	CL-PR	F&S		-	LH
CO5	Define Osteoarthritis and describe the contributing factors, groups, pathology, clinical features, radiological features, differential diagnosis and siddha aspect of treatment.	CAP	MK	KH	X-Ray, CD,CB L,L&PPT	CL-PR,T-CS,OSCE	F&S		-	NLHT12.2
CO5	Define Osteoarthritis of the knee and describe the types, pathology, and clinical features, including criteria, classification (American College of Rheumatology), investigation, kellegren and Lawrence radiological grading, differential diagnosis, and conservative management. Explain the aetiology, Types, clinical features, radiological features, and conservative management of Osteoarthritis of the hip joint.	CC	MK	K	L&PPT ,X-Ray	OSCE,VV-Viva,CBA	F&S		-	LH
CO5	Define osteochondritis and explain the classification of osteochondritis.	CK	DK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define and describe the classification and diagnosis of tumours of bone. Define and describe the clinical features, radiological features, histological features and treatment of Osteoblastoma.	CK	DK	K	L&PPT ,L&GD	M-POS,VV-Viva	F&S		-	LH
CO5	Define osteochondroma and describe the site of involvement, pathogenesis, clinical features, complication and radiological findings.	CK	DK	KH	L&PPT ,TBL	VV-Viva	F&S		-	NLHT12.3
CO5	Describe the definition, pathology, classification, clinical features, radiological features and laboratory findings of Osteosarcoma	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define Giant cell tumour and describe the sites, pathology, clinical features, radiological feature and differential diagnosis.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH

CO5	Describe the definition, pathology, clinical features, and radiological features of Ewing sarcoma.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Explain the sites, mode of spread, clinical features, radiological features, and laboratory findings of bone metastasis.	CC	MK	KH	TBL	M-CHT	F&S		-	NLHT12.4
CO5, CO7	Demonstration by hands-on training of hip joint examination.	PSY-GUD	DK	SH	CBL,D-BED,L_V C	P-EXAM,P-CASE,OSCE	F&S		-	NLHP12.1
CO5	Demonstration by hands-on training of knee joint examination.	PSY-GUD	MK	SH	D-BED, CBL	CBA,P-CA SE,P-EXAM	F&S		-	NLHP12.2
CO5, CO7	Evaluate the given patient for clinical case writing and case presentation of orthopaedic disease.	CS	MK	SH	D-BED, CBL	OSCE,P-EXAM,P-CASE	F&S		-	NLHP12.3

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 12.1	Rheumatoid arthritis (RA)	<p>The teacher will explain Rheumatoid Arthritis (RA) using a lecturer and group discussion and case-based learning (CBL) and x-ray identification.</p> <p><b>1.Definition and description:</b> Lecturer presentation:Begin with a lecture that defines RA as a chronic, systemic autoimmune disease primarily affecting the joints, leading to inflammation, pain, and eventual joint destruction. Group discussion:Ask students to discuss the common symptoms they associate with joint disease and identify the possible systemic effects of RA.</p> <p><b>2.Aetiology:</b> Lecturer presentation:Explain the multifactorial nature of RA, including genetic factors (e.g., HLA-DR4 allele), environmental triggers (e.g., infections, smoking), and immune system dysfunction. Case-based learning:Present a case of an individual with RA and ask the students to hypothesize possible triggers based on the patient's history (e.g., smoking or genetic background).</p>

### **3.Pathology:**

Lecturer presentation:Describe the pathology of RA, focusing on the inflammation of the synovial membrane, pannus formation, and subsequent joint damage.

Group discussion: Prompt students to discuss how inflammation affects cartilage and bone. Ask how this might explain the joint deformities seen in RA.

### **4.Clinical features:**

Lecturer presentation:Discuss the common symptoms, including symmetrical joint pain, swelling, morning stiffness, fatigue, and systemic involvement like rheumatoid nodules and vasculitis.

Group discussion:Divide students into small groups and ask them to list signs and symptoms of RA from a given case. Have them present their findings and discuss how these signs correlate with the disease process.

### **5.Orthopaedic deformities:**

Lecturer presentation:Explain common deformities such as ulnar deviation, boutonnière deformity, and swan-neck deformity, due to joint destruction and tendon damage.

Case-based learning:Show radiological images of deformed hands and ask students to identify the deformities. Discuss how these deformities impact function and quality of life.

### **6.Investigations:**

Lecturer presentation:Outline the key investigations for RA,including:

Blood tests:Rheumatoid factor (RF), Anti-cyclic citrullinated peptide (Anti-CCP), ESR, and CRP.

Imaging:X-rays(for joint damage),ultrasound,MRI(for early detection of synovitis).

Group discussion:Provide students with clinical vignettes that require interpretation of lab results and imaging. Discuss the importance of early detection and monitoring disease progression.

### **7.Radiological features:**

Lecturer presentation: Describe characteristic findings in X-rays and other imaging modalities, such as joint space narrowing, periarticular osteopenia, erosions, and soft tissue swelling.

Case-based learning: Present images of joints with different degrees of RA involvement and ask the group to assess and discuss the radiological features.

### **8.Differential diagnosis:**

Lecturer presentation: Discuss conditions that can mimic RA, such as osteoarthritis, lupus, psoriatic arthritis, and gout.

Group discussion: Present cases of joint pain and inflammation and ask students to list differential diagnoses. Discuss how specific clinical, laboratory, and imaging findings help differentiate RA from

		<p>these conditions.</p> <p><b>9.Conservative management:</b>  Lecturer presentation: Discuss non-pharmacological approaches such as:  Physical therapy: Exercises to maintain joint function and prevent deformities.  Occupational therapy: Adaptive strategies to minimize joint strain.  Diet and lifestyle changes: Anti-inflammatory diets, smoking cessation.  Group discussion: Discuss the role of patient education in managing RA. How can lifestyle changes contribute to disease management?</p> <p><b>10.Siddha aspect of treatment</b>  Students will perform each step of the assessment activity through a case-based assessment and class presentation on Rheumatoid Arthritis(RA).</p>
NLHT 12.2	Osteoarthritis (OA)	<p>The teacher will explain osteoarthritis by using lecture with Powerpoint presentation, case-based learning, x-ray identification and case diagnosis.</p> <p>Powerpoint presentation structure</p> <p><b>Slide 1: Title slide</b>  Title: Understanding osteoarthritis: pathophysiology, diagnosis, and treatment  Subtitle: Case-based learning approach</p> <p><b>Slide 2: Introduction to osteoarthritis (OA)</b>  Definition  Prevalence</p> <p><b>Slide 3: Case study introduction</b>  Case  Patient Profile  Symptoms  Discussion: What do we suspect? (Introduce the topic of OA through a real-life case).</p> <p><b>Slide 4: Contributing factors to osteoarthritis</b>  <b>Slide 5: Groups affected by OA</b>  <b>Slide 6: Pathology of osteoarthritis</b>  <b>Slide 7: Clinical features</b>  <b>Slide 8: Radiological features</b></p>

		<p><b>Slide 9: Differential diagnosis</b>  Case-based learning activity:  Ask students to diagnose the patient in the case study using these features.</p> <p><b>Slide 10: Siddha medicine perspective on OA treatment</b>  Siddha aspect:  Based on the concept of the three humors (Vata, Pitta, Kapha) and the balance of elements in the body.  Pathophysiology in siddha  Treatment approaches:</p> <p><b>Slide 11: Case discussion</b></p> <p><b>Slide 12: References</b>  The students will perform each step of the assessment activity through osce, theory case study, class presentation on osteoarthritis.  Class presentation plan</p> <ol style="list-style-type: none"> <li>1. Introduction to osteoarthritis</li> <li>2. Factors responsible for osteoarthritis</li> <li>3. Groups affected</li> <li>4. Pathology of osteoarthritis</li> <li>5. Clinical features</li> <li>6. Radiological features</li> <li>7. Differential diagnosis</li> <li>8. Siddha aspect of treatment</li> </ol> <p>Assessment activity: OSCE stations  Station 1: Identify radiological features of OA from X-rays.  Station 2: Perform a clinical examination of a simulated patient with OA (focus on joint palpation and range of motion).  Station 3: Discuss the differential diagnosis of a patient with knee pain.  Station 4: Suggest Siddha treatment approaches for managing OA symptoms.  Station 5: Explain lifestyle modifications for a patient to prevent OA progression.</p>
NLHT 12.3	Osteochondroma	The teacher will explain an osteochondroma using lecture with power point presentation and the team-based learning method.

		<p><b>Slide 1: Title slide</b>  Title: Osteochondroma: pathogenesis, clinical Features, complications, and radiological findings  Subtitle: Team-based learning (TBL) approach</p> <p><b>Slide 2: Objectives</b>  Define osteochondroma.  Identify the site of involvement.  Understand the pathogenesis of osteochondroma.  Recognize clinical features and complications.  Review radiological findings.  Team activity: Apply knowledge in clinical scenarios.</p> <p><b>Slide 3: Definition of osteochondroma</b>  What is osteochondroma?</p> <p><b>Slide 4: Sites of involvement</b></p> <p><b>Slide 5: Pathogenesis</b></p> <p><b>Slide 6: Clinical features</b></p> <p><b>Slide 7: Complications</b></p> <p><b>Slide 8: Radiological findings</b></p> <p><b>Slide 9: Team-based learning activity</b>  Group discussion: Discuss symptoms, diagnosis, and management and consider complications like malignancy or nerve compression.  Outcome: Osteochondroma diagnosis</p> <p><b>Slide 10: Management</b></p> <p><b>Slide 11: References</b>  The students will perform each step of the assessment activity through a viva voce on osteochondroma.</p>
NLHT 12.4	Bone metastasis	<p>The teacher will explain bone metastasis through Team-based learning (TBL) learning method.</p> <p><b>1. Pre-class preparation</b>  Assigned readings: Before the class, provide students with materials (articles, textbooks, or online resources) about bone metastasis. This could include basic information about the pathophysiology, clinical presentation, and diagnostic approaches.  Study Questions: Provide some specific questions to guide their study</p>

## **2. In-class activities**

### **Phase 1: Individual readiness assurance test (iRAT)**

Each student completes a short quiz individually based on the pre-class readings. The quiz could include questions such as:

Sites of Bone metastasis: What are the common cancers that metastasize to bones?

Mode of spread: How does cancer spread to bones?

Clinical features: What symptoms are commonly associated with bone metastasis?

Radiological features: What do X-rays, CT scans, and MRI scans reveal about bone metastasis?

Laboratory findings: Which blood tests and biomarkers are important in diagnosing bone metastasis?

### **Phase 2: Team readiness assurance test (tRAT)**

After the individual test, students work in small groups to discuss the same set of questions. They compare answers and resolve any disagreements, using their knowledge and resources.

Encourage the groups to collaborate and come to a consensus. If there are discrepancies, provide explanations and clarifications.

Discuss common misconceptions about bone metastasis.

### **Phase 3: Application exercise**

Provide case-based scenarios or clinical vignettes to the teams, where they need to apply their knowledge.

Each team will discuss the case, interpret the clinical, radiological, and laboratory findings, and present their diagnosis and management plan.

### **Phase 4: Instructor feedback and discussion**

After the teams present their findings, the instructor provides feedback. This includes a review of correct and incorrect answers, clarification of important concepts, and answers to any remaining questions.

Review clinical features

Review radiological features

Discuss laboratory findings

Students will perform each step of the assessment activity through a making of charts on bone metastasis:

Instructions for students:

#### **1.Group Work or individual task**

Work individually or in small groups (as instructed).



		<p>You will research and organize your findings into a detailed chart.</p> <p><b>2.Chart categories:</b>          Create a chart with the following headings:          Common sites: Bones commonly affected by metastasis (e.g., spine, pelvis, ribs, etc.).          Mode of spread: Mechanisms such as hematogenous, lymphatic, or direct invasion.          Clinical features: Symptoms experienced by patients, e.g., bone pain, pathological fractures, or hypercalcemia.          Radiological features: Imaging findings like osteolytic lesions, osteoblastic lesions, or mixed patterns.          Laboratory findings: Key tests and results, such as elevated alkaline phosphatase, calcium levels, or tumour markers.</p> <p><b>3.Sources:</b>          Use textbooks, lecture notes, and reliable online resources for accurate information.</p> <p><b>4.Design requirements:</b>          The chart should be clear and visually organized (table, infographic, or flowchart format).          Include concise and accurate points under each heading.          Use colour coding or symbols to differentiate osteolytic and osteoblastic metastases if applicable.</p> <p><b>5.Presentation:</b>          Be prepared to present your chart to the class.          Discuss one or two significant findings under each category during your presentation.</p>
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**Non Lecture Hour Practical**

S.No	Name of Practical	Description of Practical Activity
NLHP 12.1	Examination of hip joint	<p>The teacher will guide students through a hands-on training session on hip joint examination. This will include lectures with video clips, case-based learning, and bedside demonstrations to ensure a comprehensive understanding of the procedure.</p> <p><b>Step 1: Prepare the patient (Duration: 30 minutes)</b>            Ensure the patient is comfortable and ready for the examination.            Introduction and explanation (5 minutes):            Greet the patient and introduce yourself.            Explain the purpose of the examination and the steps involved.</p>

Address any questions or concerns the patient may have.

Preparation (10 minutes):

Confirm the patient's identity and gather relevant consent.

Ask the patient to wear appropriate clothing for ease of access to the hip area.

Ensure a comfortable and private examination environment.

Positioning (15 minutes):

Position the patient appropriately (e.g., lying flat on an examination table or standing, depending on the assessment phase).

Ensure proper lighting for visibility.

**Step 2: Analyse demographic data, complaints, and history (Duration: 45 minutes)**

Objective: Gather and record relevant clinical data.

Demographic data (10 minutes):

Record age, gender, occupation, and other relevant information.

Note any factors such as lifestyle or sports activities that might impact the hip joint.

Chief complaints and duration (10 minutes):

Document the primary issues, such as pain, stiffness, or limited mobility.

Determine the duration, progression, and aggravating or relieving factors.

Patient history (15 minutes):

Obtain details of prior injuries, surgeries, or conditions affecting the hip or adjacent areas.

Review systemic conditions (e.g., arthritis, infections, or metabolic disorders).

Vital signs assessment (10 minutes):

Measure and record blood pressure, heart rate, respiratory rate, and temperature.

**Step 3: Conduct the hip joint examination (Duration: 1 hour 30 minutes)**

Objective: Perform a systematic examination of the hip joint.

**Inspection (15 minutes):**

Observe the hip for swelling, redness, asymmetry, or deformities.

Assess posture, gait, and alignment during movement.

**Palpation (15 minutes):**

Feel for tenderness, warmth, or swelling in the hip and surrounding areas.

Palpate bony landmarks such as the iliac crest, greater trochanter, and pubic symphysis.

**Range of motion (ROM) assessment (20 minutes):**

Evaluate active and passive movements (flexion, extension, abduction, adduction, and rotation).

		<p>Compare ROM bilaterally for abnormalities.</p> <p><b>Special tests (30 minutes):</b>  Perform tests to identify specific conditions (e.g., Trendelenburg test for hip stability, FABER test for joint issues, or impingement tests for labral tears).  Note any pain, limitations, or abnormal findings.</p> <p><b>Wrap-Up and documentation (Duration: 15 minutes)</b>  Summarize the findings with the patient.  Document all observations, tests, and results systematically.  Discuss the next steps, such as imaging or referral, if needed.  The students will be able to demonstrate their proficiency in hip joint examination through hands-on training, which includes practical exams, practical case-taking, and objective structured clinical examinations (OSCEs)."  The total duration of the activity is 3 hours</p>
NLHP 12.2	Examination of knee joint.	<p>The teacher will guide students through a hands-on training session on knee joint examination, utilizing case-based learning and bedside demonstrations.</p> <p><b>1. Preparation of the patient (30 minutes)</b>  Environment setup (10 minutes):  Ensure a clean, well-lit, and quiet examination area.  Arrange necessary equipment: examination table, gloves, measuring tape, goniometer, and any imaging or diagnostic tools.  Patient preparation (20 minutes):  Greet the patient and explain the procedure.  Obtain consent for the examination.  Ensure the patient is comfortably dressed in attire that allows easy access to the knee joint (e.g., shorts).  Position the patient in a relaxed state, either seated or lying down, depending on the examination phase.</p> <p><b>2. Collection and analysis of patient data (1 hour)</b>  Demographic data (10 minutes):  Record the patient's age, gender, occupation, and lifestyle factors.</p>

Chief complaints and duration (15 minutes):

Document the main issue (e.g., pain, swelling, instability).

Ask about the duration, progression, and any aggravating or relieving factors.

Medical history (20 minutes):

Inquire about past injuries, surgeries, or chronic conditions.

Note any family history of joint disorders.

Review current medications and allergies.

Vital signs (15 minutes):

Measure and record temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation.

Observe for systemic signs (e.g., fever, weight changes) that may influence the knee condition.

### **3.Knee joint examination (2 hours)**

Inspection (30 minutes):

Look for swelling, redness, deformity, or scars.

Observe the alignment and symmetry of both knees.

Palpation (20 minutes):

Check for warmth, tenderness, or effusion.

Palpate bony landmarks and soft tissues around the knee.

Range of motion (ROM) assessment (20 minutes):

Measure flexion, extension, and any restrictions using a goniometer.

Compare findings with the unaffected knee.

Stability and ligament testing (20 minutes):

Perform specialized tests such as lachman's test, anterior/posterior drawer test, and valgus/varus stress tests.

Functional assessment (30 minutes):

Evaluate gait and weight-bearing ability.

Conduct specific functional tests (e.g., squat, single-leg balance).

### **4.Summarization and discussion (30 minutes)**

Summarize findings and correlate them with the patient's history.

Discuss possible diagnoses and recommend further investigations or treatment options.

The students will be able to demonstrate proficiency in the knee joint examination through hands-on training. They will be assessed via practical exams, practical case-taking, and case-based assessments to ensure their understanding and skills.

		The total duration of the activity is 4 hours.
NLHP 12.3	Clinical case writing and case presentation of orthopaedic disease	<p>The teacher will guide students in performing and evaluating a given patient for clinical case writing and case presentation of orthopaedic diseases through case-based learning and bedside demonstrations.</p> <p><b>1. Prepare the patient for the clinical examination (30 minutes)</b>  Create a comfortable environment, and ensure the room is quiet, well-lit, and free from distractions.  Patient consent and privacy: Inform the patient about the process and ensure they are comfortable. Ask for their consent to perform the examination.  Patient positioning: Make sure the patient is seated or lying down comfortably, based on the examination requirements.  Collection of Initial Information: Briefly explain the clinical procedure, especially if any specific part of the exam involves discomfort or privacy concerns.</p> <p><b>2. Analyse demographic data, Complaints, duration, history, and vitals (60 minutes)</b>  Demographic data: Collect basic information such as age, gender, occupation, marital status, and medical history.  Chief complaints: Record the main symptoms (e.g., pain, fatigue, dizziness) that brought the patient to the clinic.  Duration and history of complaints: Ask about the onset, duration, progression, and intensity of the symptoms.  Past medical history: Collect relevant past medical conditions, surgeries, allergies, medications, family history, and lifestyle factors.  Vital signs: Measure and document vitals, including temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation.</p> <p><b>3. Perform the general and systemic examination of the patient (90 minutes)</b>  General examination: Observe the overall appearance, hygiene, posture, and demeanour of the patient. Check for signs of distress, malnutrition, or any other obvious abnormalities.  Systemic examination:  Head and neck: Examine the head, eyes, ears, nose, throat, and neck.  Cardiovascular: Auscultate the heart, check pulse, and assess peripheral circulation.  Respiratory: Check lung sounds, chest expansion, and oxygen saturation.  Abdominal: Palpate the abdomen and check for tenderness or enlargement.</p>

Musculoskeletal: Assess joint range of motion, muscle strength, and reflexes.

Neurological: Assess sensation, coordination, and mental status.

Skin: Inspect for rashes, bruises, or lesions.

Lymphatic: Check for lymph node enlargement.

#### **4. Assess the clinical examination in Siddha and modern concepts (60 minutes)**

Modern medicine perspective: Analyze the findings based on clinical guidelines, symptoms, and signs that correlate with possible diseases.

Siddha medicine perspective:

Determine the body constitution (Vatha, Pitha, Kaba) and imbalance.

Assess the three humors (Vatham, Pitham, Kabam) and their impact on the condition.

Consider the seven elements and pulse diagnosis to align with Siddha treatment.

Integrate clinical features in relation to Siddha physiology and psychology.

#### **5. Conduct the clinical investigation and interpretation (60 minutes)**

Blood Tests: Haemoglobin, RBC count, white blood cell count, etc.

Urine Tests: For renal function and possible infection.

Imaging: X-ray, ultrasound, CT scans, etc., based on the nature of complaints.

Special Tests: Any additional tests related to the symptoms, such as ECG for chest pain or spirometry for breathing difficulties.

Interpretation: Review test results considering the clinical examination and compare with Siddha's diagnostic methods envagai thervu such as nadi (pulse), etc.

#### **6. Decide and document the appropriate diagnosis (45 minutes)**

Differential Diagnosis: List all possible diagnoses based on symptoms, examination, and investigations.

Confirmation of Diagnosis: Narrow down to the most likely diagnosis using a combination of modern clinical examination findings and Siddha diagnostic theories.

Documentation: Document all relevant findings, tests, and conclusions clearly and in detail. Mention any other conditions that may need further investigation or follow-up.

#### **7. Prescribe the line of treatment based on Siddha guidelines (45 minutes)**

Siddha treatment: Include herbal remedies, dietary changes, and lifestyle modifications in accordance with Siddha concepts.

Therapeutic Interventions: Suggest therapies like thokkanam (oil massage) varmam (pressure points) if applicable.

Pharmaceuticals: Prescribe specific siddha medicines that correspond to the imbalance identified.

**8. Counsel the patient for further follow-up based on the diagnosis (30 minutes)**

Provide clear Instructions: Discuss the importance of the prescribed treatment, any potential side effects, and proper administration.

Lifestyle recommendations: Advise the patient on dietary changes, physical activity, and stress management based on both siddha and modern approaches.

Follow-up Plan: Set a follow-up date to monitor progress and explain when the patient should return for a re-evaluation or to report new symptoms.

The students will be able to perform a thorough evaluation of a given patient with an orthopaedic disease through practical exams, effective case taking, and objective structured clinical examinations (OSCE).

The total duration of the activity is 7 hours.

**Topic 13 REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES (LH :11 NLHT: 10 NLHP: 16)**

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Define peri-arthritis of the shoulder and describe its causes, pathology, clinical features, Reeves' stages, investigations, management and Siddha-based treatment.	CC	MK	KH	CBL,L &PPT	CL-PR,VV-Viva	F&S		-	NLHT13.1
CO5	Define and describe the aetiology, clinical features, clinical test, investigation, management, and treatment of Tennis elbow, Cubitus valgus, and Describe causes, clinical stages, clinical tests, investigations, and management of Carpel tunnel syndrome.	CC	NK	K	CBL,L &PPT ,L_VC	VV-Viva,C BA,T-CS	F&S		-	LH
CO5	Define and describe the causes, pathogenesis, clinical features and investigation of Dupuytren's contracture, and coxa vara. Define and classify the types, describe the clinical features, assessment of genu valgum deformity and radiography of Genu valgum.	CC	MK	K	L&PPT ,X-Ray	VV-Viva,T-OBT	F&S		-	LH
CO5	Define flat foot describe the associated deformities, types, clinical features, radiological features and treatment.	CC	DK	K	L&PPT ,X-Ray	CBA	F&S		-	LH

CO5	Define calcaneal spur and describe the causes, clinical features, radiograph and treatment.	CC	DK	KH	L&PPT ,CBL	CBA	F&S		-	NLHT13.2
CO5	Define and describe the types, causes, clinical features, and investigation of Scoliosis and Kyphosis.	CC	MK	K	X-Ray, L&PPT	VV- Viva,CBA	F&S		-	LH
CO5	Define and describe the anatomical factors, clinical features, radiological feature and treatment of intervertebral disc prolapse	CC	MK	KH	L&PPT ,X-Ray, CBL	T-CS	F&S		-	NLHT13.3
CO5	Define fracture, dislocation and subluxation and explain the types and classification of fracture and dislocations.	CK	MK	K	X-Ray, L&PPT ,L&GD	VV-Viva,M- CHT,QZ	F&S		V-NN2	LH
CO5	Explain the causes, clinical features, investigation, and treatment of following complications of fractures. Avascular necrosis Non- union Mal-union	CC	MK	KH	X-Ray, L&GD, L&PPT	VV-Viva	F&S		-	LH
CO5	Describe the fracture in childhood and differentiate the fractures in children and adults.	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Define splint and describe the types of splints in the reduction procedure. Illustrate surgical treatment of fractures like external fixation and open reduction internal fixation.	CC	MK	KH	FC,L& GD,L& PPT	PRN,M- MOD	F&S		-	NLHT13.4
CO5	Describe the chemical formula, POP ( Plaster of Paris) types, stages of plastering, and complications of Plaster of Paris.	CC	MK	KH	L&GD, TPW	PRN	F&S		-	NLHT13.5
CO5	Perform traction and describe the methods and its uses	PSY- GUD	NK	KH	L_VCL &PPT	DOPS,DOP S	F&S		-	NLHT13.6
CO5	Describe the classification, pathology, clinical features, radiological features, and treatment of the shoulder joint	CC	MK	KH	X-Ray, CBL,L	P-EN	F&S		-	NLHT13.7



	dislocation.				&PPT					
CO5	Describe the pathology, clinical features, radiological features and treatment of Temporo mandibular joint dislocation. Define and describe the displacements, mechanism of injury, clinical features, radiological features, treatment, and complication of Colles fracture.	CC	MK	K	X-Ray, L&PPT	VV-Viva,T-CS	F&S		-	LH
CO5	Describe the causes, mechanism of injury, allen's classification, clinical features, examination, investigation, treatment and indication of cervical spine injuries and Illustrate the mechanism of injury, mcateea's classification- 3column, clinical features, investigation, and management of thoracic and lumbosacral spine injuries.	CC	DK	K	L&PPT	CL-PR	F&S		-	LH
CO5	Explain the mechanism of injury, types, signs and symptoms, diagnosis and complications of skull fracture.	CC	MK	KH	TBL,L &PPT ,L_VC	PRN	F&S		-	NLHT13.8
CO5	Define strain,sprain. and describe the mechanism of injury, clinical features, radiographic features and treatment of ankle joint medial collateral ligament injury and ankle joint lateral collateral ligament injury	CC	MK	K	L&GD, L_VC,L &PPT	VV-Viva,P-EN	F&S		-	LH
CO5	Describe the mechanism of injury, types, clinical features, clinical tests, investigation and treatment of knee joint medial and lateral collateral ligament injury and anterior cruciate ligament injury and posterior cruciate ligament injury.	CC	MK	K	L_VC,L &PPT	P-EN,VV-Viva	F&S		-	LH
CO5	Describe the causes, clinical features, clinical test, investigation, treatment and complications of Achilles tendon.	CC	DK	KH	L&GD, CBL	T-CS	F&S		-	NLHT13.9
CO5	Describe the mechanism, clinical features, clinical test, investigation, differential diagnosis and treatment of semilunar	CC	MK	K	L_VC,L &GD,T	P-EN,VV-Viva	F&S		-	NLHT13.10

	cartilage injuries and Describe the clinical features, and treatment of muscle injury  <ul style="list-style-type: none"> <li>• Biceps brachii</li> <li>• The supraspinatus</li> <li>• Quadriceps femoris</li> </ul>				BL,CBL					
CO5	Demonstrate by hands -on training of shoulder joint examination.	PSY-GUD	MK	SH	CBL,D-BED	P-EXAM,P-CASE,CBA	F&S		-	NLHP13.1
CO5	Demonstrate by hands-on training in the elbow joint examination.	PSY-GUD	NK	SH	CBL,D-BED	CBA,P-EXAM,P-CASE	F&S		-	NLHP13.2
CO5	Demonstrate by hands -on training of the wrist joint examination.	PSY-GUD	DK	SH	CBL,D-BED,L_VC	P-CASE,P-EXAM	F&S		-	NLHP13.3
CO5	Demonstrate by hands-on training of the ankle joint examination	PSY-GUD	DK	SH	CBL,D-BED	OSPE,OSCE,P-CASE,P-EXAM	F&S		-	NLHP13.4
CO5, CO7	Evaluate the given patient for clinical case writing and case presentation of orthopaedic diseases.	PSY-GUD	MK	SH	CBL,D-BED	CBA,P-EXAM,P-CASE	F&S		-	NLHP13.5
CO5, CO7	Perform documentation of single case study by individual students in bone and joint diseases.	PSY-GUD	MK	KH	CBL,D	CBA,P-CASE,Log book	F&S		-	NLHP13.6

### Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
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NLHT 13.1	Periarthritis of the shoulder.	<p>The teacher will explain periarthritis of the shoulder, using a Powerpoint presentation and case-based learning.</p> <p><b>Slide 1: Title slide</b>  Title: Periarthritis of the shoulder  Subtitle: Causes, Pathology, Clinical Features, Stages, Investigations, Management, and siddha-based treatment</p> <p><b>Slide 2: Introduction to periarthritis of the shoulder</b>  Brief overview of what periarthritis of the shoulder is.  Relevance and importance in clinical practice.</p> <p><b>Slide 3: Case study: Initial presentation</b>  Case scenario  Discussion: Ask students what they suspect based on the presentation.</p> <p>Slide 4: Definition of periarthritis of the shoulder</p> <p><b>Slide 5: Causes of periarthritis of the shoulder</b></p> <p><b>Slide 6: Pathology of periarthritis</b></p> <p><b>Slide 7: Clinical Features</b></p> <p><b>Slide 8: Reeves' stages of Frozen shoulder</b></p> <p><b>Slide 9: Investigations</b></p> <p><b>Slide 10: Management of periarthritis</b></p> <p><b>Slide 11: Siddha-based treatment</b></p> <p><b>Slide 12: Case study revisited</b>  After discussing the theory, refer back to the initial case scenario.</p> <p><b>Slide 13: References</b>  Students will perform each step of the assessment activity through a Class presentation and Vivavoce on periarthritis of the shoulder.</p>
NLHT 13.2	Calcaneal spur .	<p>The teacher will explain about calcaneal spur using Powerpoint presentation and case-based learning.</p> <p>Powerpoint slide structure for lecture on calcaneal spur</p> <p><b>Slide 1:Title slide</b>  Title:Calcaneal Spur: definition, causes, clinical features, radiographic findings, and treatment</p>

**Slide 2: Introduction to calcaneal spur**

Definition

Prevalence

**Slide 3: Case-based learning approach**

Objective: Explore a real or hypothetical patient case to understand calcaneal spur through applied knowledge.

Step 1: Present patient scenario.

Step 2: Discuss the pathophysiology, diagnosis, and management based on the case.

**Slide 4 Case scenario**

Patient information:

Age

Gender

Presenting complaint

Examination

Previous history

**Slide 5: Causes of calcaneal spur**

**Slide 6: Clinical features of calcaneal spur**

**Slide 7: Radiographic features**

**Slide 8: Diagnosis of calcaneal spur**

Physical examination: Clinical assessment including palpation and range of motion.

Imaging: X-rays or ultrasound to visualize the spur.

Differential diagnosis: Rule out other causes of heel pain, such as Achilles tendinitis, stress fractures, and bursitis.

**Slide 9: Treatment options**

**Slide 10: Case resolution**

Patient follow-up:

The patient was advised to use orthotics and perform stretching exercises.

X-ray confirmed the presence of a calcaneal spur.

Follow-up after 4 weeks showed significant improvement in symptoms.

The students will perform each step of the assessment activity through Case-based assessment on calcaneal spur.

NLHT 13.3	Intervertebral disc prolapse	<p>The teacher will explain Intervertebral Disc Prolapse through a Powerpoint presentation., case-based learning, and X-ray identification.</p> <p><b>Slide 1:Title slide</b>  Title: Intervertebral disc prolapse  Subtitle: Anatomy, clinical Features, radiological findings, and treatment</p> <p><b>Slide 2:Introduction</b>  Definition  Prevalence  Objective</p> <p><b>Slide 3:Anatomy of the spine</b>  Structure of Vertebrae  Anatomy of Intervertebral disc</p> <p><b>Slide 4:Mechanism of prolapse</b></p> <p><b>Slide 5:Clinical features of intervertebral disc prolapse</b></p> <p><b>Slide 6:Case-based learning:</b> Clinical case  Patient history  Symptoms  Physical examination</p> <p><b>Slide 7:Radiological features</b>  X-ray: Used to rule out other conditions (fractures, degenerative changes).  MRI (Magnetic Resonance Imaging): Gold standard for diagnosing intervertebral disc prolapse.  Shows disc bulge, prolapse, and compression on nerve roots.  CT scan: Useful when MRI is contraindicated and provides detailed bony anatomy.</p> <p><b>Slide 8:Case-based learning and radiological interpretation</b>  Patient History  MRI Results.</p> <p><b>Slide 9:Treatment Options for Intervertebral disc prolapse</b>  Conservative management:</p> <p><b>Slide 10:References</b>  Students will perform each step of the assessment activity through a theory case study on intervertebral disc prolapse.</p>
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NLHT 13.4	splints in the reduction procedure.	<p>The teacher will explain about splints and fracture surgical treatments using Powerpoint presentations, group discussions, and a flipped classroom.</p> <p>Topic: Splints and surgical treatment of fractures</p> <p><b>Lecture (Powerpoint presentation)</b></p> <p>Introduction to splints</p> <p>Definition</p> <p>Purpose of splints</p> <p>Types of splints</p> <p>Reduction procedure</p> <p>Closed reduction</p> <p>Open reduction</p> <p><b>Group discussion</b></p> <p>Engage students in a discussion about the different types of splints</p> <p>Real-life Cases: Present case studies (without using specific patient data) and ask groups to discuss which splint would be most effective and why.</p> <p><b>Flipped classroom</b></p> <p>Pre-class assignment:</p> <p>Assign students a reading or video explaining the surgical treatments of fractures: External Fixation, and Open Reduction Internal Fixation (ORIF).</p> <p>External fixation</p> <p>Open Reduction internal fixation</p> <p>Ask students to review these surgical methods and come prepared to discuss the benefits, risks, and when each procedure might be necessary.</p> <p>In-class application:</p> <p>Divide students into small groups. Assign each group one of the surgical techniques.</p> <p>Have them present a case study for that technique, explaining when it would be used, the procedure, and possible complications.</p> <p>Students will perform each step of the assessment activity through presentation and making of model on splint and surgical treatments of fractures.</p>

		<p><b>Presentation outline</b>  Title: Splints and surgical treatments for fractures  <b>Slide 1:Title slide</b>  Topic:Splints and surgical treatments for fractures  Subtitle:Understanding Splints, types, and surgical reduction procedures  <b>Slide 2:Introduction to splints</b>  Definition  Purpose  <b>Slide 3:Types of splints</b>  <b>Slide 4:Splints in the reduction procedure</b>  <b>Slide 5:Surgical treatment of fractures</b>  <b>Slide 6:External fixation</b>  <b>Slide 7:Open reduction and Internal fixation (ORIF)</b>  <b>Slide 8:Comparison of External fixation and ORIF</b>  <b>Slide 9:References</b>  <b>Model assessment activity:</b>  Provide students with a model skeleton or anatomical diagrams:  Have them apply a functional splint to a simulated limb.  Design a simple diagram showing the placement of an external fixation device.</p>
NLHT 13.5	Plaster of paris (POP)	<p>The teacher will explain POP ( Plaster of paris ) incorporating methods through lecture group discussion and team project work.  <b>1.Lecture with group discussion</b>  Objective:  Provide foundational knowledge while encouraging interaction and conceptual understanding.  Approach:  Introduction (Lecture):  Begin with a brief explanation of Plaster of paris (POP), including its chemical formula (<math>\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}</math>) and its derivation from gypsum.  Cover the types of POP  Explain the stages of plastering</p>

Highlight complications

Group discussion:

Divide the class into small groups.

Provide each group with a topic (e.g., types of POP, complications, or practical applications).

Allow them to discuss for 10–15 minutes and summarize their key points.

Facilitate a discussion where each group shares their insights with the class, clarifying and expanding as needed.

## **2. Team project work**

Objective: Enable hands-on learning and teamwork to deepen understanding through application.

Approach:

Assign teams: Form small teams (4–5 members each).

Project themes: Assign each team a project such as: Creating a flowchart showing the chemical process of converting gypsum to POP.

Making a visual representation of types of POP and their applications.

Developing a step-by-step guide for the stages of plastering with annotated diagrams.

Preparing a report or model demonstrating the complications of POP and suggesting solutions.

### **Presentation:**

Teams will present their findings in the form of posters, slides, or models.

Each team gets 5–10 minutes to showcase their work to the class.

Students will perform each step of the assessment activity through Presentation on POP

Activity structure

### **1. Preparation stage**

Divide the class: Split students into small groups (3–5 members each).

Assign topics:

Group 1: Chemical Formula and Reaction of POP

Group 2: Types of POP and their Uses

Group 3: Stages of Plastering with POP

Group 4: Complications in Using POP

### **2. Research and presentation creation**

Each group will research their topic and prepare a 5–7-minute presentation.

Encourage the use of:

Visual aids (slides, posters, or diagrams).



		<p>Real-life examples(construction, art, medical uses).  Hands-on demonstrations(if feasible, such as setting POP with water).  <b>3.Presentation delivery</b>  Time Allotted:Each group presents their findings to the class.  Encourage engagement with Q&amp;A sessions after each presentation.  Details to Cover in each topic  Chemical formula and reaction  Types of POP and their uses  Stages of plastering with POP  Complications in using POP</p>
NLHT 13.6	Traction	<p>The teacher will explain the traction using a Powerpoint presentation and video clips.  Slide:  <b>Slide 1:Introduction to Traction</b>  Definition of Traction: Explanation of traction as a medical or mechanical process used to stretch muscles or relieve pressure from joints and bones.  Importance of Traction: Discuss its relevance in physiotherapy, orthopaedics, and even in mechanical settings (like cranes or lifting equipment).  <b>Slide 2:Types of Traction</b>  <b>Slide 3:Methods of Traction</b>  Step-by-step process:  Preparation: Set up the patient (or equipment) for the correct positioning.  Application: Different devices or manual techniques are applied based on the type.  Monitoring: Regular assessment to avoid complications.  Tools used: Weight systems, pulleys, or devices for mechanical traction.  <b>Slide 4:Video clip 1-Demonstration of manual traction</b>  Objective: Show the practical application of manual traction techniques in real time.  Learning outcome: Viewers will understand the procedure and see how pressure is applied to relieve pain in certain conditions.  <b>Slide 5:Video clip 2-Mechanical traction equipment in action</b></p>

Objective: Showcase mechanical traction devices and their uses in treating conditions like herniated discs or joint misalignment.

Learning outcome: Viewers will learn how these machines function, including the setup and adjustments necessary for effective treatment.

**Slide 6: Uses of traction in clinical practice**

**Slide 7: Advantages and disadvantages of traction**

**Slide 8: Methods of teaching traction techniques**

Hands-on training: Practical demonstrations in small groups.

Use of video clips: As seen earlier, video demonstrations provide visual learning.

Simulations: Using mannequins or virtual simulations to practice techniques.

Lectures: Delivering theoretical content with illustrative images, diagrams, and videos.

**Slide 9: References**

Students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS) on traction.

Preparation

Materials needed:

Traction equipment(e.g., weights, pulleys, splints, or simulators).

A detailed case scenario(e.g., a patient with a femoral shaft fracture or cervical spine injury).

Assessment checklist for the observer.

A simulated or standardized patient(optional).

Steps for the activity

### **1. Orientation**

Brief students on the activity and its purpose.

Explain that they will be assessed on both the technical performance and the ability to describe the methods and uses of traction.

### **2. Procedural skills assessment: Perform traction**

The student demonstrates the application of traction based on a provided clinical scenario.

The observer uses a checklist to evaluate:

Preparation and sterilization (if applicable).

Correct technique and application.

Maintenance of patient safety and comfort.

Effective communication with the patient.

		<p><b>3. Verbal Assessment: Describe the methods and uses of traction</b></p> <p>The student explains:</p> <p>Types of traction</p> <p>Indications</p> <p>Precautions</p> <p>Clinical applications</p>
NLHT 13.7	Shoulder joint dislocation	<p>The teacher will explain shoulder joint dislocation using a lecture with a Powerpoint presentation case-based learning.</p> <p><b>Slide 1:Introduction to shoulder joint dislocation</b></p> <p>Overview: Definition of shoulder joint dislocation, anatomical significance of the shoulder.</p> <p>Key Teaching learning method: Introduction through a clinical scenario. Use a patient case to start the discussion.</p> <p><b>Slide 2:Classification of shoulder joint dislocation</b></p> <p><b>Slide 3:Pathology of shoulder joint dislocation</b></p> <p><b>Slide 4:Clinical features of shoulder dislocation</b></p> <p><b>Slide 5:Radiological features (X-ray Identification)</b></p> <p><b>Slide 6:Treatment of shoulder joint dislocation</b></p> <p><b>Slide 7:Complications and prognosis</b></p> <p>Students will perform each step of the assessment activity through practical action on shoulder joint dislocation.</p> <p>Students will write a short answer covering the following aspects:</p> <p>Classification.</p> <p>Pathology</p> <p>Clinical features</p> <p>Radiological features</p> <p>Treatment</p> <p>Practical component:</p> <p><b>Part A: Physical examination:</b></p> <p>Students will be asked to demonstrate how they would examine a patient with a suspected shoulder dislocation.</p>

		<p>They should explain and perform the following:</p> <p><b>Inspection:</b> Check for deformity, swelling, or asymmetry.</p> <p><b>Palpation:</b> Check for tenderness around the shoulder joint, especially in the acromioclavicular joint and humeral head.</p> <p><b>Range of motion testing:</b> Actively and passively check for any inability to move the arm and note abnormal positioning of the arm.</p> <p><b>Neurological examination:</b> Check for any numbness or tingling in the arm that might indicate nerve involvement.</p> <p><b>Vascular assessment:</b> Check pulses and capillary refill in the arm.</p> <p>Students will be evaluated based on how well they demonstrate these steps and explain their significance.</p> <p><b>Part B: Radiological interpretation:</b> Present students with radiographs of a shoulder joint in the event of dislocation. Ask them to: Identify the type of dislocation (anterior/posterior). Point out any associated fractures or other abnormalities (e.g., Hill-Sachs deformity, Bankart lesion). Discuss the implications of these findings and how they affect treatment decisions.</p> <p><b>Part C: Treatment demonstration:</b> In a simulated environment (using a mannequin or demonstration), ask students to demonstrate the reduction of a dislocated shoulder.</p>
NLHT 13.8	Skull fracture	<p>The teacher will explain skull fracture through Powerpoint slides, video clips, and team-based learning activities.</p> <p><b>1. Introduction to Skull fractures</b> Powerpoint slide Title slide: "Skull fracture: Mechanism, types, symptoms, diagnosis, and complications" Objectives of the lecture (e.g., Understanding the mechanisms, identifying the types, recognizing signs and symptoms, knowing the diagnostic methods, and learning about complications)</p> <p><b>2. Mechanism of injury</b> Powerpoint slide Definition of skull fracture Common mechanisms leading to skull fractures</p>

Video clip

Show a brief video of various accident scenarios (car crash, fall, etc.) that result in skull fractures to help students visualize the trauma mechanisms.

Discussion prompt(Team-based learning):

In teams, discuss how different forces (e.g., impact from the side vs. direct blow) can lead to different types of fractures.

### **3. Types of skull fractures**

Powerpoint slide

Types of skull fractures

Video clip

Show an animation of how each type of fracture appears on an X-ray or CT scan and highlight the key differences between them.

### **4. Signs and symptoms of skull fracture**

Powerpoint slide

Team-based learning

Have teams discuss possible signs and symptoms based on case scenarios you provide. Each team should then present the symptoms they would look for in a patient with a skull fracture.

### **5. Diagnosis of skull fractures**

Powerpoint slide

Diagnostic tools

Video clip

Show a CT scan video where skull fractures are identified and compare different imaging techniques.

### **6. Complications of Skull fractures**

Powerpoint slide

Possible complications

Video clip

A video clip demonstrating how untreated skull fractures may lead to complications like bleeding or brain injury stressing the importance of early detection and intervention.

Students will perform each step of the assessment activity through a presentation on skull fractures.

### **1. Introduction**

Define skull fractures.

Briefly discuss the importance of understanding head injuries in medical practice or everyday life.

		<p>Use a visual aid (e.g., an anatomical model or diagram) to show the structure of the skull.</p> <p><b>2. Explanation of key topics</b></p> <p>A. Mechanism of injury</p> <p>B. Types of Skull fractures</p> <p>C. Signs and symptoms</p> <p>D. Diagnosis</p> <p>Imaging techniques:</p> <p>CT scan: Gold standard for identifying fractures and brain injuries.</p> <p>X-ray: Sometimes used for simpler assessments.</p> <p>E. Complications.</p>
NLHT 13.9	The Achilles tendon	<p>The teacher will explain the Achilles tendon using lecture and group discussions and case-based learning.</p> <p>1.Introduction</p> <p>Overview of Achilles tendon: The Achilles tendon is the largest tendon in the human body, connecting the calf muscles (gastrocnemius and soleus) to the heel bone (calcaneus).</p> <p>Importance: Vital for walking, running, and jumping; injury to the Achilles tendon can significantly impact mobility.</p> <p>2.Causes of Achilles tendon injury</p> <p>3.Clinical features</p> <p>4.Clinical tests</p> <p>5.Investigations</p> <p>6.Treatment</p> <p>7.Complications</p> <p>8.Case-based learning approach</p> <p>9.Group discussion</p> <p>Students will perform each step of the assessment activity through theory case study on Achilles tendon.</p> <p>Instructions for Students</p> <p>Describe the likely causes: Based on the case study, identify possible aetiologies of the Achilles tendon problem.</p>

		<p>Overuse injury          Poor footwear or training technique          Sudden increase in physical activity          Preexisting conditions like tendinopathy          Identify clinical features: List the symptoms and signs that support your diagnosis.          Suggest clinical tests:          Thompson test: To rule out a tendon rupture.          Observe gait and heel-raise test for functional assessment.          Outline investigations:          Imaging: Ultrasound or MRI to confirm tendinopathy or rupture.          X-ray (to assess calcifications in chronic cases).          Propose treatment options:          Conservative management          Discuss potential complications.</p>
NLHT 13.10	Semilunar cartilage injuries and Muscle injury.	<p>The teacher will explain a semilunar cartilage injuries and muscle injury through group discussion, videos, case-based learning (CBL), and team-based learning (TBL) method.</p> <p><b>1.semilunar cartilage injuries</b></p> <p>Mechanism of injury:          Lecture:Provide an overview of the anatomy and biomechanics of the semilunar cartilage (meniscus), explaining how twisting motions, heavy lifting, or direct trauma can cause tears.          Video clip:Show a video of a knee injury (e.g., football or basketball) to demonstrate how the injury happens in a real-world scenario.          Clinical features:          Group discussion:Discuss common symptoms such as pain, swelling, clicking sounds, locking, and restricted movement. Use a case study of a patient with these symptoms.          Video:Demonstrate clinical examination techniques and how to assess for meniscal injuries.          Clinical tests:          Lecture with video:Teach about specific clinical tests such as the McMurray test, apley test, and</p>

thessaly test, showing how they are performed and interpreted.

Investigations:

Lecture: Discuss the use of imaging like MRI and X-rays to diagnose meniscal tears.

Video: Present images of an MRI scan showing a meniscal tear and discuss the findings.

Differential diagnosis:

Case-based learning (CBL): Use a case scenario where the student must differentiate between a meniscal tear, ligamentous injury, and osteoarthritis. Discuss the key differences in clinical presentation.

Treatment:

Lecture: Explain both conservative (physical therapy, anti-inflammatory medications) and surgical options (meniscectomy, meniscal repair).

TBL: Assign teams to design treatment plans for different severity levels of meniscal injuries and discuss management strategies.

## **2. Muscle injuries:**

Biceps brachii muscle injury:

Clinical features:

Lecture: Explain the common signs of biceps brachii injuries (pain, weakness, bruising, bulging of muscle).

Group discussion: Share examples of muscle strain and rupture and discuss mechanisms (e.g., lifting heavy objects).

Treatment:

Lecture: Discuss both non-surgical (rest, ice, compression) and surgical treatments for biceps brachii ruptures.

Video: Show rehabilitation exercises and explain the recovery process.

Supraspinatus muscle injury:

Clinical features:

Lecture: Describe the symptoms of a supraspinatus tear (pain with overhead movements, weakness, difficulty reaching behind the back).

Video: Demonstrate the "empty can test" to assess for supraspinatus tears.

Treatment:

Lecture: Discuss treatment options ranging from conservative management to surgical repair (rotator cuff repair).



Group discussion: Discuss outcomes and when surgery is recommended based on tear size and age.

Quadriceps femoris injury:

Clinical features:

Lecture: Outline the signs of quadriceps strain (pain, weakness in knee extension, swelling).

Case-based learning: Use a case scenario to determine the severity of the injury and appropriate treatment (e.g., mild strain vs. complete rupture).

Treatment:

Lecture: Discuss rest, ice, compression, elevation (R.I.C.E), and physical therapy for mild strains.

Surgical repair for severe ruptures.

TBL: Have teams work on rehabilitation protocols, setting timelines for return to sport or daily activities.

Integration of teaching methods:

Lecture with video clips: Use engaging videos to demonstrate practical skills (e.g., examination).

Group discussion: Encourage interaction and critical thinking by asking students to discuss and compare various cases of muscle and cartilage injuries.

Case-based learning (CBL): Use real-life patient cases to engage students in decision-making about diagnosis and treatment.

Team-based learning (TBL): Have students work in groups to design comprehensive treatment plans for different types of injuries, fostering collaboration and problem-solving.

The students will perform each step of the assessment activity through practical enact and viva on semilunar cartilage injuries and muscle injury.

Practical enactment activities

Case-based simulation:

Setup: Create case scenarios based on the given injuries. For example:

Task: Students will role-play as clinicians and perform:

Patient interview to gather history.

Physical examination techniques:

For semilunar cartilage: McMurray's test, Apley's grind test.

For muscle injuries: palpation, strength testing, and functional movement assessment.

Propose initial investigations and management.

Model or cadaver demonstrations:

Setup: Use anatomical models or cadavers to demonstrate the relevant structures.

Task: Students identify anatomical landmarks, explain the mechanism of injury, and describe the structures involved.

### Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 13.1	Examination of shoulder joint.	<p>The teacher will guide students in performing a shoulder joint examination through hands-on training, utilizing case-based learning and bedside demonstrations.</p> <p><b>1.Preparation for Shoulder joint examination:</b> Ensure the patient is comfortable, informed, and in the appropriate setting for the examination.</p> <p>Explain the process to the patient:</p> <p>Inform the patient about the purpose of the shoulder examination (e.g., to assess range of motion, strength, tenderness, or any possible injury).</p> <p>Obtain consent for the examination.</p> <p>Emphasize confidentiality and that the patient can ask questions or request breaks during the procedure.</p> <p>Position the patient:</p> <p>The patient should be seated comfortably on an examination table or chair.</p> <p>Ensure that the room is well-lit and private.</p> <p>The patient should expose the shoulder for a full examination, ideally in a gown or loose-fitting clothes.</p> <p>Prepare equipment:</p> <p>Ensure you have the necessary tools (e.g., goniometer for measuring range of motion, gloves if required for hygiene).</p> <p>Ready the stethoscope, thermometer, and sphygmomanometer for vital sign checks.</p> <p>Have a pen and paper or tablet available for noting down findings.</p> <p><b>2.Analyze demographic data, complaints, duration, and history:</b></p> <p>Objective:Gather comprehensive information to guide the shoulder joint examination.</p> <p>Demographic data:</p> <p>Age, gender, and occupation:</p>

Ask for the patient's age, gender, occupation, and lifestyle as this can give clues to the underlying issue (e.g., age-related degeneration, occupational injuries).

Medical history:

Any previous shoulder injuries, surgeries, or history of other joint diseases (like arthritis or rotator cuff issues) ?

Inquire about comorbidities (diabetes, hypertension, etc.) and any medications the patient is taking.

Presenting complaints:

Main complaint: Ask the patient to describe the primary complaint related to the shoulder.

Pain: Onset, intensity, location, type (sharp, dull, radiating), factors that exacerbate or relieve it (e.g., activity, rest).

Weakness: Does the patient feel a loss of strength in the shoulder ? Does it interfere with daily activities ?

Stiffness or limited movement: Any decrease in shoulder mobility ? (e.g., inability to raise arm fully).

Duration of symptoms:

How long have the symptoms been present ?

Acute vs. chronic issue (e.g., weeks / months).

Any recent trauma or injury to the shoulder region ?

Functional impact:

Ask how the condition affects the patient's ability to perform daily activities (e.g., lifting, reaching overhead, or carrying objects).

Does the pain interfere with sleep or other activities ?

### **3. Shoulder joint examination:**

Objective: Perform a systematic, thorough examination to assess the shoulder joint's function and identify potential abnormalities.

#### **Inspection:**

Visual observation:

Look for asymmetry, deformity, swelling, or discoloration around the shoulder joint.

Observe for muscle wasting (atrophy) or any abnormal posture (e.g., shoulder shrugging, head tilting).

#### **Palpation:**

Assess the shoulder joints and surrounding areas:

Palpate for tenderness, warmth, or swelling.

Palpate anatomical landmarks such as the acromion, clavicle, scapula, and humeral head.

Palpate the rotator cuff tendons and biceps tendon in the bicipital groove.

**Range of motion (ROM):**

Active and passive movement:

Flexion, extension, abduction, adduction, internal and external rotation: Assess each movement while observing for pain, limitation, or abnormal motion.

Perform passive range of motion if the active range of motion is limited to assess for joint stiffness versus muscular issues.

**Strength testing:**

Manual muscle testing:

Assess the strength of the shoulder muscles using resistance in various directions:

Supraspinatus (elevation of arm against resistance).

Infraspinatus and teres Minor (external rotation).

Subscapularis (internal rotation).

Deltoid (abduction).

Grade strength on a scale of 0 to 5.

**Special tests:**

Rotator cuff tests:

Empty can test: Raise arms in a "thumb-down" position to test supraspinatus function.

Drop arm test: Assess for rotator cuff tears by asking the patient to lower their arm slowly.

Labral tests:

O'Brien's Test: To check for labral tears (pain with resisted flexion and internal rotation).

Impingement tests:

Neer test: Raise the patient's arm passively while maintaining internal rotation to assess for subacromial impingement.

Hawkins-Kennedy test: Flex the arm to 90 degrees and rotate it internally to check for impingement.

**Assessment of stability:**

Apprehension test: Check for shoulder instability by gently externally rotating the arm at 90 degrees abduction.

**Neurological and vascular examination:**

Assess the neurovascular status of the upper limb.

Check sensation in the shoulder, arm, and hand.

Palpate radial pulse and assess capillary refill.

		<p><b>End of examination:</b>  Summarize findings: Document any positive or abnormal findings from the examination.  Discuss findings with the patient: If needed, explain the next steps (e.g., imaging, referral to a specialist, physical therapy).  The Students will be able to demonstrate their skills in performing a shoulder joint examination through hands-on training, practical exams, practical case-taking, and case-based assessments.  The total duration of the activity is 2 hours.</p>
NLHP 13.2	Examination of the elbow joint.	<p>The teacher will guide students in performing a hands-on demonstration of the elbow joint examination through case-based learning and bedside demonstration.</p> <p><b>1. Preparation for Elbow joint examination (20 minutes)</b>  Introduction and explanation (5 minutes)  Greet the patient warmly and introduce yourself.  Explain the purpose of the examination and what will be involved. Assure the patient that the process will be non-invasive and that they can stop if they feel discomfort.  Obtain consent from the patient to proceed with the examination.  Positioning the patient (5 minutes)  Ask the patient to sit in a comfortable chair or on the examination table with their elbow fully exposed. Ensure proper lighting to clearly see the elbow joint.  The patient should be in a relaxed position, ideally with the forearm resting on the table or supported by a pillow to help relax the muscles.  Preparation of materials (10 minutes)  Gather all necessary tools: gloves, measuring tape (for any deformities), goniometer (to measure the range of motion), and any other tools for testing strength or pain.  Ensure the environment is clean and comfortable, with a privacy curtain if needed.</p> <p><b>2. Analysis of demographic data, complaints, duration, and history (40 minutes)</b>  Patient demographics and vitals (10 minutes)  Review the patient's basic demographic information: age, gender, occupation, and previous medical history relevant to the elbow joint.  Take and record vital signs, blood pressure, heart rate, and temperature to assess overall health and rule out systemic issues.</p>

Complaint analysis (15 minutes)

Ask the patient about the nature of their complaint regarding the elbow. This can include:

Pain: Where is it located (lateral / medial, anterior / posterior) ? Is it sharp, dull, throbbing, etc.?

Swelling or bruising: When did it begin? Is it constant or intermittent?

Limited range of motion: What movements cause discomfort?

Weakness: Has the patient experienced a loss of strength in the arm?

Investigate the onset of symptoms: sudden or gradual?

Any history of trauma or injuries?

Duration and history (15 minutes)

How long have the symptoms been present?

Any relevant past history of elbow injuries, surgeries, or conditions? (e.g., tendonitis, fractures, arthritis)

Review previous treatments and outcomes (e.g., physiotherapy, medications, surgeries).

Any family history of joint disorders or autoimmune conditions?

### **3. Assessment of Elbow joint examination (60 minutes)**

#### **Visual inspection (15 minutes)**

Check for asymmetry, swelling, redness, or bruising around the elbow joint.

Observe the skin condition: any cuts, scars, or rashes.

Assess for any deformities (e.g., deformity of the elbow, elbow carrying angle).

#### **Palpation (15 minutes)**

Gently palpate the elbow joint to assess for tenderness, swelling, or abnormalities. This includes:

Lateral epicondyle (for tennis elbow)

Medial epicondyle (for golfer's elbow)

Olecranon process

Bony landmarks and soft tissue structures around the elbow

Assess for any warmth, tenderness, or abnormal masses that may indicate inflammation or other conditions.

#### **Range of motion testing (10 minutes)**

Assess both active and passive range of motion:

Flexion and extension

Supination and pronation

Measure using a goniometer to determine the degree of movement.

		<p><b>Strength testing (10 minutes)</b>  Assess elbow flexion, extension, and forearm pronation/supination strength.  Compare with the opposite limb for any asymmetry.  Check for any muscle weakness or signs of nerve involvement.</p> <p><b>Special tests (10 minutes)</b>  Perform additional tests to assess for specific conditions:  Valgus and varus stress test: For ligamentous instability (e.g., Ulnar collateral ligament injury or radial collateral ligament injury).  Tinel's sign: For ulnar nerve irritation.  Cozen's test: For lateral epicondylitis (Tennis elbow).  Golfer's elbow test: For medial epicondylitis.</p> <p>Conclusion (5 minutes)  Summarize findings:  Discuss any recommendations or next steps (e.g., imaging, further tests, treatment options).  Patient education:  Educate the patient on any diagnosed conditions and preventive measures, such as rest, physical therapy, or lifestyle modifications.  Advise on when to follow up or seek immediate care if the condition worsens.  The students will be able to perform and demonstrate the elbow joint examination through hands-on training. This will be assessed via a practical exam, practical case-taking, and case-based assessment.  The total duration of the activity is 2 hours.</p>
NLHP 13.3	Examination of the wrist joint	<p>The teacher will guide students in performing and demonstrating the wrist joint examination through hands-on training. This will include lectures with video clips, case-based learning, and bedside demonstrations.</p> <p>1. Preparing the Patient for the Wrist joint examination (20 minutes)  Explain the procedure: Explain to the patient what the wrist joint examination entails, ensuring they understand the process and purpose of the examination.  Ensure comfort and privacy: Make sure the patient is seated in a comfortable position, and if necessary, provide draping for privacy.  Positioning: The patient should be seated or lying in a relaxed position, with their forearm resting on a</p>

flat surface and the wrist exposed.

Prepare equipment: Have the necessary tools ready, such as gloves, measuring devices, and any additional aids for assessment (e.g., goniometer for range of motion).

Consent: Ensure the patient consents to the examination.

Inspection: Look for signs of swelling, redness, bruising, or deformities in the wrist and hand.

2. Analyzing demographic data, complaints, history, and vitals (40 minutes)

Demographic data:

Age

Gender

Occupation (can be relevant for repetitive strain or work-related injuries)

Hand dominance (right or left)

Complaints and duration:

Pain: Ask about the onset, nature, intensity, and duration of pain. Does the pain occur at rest or with activity?

Swelling: Is there any swelling in the wrist or surrounding areas? Is it persistent or intermittent?

Stiffness: Does the patient experience stiffness in the wrist joint, especially in the morning or after rest?

Deformity: Any visible deformity or previous injuries to the wrist joint?

Loss of function: Difficulty with gripping, lifting, or performing activities of daily living?

Other Symptoms: Numbness, tingling, or weakness in the wrist, hand, or fingers.

Patient history:

Previous injuries: Any history of wrist fractures, sprains, or surgeries?

Medical conditions: Conditions like arthritis, gout, or diabetes that may affect the wrist.

Medication: Any current medications that might affect joint function (e.g., steroids, painkillers).

Family history: Any genetic conditions such as rheumatoid arthritis or other joint-related conditions.

Vitals:

Blood pressure: To rule out systemic issues that might affect healing or pain.

Pulse rate: Can help identify potential signs of infection or systemic inflammation.

Temperature: Check for fever or signs of infection.

Respiratory rate: To ensure overall well-being during the examination.



Oxygen saturation: Assess for any underlying systemic conditions.

### 3. Assessing the Wrist Joint Examination (1 hour)

#### Inspection:

General observation: Look for swelling, redness, warmth, bruising, deformities, or asymmetry in the wrist and hand.

Skin: Check for scars, rashes, or signs of trauma.

#### Palpation:

Palpate the wrist joint and surrounding areas for tenderness, swelling, or abnormal bumps.

Assess the anatomical landmarks:

Lunate bone

Scaphoid bone

Radius and ulna (distal ends)

Carpal bones

Check for crepitus or abnormal movements.

#### Range of motion:

Flexion and extension: Assess the ability to bend the wrist forward (flexion) and backward (extension).

Radial and ulnar deviation: Check the wrist's ability to move toward the thumb (radial) and the little finger (ulnar).

Rotation: Assess pronation and supination of the forearm.

#### Strength testing:

Grip strength: Ask the patient to squeeze a dynamometer or your hand and assess strength.

Wrist flexion / Extension strength: Ask the patient to resist your force while you apply pressure to their wrist in flexion and extension.

#### Special tests:

Finkelstein's test: Used to diagnose De Quervain's tenosynovitis. Ask the patient to make a fist with their thumb inside the fingers and ulnarly deviate the wrist. Pain over the radial styloid is positive.

Tinel's sign: Tap over the median nerve at the wrist (carpal tunnel) to check for tingling or shooting pain, which could indicate carpal tunnel syndrome.

Phalen's test: Invert the wrist and hold for about 60 seconds. Any numbness or tingling could indicate carpal tunnel syndrome.

		<p>Neurovascular assessment:</p> <p>Sensation: Check for any loss of sensation or abnormal sensations in the hand and fingers.</p> <p>Capillary Refill: Press on the nail beds of the fingers and release to check if blood flow returns normally.</p> <p>Pulse: Check for radial and ulnar pulse to assess blood supply to the hand.</p> <p>Conclusion (5 minutes)</p> <p>Summarize findings:</p> <p>Provide a brief overview of the examination findings to the patient.</p> <p>Discuss any recommendations or next steps (e.g., imaging, further tests, treatment options).</p> <p>Patient education:</p> <p>Educate the patient on any diagnosed conditions and preventive measures, such as rest, physical therapy, or lifestyle modifications.</p> <p>Advise on when to follow up or seek immediate care if the condition worsens.</p> <p>The students will be able to perform and demonstrate wrist joint examination through hands-on training, assessed via practical exams and case-taking exercises.</p> <p>The total duration of the activity is 2 hours.</p>
NLHP 13.4	Examination of the ankle joint	<p>The teacher will guide students in performing and demonstrating the ankle joint examination through hands-on training, utilizing case-based learning and bedside demonstrations.</p> <p><b>1. Preparing the Patient for Ankle joint examination:(15-20 minutes)</b></p> <p>Before starting the ankle joint examination, it's important to make the patient feel comfortable and explain the procedure. Follow these steps:</p> <p>Introduction: Greet the patient, introduce yourself, and explain the purpose of the examination.</p> <p>Positioning: Have the patient lie down on an examination table or sit on a chair with the ankle in a neutral, relaxed position. If assessing the weight-bearing ability, ensure the patient can stand or walk comfortably.</p> <p>Privacy and Comfort: Ensure the patient is appropriately draped to expose only the ankle joint, maintaining their privacy and comfort.</p>

Consent: Obtain verbal consent for the examination.

Instructions: Instruct the patient to let you know if they experience any pain or discomfort during the examination.

**2. Analysis of demographic Data, Complaints, duration, and history (40-45 minutes):**

Begin by gathering relevant patient data in an organized manner:

Demographic data:

Age: Determines susceptibility to conditions like arthritis or injury.

Gender: Women might be more susceptible to certain conditions like osteoporosis.

Occupation / Activity level: Can help identify work-related or sport-related injuries.

Medical history: Look for any past issues with the joints (e.g., arthritis, fractures, surgeries).

Chief complaints and duration:

Ask the patient to describe the primary reason for the visit (pain, swelling, instability, etc.).

Inquire about the duration of the symptoms (sudden or gradual onset ? Acute or chronic? ).

History of present illness:

Onset: When did the symptoms start? Did it follow a specific event (e.g., trauma, fall, overuse)?

Location: Is the pain localized to a specific area (e.g., lateral or medial ankle)?

Character of Pain: sharp, dull, aching, or throbbing? Does it radiate or stay localized?

Intensity: Rate the pain on a scale of 1-10.

Aggravating / Relieving factors: Does walking, standing, or certain movements worsen the pain? Does rest or ice help?

Associated symptoms: Swelling, bruising, instability, weakness, or clicking sounds?

Functional limitations: Is there any difficulty walking, running, or performing daily activities?

Past medical and surgical history:

Any previous ankle injuries, fractures, or surgeries? Any history of arthritis or other systemic conditions like diabetes or gout?

Medications:

Ask about any current medications, especially pain medications, anti-inflammatory drugs, or treatments related to musculoskeletal health.

Vital signs:

Measure the following:

Blood pressure

Heart rate

Respiratory rate

Temperature

Oxygen saturation

Weight / Height (for BMI calculation)

### **3. Ankle joint examination: (60-75 minutes)**

The ankle joint examination consists of inspection, palpation, range of motion assessment, and special tests.

#### **Inspection:**

Look for any visible signs of deformity, swelling, bruising, redness, or warmth.

Observe the alignment of the ankle joint and the surrounding structures.

Note any skin changes, scars, or abnormal gait patterns.

#### **Palpation:**

Gently palpate the bones and soft tissues around the ankle, including:

Medial malleolus

Lateral malleolus

Achilles tendon

Tibialis anterior tendon

Peroneal tendons

Anterior talofibular ligament

Calcaneus (heel)

Check for tenderness, warmth, or swelling at these sites.

#### **Range of motion (ROM):**

Assess both active and passive range of motion of the ankle joint.

Dorsiflexion (upward movement)

Plantarflexion (downward movement)

Inversion (turning the sole inward)

Eversion (turning the sole outward)

Measure the degrees of motion using a goniometer or other available tools.

#### **Strength testing:**

Assess the strength of the ankle by asking the patient to perform resisted movements, such as:

Plantarflexion

Dorsiflexion

		<p>Inversion Eversion <b>Special tests:</b> Anterior Drawer test: For ligamentous instability (ATFL). Talar Tilt test: For calcaneofibular ligament (CFL) damage. Squeeze test: For syndesmotoc injury (high ankle sprain). Thompson test: To rule out Achilles tendon rupture. <b>Neurovascular assessment:</b> Check for any neurological deficits or vascular abnormalities: Sensation: Test light touch, pain, and proprioception. Circulation: Check for pulses (posterior tibial and dorsalis pedis). Conclusion (30-45 minutes) Summarize findings: Provide a brief overview of the examination findings to the patient. Discuss any recommendations or next steps (e.g., imaging, further tests, treatment options). Documentation &amp; follow-up discussion: Document findings and discuss potential diagnoses with the patient. Make recommendations for further investigations or treatments. The students will be able to demonstrate proficiency in ankle joint examination through hands-on training, practical exams, case-taking, OSCE (objective structured clinical examination), and OSPE (objective structured practical examination). The total duration of the activity is 2 hours.</p>
NLHP 13.5	Clinical case writing and presentations of orthopaedic diseases	<p>The teacher will guide students in performing evaluations of patients for clinical case writing and case presentations of orthopaedic diseases through case-based learning and bedside demonstrations. <b>1. Prepare the patient for clinical examination (15 minutes)</b> Consent and privacy: Ensure that the patient is informed about the examination, its purpose, and what is involved. Obtain their consent for the examination. Comfort: Provide a comfortable and quiet environment for the patient. Offer a gown or appropriate clothing to ensure modesty. Patient History Forms: If not already completed, ask the patient to fill out any relevant forms regarding personal, family, and medical history.</p>

## **2. Analyse the demographic Data, complaints, and duration, history, and vitals (30 minutes)**

Demographic data: Record the patient's age, gender, occupation, and lifestyle.

Presenting complaints: Document the primary complaint(s) and any associated symptoms. Ask the patient to describe the symptoms in their own words.

Duration: Record how long the symptoms have been present.

History: Gather a detailed medical history, including past illnesses, surgeries, allergies, medications, and family history of diseases. Use Siddha concepts like the body's dosha (Vata, Pitta, Kapha) imbalance to gain insights.

Vitals: Measure blood pressure, pulse rate, respiratory rate, temperature, and oxygen saturation.

## **3. Perform the general and systemic examination of the patient (60 minutes)**

General examination: Observe the patient's appearance, nutritional status, posture, and any signs of distress. Check for signs of pallor, cyanosis, jaundice, or edema.

Systemic examination: Head and neck: examine the eyes, ears, nose, throat, and lymph nodes.

Cardiovascular system: Palpate and auscultate the heart for rhythm, murmurs, and abnormalities.

Respiratory system: Inspect the chest, palpate for abnormalities, auscultate for breath sounds.

Gastrointestinal system: Palpate the abdomen, auscultate bowel sounds, check for tenderness, masses, or organ enlargement.

Musculoskeletal system: Check for joint deformities, pain, swelling, and range of motion.

Nervous system: Test reflexes, sensory and motor function, coordination, and mental status.

## **4. Assess the clinical examination in siddha and modern concept (20 minutes)**

Siddha diagnosis:

Examine the patient's body constitution, and dosha imbalances.

Assess for any signs of excess or deficiency in the three doshas (Vata, Pitta, Kapha).

Look at the tongue, pulse, and urine in Siddha medicine for additional clues.

Modern diagnosis: Interpret findings based on conventional anatomical and physiological understanding. Consider differential diagnoses based on symptoms and physical exam.

## **5. Conduct clinical investigations and Interpretation (40 minutes)**

Lab Tests: Order blood tests, urine tests, imaging studies (X-ray, ultrasound, etc.) as necessary based on the clinical presentation.

Interpret Results: Analyze lab and imaging results in light of the patient's symptoms. Compare findings with normal ranges to rule out or confirm specific conditions.

## **6. Decide and document the appropriate diagnosis (20 minutes)**

		<p>Differential diagnosis:Based on the clinical examination and test results, consider a list of potential diagnoses.</p> <p>Confirm diagnosis:Narrow down the possibilities to the most likely diagnosis based on the clinical features and investigations.</p> <p>Document:Write a detailed diagnosis, clearly stating the final decision and rationale behind it.</p> <p><b>7.Prescribe the line of treatment based on siddha treatment guidelines (20 minutes)</b></p> <p>Siddha treatment:Tailor the treatment based on the patient’s dosha imbalance and the nature of the disease.</p> <p>Modern treatment: Prescribe appropriate therapies, or surgical interventions based on the modern diagnosis. Include lifestyle and dietary recommendations.</p> <p><b>8.Counsel the patient for further follow-up (15 minutes)</b></p> <p>Explain the diagnosis: Provide the patient with an explanation of their condition, both in modern medical and siddha terms.</p> <p>Discuss treatment plan: Clarify how the prescribed treatments will work, the expected outcomes, and potential side effects.</p> <p>Follow-up: Provide a timeline for follow-up visits to monitor progress, adjust treatments if necessary, and ensure recovery.</p> <p>Lifestyle modifications: Advise on diet, exercise, stress management, and other lifestyle changes to support recovery and overall health.</p> <p>The students will be able to perform and evaluate clinical case writing and case presentations for orthopaedic diseases through practical exams, case-taking exercises, and case-based assessments.</p> <p>The total duration of the activity is 4 hours.</p>
NLHP 13.6	Documentation of single case study by individual students.	<p>The teacher will guide students in performing the documentation of a single case study on bone and joint diseases. This will be done through case-based learning and hands-on demonstration by individual students.</p> <p><b>1.Case Selection:</b></p> <p>Choose a relevant orthopaedic case: Ensure the case is aligned with the student's level and course content. This could involve bone fractures, joint disorders, sports injuries, congenital deformities, or other orthopaedic conditions.</p> <p>Provide Guidelines: Specify which aspects the students need to address, such as diagnosis, treatment</p>

options, prognosis, and rehabilitation methods.

## **2.Activity breakdown (5 Hours):**

### **Hour 1:Introduction and research**

Students should spend the first hour reviewing literature, online resources, and textbooks related to their specific case.

Key questions to address:

What is the condition?

What are the symptoms and causes?

What treatments are available?

What is the recovery or rehabilitation process?

### **Hour 2:Case analysis**

They should analyze the case in depth:

Develop a diagnosis based on symptoms and history.

Explore the pathophysiology of the condition.

Outline potential treatment strategies (non-surgical vs. surgical).

### **Hour 3:Treatment and management plan**

Focus on treatment strategies and patient management:

Explore both immediate and long-term treatments.

Discuss multidisciplinary approaches.

### **Hour 4:Report preparation**

Students will organize their findings into a structured report. They will:

Write the introduction (background of the condition).

Discuss case study specifics.

Detail diagnosis and treatment.

Conclude with recommendations.

### **Hour 5:Review and presentation**

Students should review their report and prepare a short presentation, outlining the key aspects of the case. The presentation can be brief but focused on the most critical parts of their analysis.

## **3.Submission:**

Ensure that the report is submitted at the beginning of the second term, and may include:

A written report (e.g., 2-3 pages).

References to literature and sources used.



**4.Evaluation criteria:**

Depth of analysis:How well did the student analyze the case, addressing all necessary components like diagnosis, treatment, and recovery?

Quality of treatment plan: How realistic and evidence-based is the proposed treatment and management plan?

Presentation:Clear communication of findings, structured presentation, and proper referencing.

The students will be able to effectively perform documentation of a single case study related to bone and joint diseases. This will be achieved through practical case-taking, maintaining a logbook, and conducting a case-based assessment.

The total duration of the activity is 4 hours.

**Topic 14 PSYCHIATRY DISORDERS (LH :24 NLHT: 13 NLHP: 31)**

<b>A3</b>	<b>B3</b>	<b>C3</b>	<b>D3</b>	<b>E3</b>	<b>F3</b>	<b>G3</b>	<b>H3</b>	<b>I3</b>	<b>J3</b>	<b>K3</b>
CO6	Define the term psychiatric disorder, and classification of psychiatric illness (Indian classification-psychosis: -neurosis: -special disorders). Describe the etiology of psychiatric disorders.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Explain the mental status examination by covering the following topics: Identification: Personal details. Chief complaints: Main symptoms. History of present illness: Current issues, onset, progression, triggers/relief factors. Past history: Previous medical conditions, treatment history, and trauma Family history: Mental illness in the family. Personal history: Lifestyle, habits, premorbid personality Social and marital status: Relationship and social support Developmental history: Puberty, menstrual /obstetric history. Prenatal and Natal history. History of delayed milestones.	CC	DK	KH	L&PPT ,D-BED	P- CASE,Log book	F		-	LH

	<p>Physical examination: General health assessment.</p> <p>Mini-mental scale examination of consciousness, orientation to time, place, and person, intelligence, memory, emotions, disturbance of speech, and handedness.</p> <p>Mental status examination</p> <p>General appearance and behavior, attitude towards examiner, comprehension, gait and posture, social manner, rapport, speech rate / Quantity, volume / Tone, mood and affect-euphoria-interest / Excitement, thought-streamline form content, anhedonia, perception, cognition, consciousness, orientation, attention, concentration, memory, intelligence, abstract thinking, insight, judgment</p>									
CO6, CO7	Demonstrate the psychiatric examination by covering the following topics: Identification data, chief complaints, history of present illness, perpetuating or relieving factor, history, treatment history-present, and previous fracture, family history, personal history, childhood behavior during childhood, occupational history, puberty, menstrual /obstetric, pre-natal history, natal history, milestones, social and marital status. premorbid personality, physical examination.	PSY-GUD	MK	KH	D-BED	P-CASE,Log book	F&S		-	NLHT14.1
CO6	Explain the role of biological investigations, medical screening, brain imaging, psychological tests, and scales in the thorough evaluation of psychiatric conditions and their influence on treatment planning	CC	MK	K	PBL,LR I,L&PPT ,CBL	CBA,VV-Viva	F&S		-	LH
CO6	Describe the term delusion (Manamayakkam), its types, causes, and treatment. Define the term hallucination (Manapei) its varieties, causes, and treatment options.	CK	MK	K	DIS,L,L &PPT	VV-Viva	F&S		-	LH
CO6	Define the term 'depression,' its types, causes. symptoms, diagnosis, and treatment options.	CC	MK	K	L&PPT	VV-Viva,P-EN	F&S		-	LH

CO6	Define anxiety and its symptoms, types, causes, and treatment. Define the terms deliberate self-harm and suicidal ideation. Define behavior patterns and their warning signs	CK	MK	K	L&PPT	P-EN,VV-Viva	F&S		-	LH
CO6	Explain the term schizophrenia, its symptoms and pathogenesis, complications.	CC	MK	K	L&PPT	T-OBT,S-LAQ,VV-Viva,CL-PR	F&S		-	LH
CO6	Provide a detailed overview of the different types of schizophrenia, including paranoid schizophrenia, hebephrenic (Disorganized) schizophrenia, catatonic schizophrenia, undifferentiated schizophrenia, and residual schizophrenia. And its treatment methods.	CC	MK	K	L&PPT	S-LAQ,CL-PR,VV-Viva,T-OBT	F&S		-	NLHT14.2
CO6	Outline the management strategies for schizophrenia.	CC	DK	K	L&PPT	CL-PR,VV-Viva	F&S		-	NLHT14.3
CO6	Define the term 'mood and affect'. Classify the mood disorders and their etiology factors, and summarize the diagnosis and treatment for mood disorders.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Define the terms specific (Isolated) phobias, panic attacks, ocd-obsessive compulsive disorder, conversion disorder, and adjustment disorder.	CK	MK	K	L&GD	VV-Viva	F&S		-	LH
CO6	Explain somatoform disorders and their types, conversion disorder, hypochondriasis, somatization disorder, body dysmorphic disorder, and pain disorder.	CK	DK	K	L&GD	VV-Viva	F		-	LH
CO6	Define the term adult personality disorders, classify the types of adult personality disorders,	CC	MK	K	L&GD	VV-Viva	F&S		-	LH
CO6	Describe the treatment for adult personality disorders.	CC	NK	K	L&GD	VV-Viva,CL-PR	F		-	NLHT14.4

CO6	Explain the term <i>paithiyam noi</i> and its varieties (1-9)- <i>aavesa paithiyam, abikasa paithiyam, mavuna paithiyam, suronitha paithiyam, vihara paithiyam, thaaga paithiyam, azhal paithiyam, murka paithiyam, naduku paithiyam</i>	CK	MK	K	L,L&PPT, TBL	CL-PR	F&S		-	LH
CO6	Describe the varieties of <i>paithiyam noi</i> (10-18) <i>visha paithiyam, pralaaba paithiyam, pitha paithiyam, aankaara paithiyam, gnana paithiyam, kaivisha paithiyam, kama paithiyam, vishathaga paithiyam, Siddha paithiyam</i>	CC	NK	K	TBL,L &PPT	CL-PR	F		-	LH
CO6	Describe the treatment for <i>Paithiyam Disease</i> (Mental disorder)	CC	MK	K	L&GD	VV-Viva,C L-PR	F&S		-	NLHT14.5
CO6	Define the term <i>kirigai noi</i> and provide poem references.	CK	MK	K	L&PPT,LS	VV-Viva,P-REC	F&S		-	LH
CO6	Classify the types of <i>kirigai noi</i> - <i>anal kirigai, pitha kirigai, etchil kirigai, vaatham kirigai, selathpanam kirigai, naadhavindu kirigai, bootha kirigai, jala kirigai, mohini kirigai, kalleri kirigai, kumbidum kirigai, munangal kirigai, alar kirigai, maruttu kirigai, moodu kirigai, valippu kirigai, neerkudi kirigai, and peipedi kirigai</i> and explain its etiology.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Discuss the clinical features of <i>kirigai (Kirigaikalin gunankal)</i>	CK	MK	K	L&PPT,RP	VV-Viva,C L-PR	F&S		-	NLHT14.6
CO6	Describe the common treatments for <i>kirigai</i> , including 18 <i>kirigaikku kulambu</i> and <i>muzhukku thylam</i> .	CC	MK	K	DIS,L	CL-PR,VV-Viva	F&S		-	NLHT14.7
CO6	Explain the term <i>unmatha noi</i> and its types. Define and tabulate	CK	MK	K	L&PPT	VV-	F&S		-	LH

	the types of <i>brammai noi</i> , discuss the <i>maruthuvam for brammai noi</i>					Viva,DEB				
CO6	Discuss the treatment for <i>unmatha noi</i> (Psychosis)	CC	DK	K	L&PPT	VV-Viva	F		-	NLHT14.8
CO6	Explain <i>matha noi</i> , the premonitory symptoms, clinical features, types, and treatment.	CC	MK	K	L&PPT	VV-Viva,DEB	F&S		-	LH
CO6	Define the term <i>mathathiyam</i> and explain the premonitory symptoms, types, clinical features, treatment, and incurable symptoms of <i>mathathiyam</i> .	CC	MK	K	L&PPT	DEB,VV-Viva	F&S		-	NLHT14.9
CO6	Explain <i>soothikavaatham</i> , its aetiology, and clinical features.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Discuss the <i>maruthuvam for soothikavaatham</i> .	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Define the term <i>moorchai</i> , and explain the aetiology, clinical features, and its treatment.	CK	MK	K	L&GD	VV-Viva	F&S		-	LH
CO6	Define the term <i>mayakkam</i> , and explain the aetiology, clinical features, types, and premonitory symptoms of <i>mayakkam</i> .	CK	MK	K	L&GD	CL-PR,VV-Viva	F&S		-	LH
CO6	Discuss the <i>maruthuvam for mayakkam</i>	CC	MK	K	L	CL-PR	F&S		-	NLHT14.10
CO6	Define <i>valippu noi</i> , and explain its aetiology, premonitory symptoms, and clinical features.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Elaborate on the <i>kutra verupadu</i> and <i>naadi nilai</i> (Pulse conditions) of <i>valippu noi</i> .	CC	DK	K	L&PPT	VV-Viva	F		-	LH
CO6	Discuss the <i>maruthuvam for valippu noi</i> .	CC	MK	K	L&PPT	VV-Viva	F&S		-	NLHT14.11
CO6	Define <i>Kakkai valippu noi</i> . Tabulate the types and aetiology of <i>kakkai valippu noi</i> .	CK	MK	K	L&GD	VV-Viva	F&S		-	LH

CO6	Describe the clinical features, management, and treatment of <i>kakkai valippu</i> .	CC	MK	K	L&GD	VV-Viva	F&S		-	NLHT14.1 2
CO6, CO7	Access the siddha psychiatric case sheet format-demographic details, patient history, Siddha diagnostics tools, investigations, treatment, and management.	PSY-GUD	MK	SH	CBL,L &GD,D- BED	P-EXAM	F&S		-	NLHP14.1
CO6, CO7	Examine psychiatric patients using the Siddha psychiatric case format, which includes complaints and duration, history of present illness (HOPI), past illness, general examination, and vital signs.	PSY-GUD	MK	SH	D-BED, CBL,L &GD	P-EXAM	F&S		-	NLHP14.2
CO6, CO7	Conduct the mental status examination and siddha psychiatric assessment for the depression ( <i>Manathalarchi</i> ) case.	PSY-GUD	MK	SH	CBL,D- BED,L_ VC	P-EXAM	F&S		-	NLHP14.3
CO6, CO7	Formulate the proper line of treatment for the post-traumatic stress disorder patient	PSY-GUD	DK	SH	L_VC,C BL,D- BED	P-EXAM	F&S		-	NLHP14.4
CO6, CO7	Examine post-traumatic stress disorder patients through mental status examination along with siddha examination.	PSY-GUD	MK	SH	D-BED, L_VC	P-EXAM	F&S		-	NLHP14.5
CO6, CO7	Conduct a thorough clinical examination of patients diagnosed with obsessive-compulsive disorder (OCD), focusing on their complaints, duration of symptoms, history of present illness (HOPI), past medical history, findings from the general examination, and vital signs.	PSY-GUD	MK	SH	D-BED, CBL	CBA,P- EXAM,Log book	F&S		-	NLHP14.6
CO6, CO7	Perform a comprehensive mental status examination (MSE) and Siddha psychiatric evaluation to assess patients diagnosed with Obsessive-Compulsive disorder (OCD).	PSY-GUD	MK	SH	L_VC,D -BED,C BL	P-EXAM	F&S		-	NLHP14.7
CO6	Formulate the appropriate treatment plan for a patient with depression ( <i>Manathalarchi</i> ).	CS	MK	SH	D-BED, CBL	P- EXAM,Log	F&S		-	NLHP14.8

						book				
CO6, CO7	Observe and identify the demographic details of the patient with depression.	CAN	MK	SH	L_VC,C BL,D- BED	CBA,P- EXAM	F&S		-	NLHP14.9
CO6, CO7	Examine a patient with anxiety using a mental status examination along with a Siddha assessment.	CAN	MK	SH	D-BED, L_VC,C BL	CBA,P- EXAM	F&S		-	NLHP14.10
CO6, CO7	Examine a patient with anxiety disorder including documentation of complaints and duration, history of the present illness, past medical history, general examination, and vital signs.	PSY- GUD	NK	SH	CBL,L_ VC,D- BED	P-EXAM	F		-	NLHP14.11
CO6	Conduct the mental status examination and siddha psychiatric assessment for the adult personality disorder case.	PSY- GUD	MK	SH	L_VC,D -BED,C BL	P-EXAM	F&S		-	NLHP14.12
CO6	Observe and identify the demographic details and proper line of treatment of the adult personality disorder case.	PSY- GUD	MK	SH	CBL,L_ VC,D- BED	P-EXAM	F&S		-	NLHP14.13
CO6	Invited seminar talks on psychology counselling	AFT- REC	DK	SH	DIS,L_ VC,SY	P-EXAM	F		-	NLHP14.14
CO6	Field visits to government / Private psychiatric hospital	PSY- GUD	MK	SH	TBL,CB L	OSCE	F&S		-	NLHP14.15
CO6, CO7	Conduct a mental status examination and a siddha psychiatric assessment for patients with phobias.	PSY- GUD	MK	SH	D-BED, CBL	Log book,P -EXAM,CB A	F&S		-	NLHP14.16
CO6, CO7	Observe and identify the demographic details and the line of treatment in the case of a phobia patient.	PSY- GUD	MK	SH	D-BED, CBL	CBA,P- EXAM	F&S		-	NLHP14.17

CO6, CO7	Optimized management and Siddha treatment protocol for anxiety disorders	CS	NK	SH	D-BED, CBL	P- EXAM,Log book	F		-	NLHP14.18
CO6, CO7	Examine a case history and conduct a mental status evaluation for psychiatric disorders <ul style="list-style-type: none"> <li>▪ Consciousness</li> <li>▪ Orientation to Time, Place, and Person</li> <li>▪ Intelligence</li> <li>▪ Memory</li> <li>▪ Emotional Disturbance of Speech</li> <li>▪ Handedness</li> <li>▪ Mini-Mental Scale Examination</li> <li>▪ General Appearance And Behaviour</li> <li>▪ General Appearance</li> <li>▪ Attitude Towards Examiner</li> <li>▪ Comprehension</li> <li>▪ Gait And Posture</li> <li>▪ Social manner</li> <li>▪ Rapport</li> <li>▪ Speech-Rate /Quantity</li> <li>▪ Volume/Tone</li> <li>▪ Mood And Affect-Euphoria-Interest/Excitement</li> <li>▪ Thought-Streamabel/Form Content</li> <li>▪ Anhedonia</li> <li>▪ Perception</li> <li>▪ Cognition</li> <li>▪ Consciousness</li> <li>▪ Orientation</li> <li>▪ Attention</li> <li>▪ Concentration</li> </ul>	CAP	DK	KH	D-BED	Log book,P- CASE	F&S		-	NLHT14.1 3



- Memory
- Intelligence
- Abstract Thinking
- Insight
- Judgment

**Non Lecture Hour Theory**

S.No	Name of Activity	Description of Theory Activity
NLHT 14.1	Demonstrate the Psychiatric examination	<p>The teacher will demonstrate a clinical examination at the bedside to elicit identification data, chief complaints, history of present illness, history, treatment history, family history, premorbid personality, and physical examination findings.</p> <p>Method: Interview schedule for case history taking, Tool for case taking - pen, paper, tape recorder.</p> <p>Procedure: Identify a patient from the desired age group. Take a detailed case history by using the given tools, Remember that the patient has to be accompanied by another person who would be an informant for you and help in answering your questions.</p> <p>Findings: state the information obtained through the interview with the subject and the other informant(s) as well as that obtained through the observations. Use the format of the tools for the purpose.</p> <p>Analysis and Discussion: Write down the inference and analysis of the observations that have been made about the individual.</p> <p>Conclusion Record the above inferences that have been drawn based on this practical activity. Broadly, need to focus on the findings and the interpretations of the same.</p> <p><b>Case-History taking</b> History-taking analysis of the following data should be asked- identification data, chief complaints, history of present illness, perpetuating or relieving factor, history, treatment history-present, and previous fracture, family history, personal history, childhood behavior during childhood, occupational history, puberty, menstrual /Obstetric, pre-natal history, natal history, milestones, social and marital status. premorbid personality, physical examination.</p>

		<p>This examination can provide valuable insights into a patient's mental state and help guide diagnosis and treatment. Students should submit a report summarizing their case analysis, using evidence-based practices to support their conclusions.</p> <p><b>Log Book and Documentation</b></p> <p>Highlight the importance of maintaining a logbook. Recording patient details and documenting parameters and outcomes. For Tracking progress and research purposes.</p> <p>Students will perform each step of the examination by taking case histories and will maintain a proper logbook for future documentation.</p>
NLHT 14.2	Overview of the different types of schizophrenia and their treatment methods.	<p>The teacher will provide a detailed overview of the different types of schizophrenia through a lecture with a PowerPoint presentation.</p> <p><b>A. Class Presentation Components:</b></p> <p>Introduction: Define Schizophrenia and emphasize its clinical importance.</p> <p>Body of the content: Positive symptoms, negative symptoms. Disorganized symptoms</p> <p>Types of Schizophrenia- overview of the different types of schizophrenia, including Paranoid Schizophrenia, Hebephrenic (Disorganized) Schizophrenia, Catatonic Schizophrenia, Undifferentiated Schizophrenia, and Residual Schizophrenia.</p> <p>Conclusion</p> <p>Summarize the key points about Schizophrenia and its Siddha comparison.</p> <p>Reflect on the importance of Siddha's diagnostic findings in psychiatric conditions.</p> <p>Emphasize the importance of early diagnosis and treatment to prevent chronicity.</p> <p>References: Journals or research studies related to Schizophrenia.</p> <p><b>B. Theory:</b> open-book exams assess students' ability to analyze, evaluate, or synthesize knowledge about the clinical importance of schizophrenia, focusing on preparation methods, dosage, and uses of Siddha medicine.</p> <ol style="list-style-type: none"> <li>1. Understand Exam Expectations: Identify plants and raw drugs used in preparing Psychiatry Medicines.</li> <li>2. Review Topic Objectives: Explain preparation methods and highlight ingredient identification and sourcing.</li> <li>3. Prepare Study Notes: Focus on formulations like Internal and External medicines</li> </ol>

		<p>4. Build a System: Understand their medicinal properties and their role in enhancing therapeutic efficacy.</p> <p>Students are trained to interpret the question-and-answer format for schizophrenia. Also, they are instructed to prepare and deliver class presentations and to prepare for an open-book theory test.</p>
NLHT 14.3	Management strategies for Schizophrenia.	<p>The teacher will provide a detailed overview of the management of schizophrenia through a lecture with a powerpoint presentation.</p> <p><b>Class presentation components:</b></p> <p>1. Introduction: Define schizophrenia and its clinical features</p> <p>2. Body of the content:</p> <p>Cognitive behavioral therapy (CBT)</p> <p>Supportive therapy</p> <p>Family therapy</p> <p>Community support services-</p> <p>3. Conclusion:</p> <p>Early detection and intervention can improve outcomes and reduce the impact of symptoms. With professional and community support, many people can manage symptoms and regain stability. Therapy and psychosocial support can help people learn social skills, cope with stress, and identify early warning signs of relapse.</p> <p>Students are trained to interpret the question-and-answer format for the management of schizophrenia. Also, they are instructed to prepare and deliver class presentations.</p>
NLHT 14.4	Treatment for adult personality disorders	<p>The teacher will explain the Treatment for adult personality disorders by lecture with group discussion</p> <p>I-Class Presentation</p> <p><b>A. Introduction</b>-Definition and Context</p> <p><b>B. Main Points:</b></p> <p>Types-Cluster A / Cluster B / Cluster C</p> <p>Management</p> <p>Treatment for adult personality disorders typically involves a combination of psychotherapy,</p>

		<p>medication (In some cases), and lifestyle changes.</p> <ol style="list-style-type: none"> <li>1. Psychotherapy (Talk Therapy)-The primary treatment for personality disorders is psychotherapy Cognitive Behavioral Therapy (CBT), Dialectical Behavior Therapy (DBT, Schema Therapy Mentalization-Based Therapy (MBT)Transference-Focused Therapy (TFP), Group Therapy</li> <li>2. Medication (If Needed)- modern-Antidepressants, Mood Stabilizers</li> <li>3. Lifestyle and Self-Help Strategies Regular sleep, diet, and exercise. Meditation, deep breathing, and relaxation exercises. Setting boundaries and improving communication. Reducing impulsivity and emotional instability. Peer support can be beneficial.</li> <li>4. Hospitalization or Intensive Programs</li> </ol> <p><b>C.Conclusion-</b> Consider which personality disorder the person has, choose strategies accordingly to communicate, set consistent limits, maintain the usual management style, and schedule regular follow-up visits. Students are trained to interpret the question answer for adult personality disorders. Also, instruct them to take class presentations.</p>
NLHT 14.5	Treatment for <i>Paithiyam</i> Diseases	<p>The teacher will explain the treatment for <i>Paithiyam</i> disease through a lecture with a group discussion.</p> <p><b>Class Presentation topic:</b></p> <p><b>I.Classical Texts:</b> <i>Siddha</i> Treatment Approaches The 18 types of <i>Paithiyam</i> diseases are mainly treated through: External Therapies – <i>Kulineer, Thalam, Poochu, Kudineer</i> Internal Medicines – <i>Pitaviyal, Nei, Girtham, Legium, Thylam, Kulambu</i></p> <p><b>II. Modern Treatment Approaches</b> Cognitive Behavioral Therapy (CBT) – Focuses on changing negative thought patterns and behaviors. Dialectical Behavior Therapy (DBT) – Combines CBT with mindfulness; often used for borderline personality disorder. Psychodynamic Therapy – Explores unconscious processes and past experiences that influence current behavior. Humanistic Therapy – Emphasizes personal growth and self-actualization, focusing on self-healing.</p> <p><b>III. Lifestyle Modifications</b></p>

		<p>Diet and Nutrition – Promotes a balanced diet to support overall mental health.</p> <p>Exercise – Incorporates regular physical activity to improve mood and reduce anxiety.</p> <p>Sleep Hygiene – Establishes healthy sleep patterns to enhance mental well-being.</p> <p>Mindfulness and Relaxation Techniques – Practices such as meditation, yoga, or deep breathing to reduce stress.</p> <p>Students will be trained to interpret and question answers related to the treatment of <i>Paithiyam</i> diseases.</p>
NLHT 14.6	Clinical features of <i>kirigai</i> ( <i>Kirigaikalin Gunankal</i> )	<p>The teacher will explain the interpretation of psychiatric diseases—<i>kirigai</i>—discussing their types and clinical features using lectures with powerpoint presentations and role-play methods.</p> <p><b>A.Role-play methods for <i>kirigai</i> conditions</b></p> <p>Patient-clinician simulation  Example: One person acts as a patient with <i>jala kirigai</i>, displaying hallucinations and delusions, while another student performs a psychiatric interview.</p> <p>Case-based role-playing  Example: A session on <i>peipidi</i>, where one person plays an annoying patient and another plays a family member struggling to manage their behavior.</p> <p>Emergency psychiatry role-play – <i>bootha kirigai</i>  Example: Managing a violent or agitated patient in an emergency department.</p> <p>Ethical dilemma scenarios  Example: A person plays a psychiatrist deciding whether to admit a suicidal patient against their will.</p> <p><b>B.Class presentation</b></p> <p><i>I.Kirigai types</i>  Types of <i>kirigai</i>: Discussion on the 18 types of <i>kirigai</i>.  Clinical features:  A. Major symptoms  b. Minor symptoms  ii. Classification of <i>kirigai</i> based on the three humors  Conclusion:  Students will learn the clinical features of different types of <i>kirigai</i> and develop the ability to differentiate between various psychiatric disorders, incorporating this knowledge into clinical practice.</p>

		Students will be trained to interpret and answer questions related to the treatment of kirigai noi and prepare for class presentations.
NLHT 14.7	Common treatments for <i>Kirigai</i> , including 18 <i>Kirigaikku Kulambu</i> and <i>Muzhukku thylam</i> .	<p>The teacher will explain the common treatments for <i>Kirigai</i>, including 18 <i>Kirigaikkum Kulambu</i> and <i>Muzhukku thylam</i>, through lectures and group discussions.</p> <p><b>A.Class Presentation Components</b></p> <p>Introduction:  Define <i>Kirigai</i> and its significance in Siddha psychiatric treatment.  Provide an overview of <i>Kirigai</i>, comparing it with modern psychiatric approaches.</p> <p>Body of the Content:  Explanation of common treatment modalities for <i>Kirigai</i>.  <i>Kirigai</i> 18 types – <i>Kulambu</i> preparation and <i>muzhukku thylam</i> preparation, Ingredients needed.  Route of administration (Oral / External).  Mechanism of action of the medicine (Comparison)  Benefits of therapies (<i>Thuvalai</i>, <i>kudori Maruthuvam</i>, <i>thalam</i>, fumigation, nasal, ophthalmic, mandiram (Psychotherapy)).</p> <p>Conclusion:  Summarize the key points about <i>Kirigai</i> and its clinical importance.  Emphasize the holistic approach and the benefits of proper external therapy treatments.</p> <p>References:  Cite books, journals, or research studies related to modern psychiatry and its therapies.  Students will be trained to interpret and answer questions about the treatment of <i>Kirigai Noi</i>.  Additionally, they will be instructed to prepare and deliver class presentations.</p>
NLHT 14.8	Treatment for <i>Unmatha Noi</i> (Psychosis)	<p>The teacher will explain the treatment for <i>unmatha noi</i> (Psychosis) by lecture with a powerpoint presentation.</p> <p>Treatment methodology for <i>unmaatham</i> (Psychosis),</p> <p><b>I.Pathophysiology of unmaatham</b> - Discuss how the increase in <i>azhal</i> affects <i>udalthaathukkal</i>, leading to abnormal mental behavior.</p>

		<p><b>II.treatment methodology</b></p> <p>A.Psychotherapy for <i>unmatha noi</i>-discuss the role of psychotherapy in managing <i>unmatha noi</i> (Mental disorder).</p> <p>B.Internal medicine</p> <p>A.Explain the use of internal medicines to normalize deranged humor</p> <p>B.Mothers milk / <i>Sengarumbinchaaru</i> - Administration of mother's milk or <i>sengarumbinchaaru</i> twice a day for 5-7 days as a treatment approach.</p> <p>C.decoction preparation-discuss the preparation and therapeutic use of decoction in <i>unmatham noi</i></p> <p>D.Mineral preparations-explore the role of mineral preparations in the treatment of <i>unmatham</i>.</p> <p>E.External medicine bath/nasiyam-detail the therapeutic benefits of the oil bath, nasiyam in managing symptoms.</p> <p>Students are trained to interpret the question answer for <i>unmatham</i> (Psychosis)</p>
NLHT 14.9	Treatment of <i>mathathiyam</i> .	<p>The teacher will explain the treatment for <i>mathathiyam</i> through a lecture with a powerpoint presentation, covering premonitory symptoms, types, clinical features, treatment, and incurable symptoms of <i>mathathiyam</i>.</p> <p>Debates on <i>mathathiyam</i> topics may help students improve their knowledge and promote problem-solving and innovative thinking.</p> <p>Instructions:</p> <ol style="list-style-type: none"> <li>1.The teacher / educator writes the debate topic – <i>Mathathiyam</i> on the board.</li> <li>2.Divides the students randomly into two groups, one agreeing with the statement on the board, and the other group disagreeing with it.</li> <li>3.The groups are given 10 minutes for quick discussion</li> <li>4.The arguments should be offered consecutively by the opposite side.</li> </ol> <p>The teacher should monitor that the arguments are not being repeated and that there is engagement – that the students are responding to each other's.</p> <p>Content-</p> <p>Define the term <i>mathathiyam</i>, premonitory symptoms of <i>mathathiyam noi</i>., tabulate the types of <i>mathathiyam</i>, state the incurable symptoms of <i>mathathiyam</i>, discuss the <i>maruthuvam</i> for <i>mathathiyam noi</i></p> <p>Psychotherapy and treatment modalities</p>

		<p><b>I. Psychotherapy-</b> Discuss the role and methods of psychotherapy in managing mental health disorders.</p> <p><b>ii. Medication</b> Internal medicine -Discuss the role of internal medicines in managing the psychiatric condition External medicine(<i>thuvilai</i>)-Explore the application of external medicines for mental health treatment.</p> <p><b>iii. Psychoeducation-</b>Provide education on mental health disorders for individuals and families to improve understanding and reduce stigma.</p>
NLHT 14.10	<i>Maruthuvam for Mayakkam.</i>	<p>The teacher will explain the treatment for <i>mayakkam</i> through a lecture.</p> <p>Class presentation contents-</p> <p><b>1. Introduction:</b> Define <i>mayakkam</i> and its significance in siddha psychiatric treatment.</p> <p><b>2. Body of the content</b> – Psychotherapy and treatment modalities Discuss the role and methods of psychotherapy in managing <i>mayakkam noi</i>. Discuss the role of internal medicines in managing psychiatric condition-<i>siddha</i> and modern approaches. First and foremost, syncope symptoms are treated to address the unconscious condition. This is followed by purgation and induced vomiting. Internal medicines such as <i>vilwaathi lehyam</i> and <i>vallarai nei</i> are administered. In cases of cardiac failure, medicines prepared from <i>pachai karpooram</i> and <i>kumkumapoo</i> are prescribed. Detoxifying medicines are prescribed as needed. <i>Nasiyam</i> techniques involve juice soaked with <i>thirikadugu</i>, <i>thiripala</i>, <i>poondu</i>, <i>pungam paruppu</i>, and <i>ettipazha sathai</i>. <i>Aakiraana nasiyam</i> is made from animal bile. <i>Kalikkam</i> and <i>pugai</i> are made from the feathers of <i>kottaan</i> or <i>valiyaan</i>. <i>Aalakaala vida thylam</i> is used for <i>mayakkam</i> treatment.</p> <p><b>3. Conclusion:</b> Summarize the key points about <i>mayakkam</i> and its clinical importance. Emphasize the holistic approach and the benefits of proper external therapy for patients. Students will be trained to interpret and answer questions related to <i>mayakkam</i> additionally, they will be instructed to prepare and deliver class presentations.</p>



NLHT 14.11	<i>Maruthuvam</i> for <i>Valippu Noi</i>	<p>The teacher will explain the treatment for <i>maruthuvam</i> for <i>valippu noi</i> by lecture with a powerpoint presentation.</p> <p>Medications and lifestyle adjustments in <i>valippu noi</i></p> <p><b>I. Medications for mental health disorders</b></p> <p><i>Seeragapugai</i> - Evaluate the therapeutic properties of fumigation</p> <p><i>Agasthiyar kuzhambu pugai</i> - Administration method (3-5 paddy size).</p> <p>Purgatives-Role in managing mental health conditions.</p> <p>Other preparations</p> <p><i>Parpam, chendooram, mezhugu, kuzhambu, ennai</i></p> <p>Therapeutic effects and preparation methods.</p> <p><b>ii. External medicine and external application in mental health treatment.</b></p> <p><b>iii. Lifestyle adjustments</b></p> <p>Avoiding triggers (<i>valippu</i>)-Strategies to avoid triggers (lack of sleep, stress, specific substances).</p> <p>Maintaining a regular -Important consistent daily routine for mental well-being.</p> <p>Students are trained to interpret the question answer for <i>valippu noi</i></p>
NLHT 14.12	Management of <i>Kakai valippu</i>	<p>The teacher will explain the Management and treatment of <i>Kakkai Valippu Noi</i> by lecture with Group discussion.</p> <p><b>VIVA -</b></p> <p>1. Define the term <i>Kakai Valippu</i></p> <p>2. Illustrate the types of <i>Kakkai Valippu</i></p> <p><i>Valippu</i> (Seizures)</p> <p><i>Arivukaedu</i> (Orientation problems)</p> <p><i>Gunakaedu</i> (Character changes)</p> <p><i>Aalumai maarupaadu</i> (Personal changes)</p> <p>3. Describe the Post mortem finding in <i>Kakai Valippu</i> patient</p> <p>4. Management of <i>kakkai valippu</i></p> <p>5. Explain treatment modalities for <i>kakkai</i> Syncope is treated first with purgation or peechu therapy to eliminate toxins.</p> <p>If there are orientation problems, a soporific drug is</p>

		<p>administered.</p> <p>A nervine tonic should be given to support the nervous system.</p> <p>Medicines containing <i>sringi</i> and <i>pachaikarpooram</i> are prescribed in cases of cardiac failure.</p> <p><i>Brahmi nei</i> is given at a dosage of 8–15 ml.</p> <p><i>Vallarai</i> is contraindicated in the treatment of epilepsy.</p> <p>Students are trained to interpret the question answer for <i>kakai valippu</i></p>
NLHT 14.13	History taking and mental status examination in the psychiatric disorders.	<p>The teacher will demonstrate the history taking and mental status examination for psychiatric disorders.</p> <p>Method: Interview schedule for case history taking, tool for mental health status examination, pen, paper, tape recorder.</p> <p><b>Procedure:</b> Identify a patient from the desired age group. Take a detailed case history and mental status examination (MSE) by using the given tools. Remember that the patient has to be accompanied by another person to help in answering the questions.</p> <p>Conclusion-record the above inferences that have been drawn based on this practical activity.</p> <p><b>Tool -1 case-history -Mental status examination components</b></p> <p>consciousness: Assess the level of awareness and alertness. Is the patient fully conscious, drowsy, or in a coma?</p> <p>Orientation to time, place, and person: Evaluate the patient's awareness of their current situation. Can they correctly identify the date, their location, and their identity?</p> <ol style="list-style-type: none"> <li>1. Intelligence (practical application): Observe how the patient applies their intelligence in everyday tasks. Are they able to solve problems or handle daily activities appropriately?</li> <li>2. Memory: Assess immediate, short-term, and long-term memory through tasks like recalling words or personal history.</li> <li>3. Emotional disturbance of speech: Note any abnormalities in speech that may reflect emotional distress, such as tone or rhythm changes.</li> <li>4. Handedness: Determine the patient's dominant hand, which can provide insight into neurological functioning.</li> <li>5. Mini-mental state examination (MMSE): A brief screening tool to assess cognitive function, including orientation, attention, and memory.</li> <li>6. General appearance and behavior:</li> </ol>

- A. General appearance: Note grooming, hygiene, attire, and overall presentation.
  - B. Attitude towards examiner: Observe the patient's engagement, cooperation, and receptiveness during the examination.
  - 7. Comprehension: Evaluate the patient's understanding of instructions or questions.
  - 8. Gait and posture: Assess physical movement and posture, which can reflect neurological or psychiatric conditions.
  - 9. Social manner: Observe social interactions and appropriateness in communication.
  - 10. Rapport: Gauge the connection and comfort level between the patient and examiner.
  - 11. Speech:
    - A. Rate / Quantity: Observe how fast and how much the patient speaks.
    - B. Volume / Tone: Note the loudness and emotional quality of the speech.
  - 12. Mood and affect:
    - A. Euphoria: Look for signs of elevated mood.
    - B. Interest / Excitement: Assess the patient's engagement in activities.
  - 13. Thought:
    - Stream / Flow: Evaluate the organization and coherence of thoughts.
    - Form/ content: Analyze the content of thoughts for any delusions or obsessions.
  - 14. Anhedonia: Assess the patient's ability to experience pleasure in activities they previously enjoyed.
  - 15. Perception: Evaluate for any perceptual disturbances, such as hallucinations.
  - 16. Cognition:
    - Consciousness: Confirm the state of alertness.
    - Orientation: Review orientation status again for consistency.
    - Attention: Assess the ability to focus on tasks.
    - Concentration: Evaluate sustained mental effort
    - memory: Confirm findings related to memory previously noted.
  - 17. Intelligence: Further assess reasoning and problem-solving capabilities.
  - 18. Abstract thinking: Test the ability to understand concepts beyond the concrete, such as interpreting proverbs.
  - 19. Insight: Evaluate the patient's awareness of their condition and its implications.
  - 20. Judgment: Assess decision-making abilities and foresight regarding potential consequences of actions.
- This examination can provide valuable insights into a patient's mental state and help guide diagnosis

		<p>and treatment.</p> <p>Log book and documentation</p> <p>Highlight the importance of maintaining a logbook:</p> <p>Recording patient details.</p> <p>Documenting parameters and outcomes.</p> <p>For tracking progress and research purposes.</p>
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**Non Lecture Hour Practical**

S.No	Name of Practical	Description of Practical Activity
NLHP 14.1	Siddha psychiatric case format-	<p>Case-based learning – in groups, review the case details, determine the appropriate examination methods (demographic details, clinical examination, mental status examination, and <i>siddha</i> examination), and discuss the diagnosis and potential treatment options.</p> <p><b>1.Demographic details-15 min</b></p> <p>Name</p> <p>Age</p> <p>Gender</p> <p>Occupation</p> <p>Address</p> <p>Marital status</p> <p>Socioeconomic status</p> <p>Religion and culture</p> <p><b>2.Patient history and clinical examination-</b></p> <p>Chief complaints and duration</p> <p>History of present illness (HOPI)</p> <p>Past illness</p> <p>Family history</p> <p>Personal history</p> <p>General examination with vital signs</p> <p>Temperature</p> <p>Pulse</p>

Blood pressure

Respiratory rate-other observations (Skin, pallor, etc.)

**3.Mental status examination (MSE)- 20 min**

Consciousness, orientation to time, place and person, intelligence, memory, emotional disturbance of speech, handedness

Mini-mental scale examination-

General appearance and behaviour-general appearance, attitude towards the examiner, comprehension, gait, posture, social manner, rapport, speech / Quantity, volume / One, mood, and affect-euphoria-interest / Excitement

Thought stream form content, anhedonia, perception, cognition, consciousness, orientation, attention, concentration, memory, intelligence, abstract, thinking, insight, judgement.

**4.Siddha examination-15 min**

*Imporigal*

*Kanmendriyam*

*Uyirathukkal:Vatham-azhal-iyam*

*Udal thathukkal*

*Envagai thervu-naadi, sparisam,naa,niram,mozhi,vizhi,malam ,moothiram*

*Neikuri-kabha neer /pitha neer /vatha neer*

Environmental and seasonal influence: Assess any external factors influencing the patient's health.

**5.Diagnosis -10 min**

Combine findings from the clinical, mse, and *siddha* examinations. State the probable *siddha* diagnosis.

**6.Line of *siddha* treatment-**

Internal medicine: Specify *siddha* formulations (e.g., *chooranam, kudineer*).

External medicine:Example: *Thailam*

Dietary advice: Suggested foods and restrictions.

**7.Therapy-**

External therapy: *Thokkanam* (physical manipulation), *nasiyam*( nasal instillation), *thuvaalai, poochu*.

*Karpam*: Use of rejuvenative herbs or formulations.

*Yogam* and *pranayamam*: Specific *asanas* and breathing techniques suitable for the condition.

Students watch the demonstration and apply it to the practical examination.

The total duration of the activity is 1 hour.

NLHP 14.2	Siddha Psychiatric Case Format-Initial assessment	<p>The teacher will demonstrate an understanding of case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and <i>siddha</i> examination), and discuss the findings.</p> <p><b>1.Initial assessment (15 minutes)</b> Name, age, gender, marital status, occupation, address, and date of consultation.</p> <p><b>2.History of present illness (HOPI) (20 minutes)</b> Onset: When and how did the symptoms start? Duration: How long have the symptoms persisted? Progression: Improving, worsening, or fluctuating? Associated symptoms: Mood changes, sleep issues, appetite, and concentration. Precipitating factors: Stressful events, trauma, or changes in life circumstances. Aggravating or relieving factors: Lifestyle habits or environmental triggers.</p> <p><b>3.Past illness and family history (15 minutes)</b> Review the history of medical or psychiatric conditions. Document family history of mental health or chronic illnesses.</p> <p><b>4.General examination (25 minutes)</b> Appearance: Hygiene, posture, and body language. Behavior: Cooperative, restless, agitated, or withdrawn. Mood and affect: E.g., depressed, anxious, irritable. Speech: Clarity, tone, and pace. Thought process: Logical, coherent, or signs of disorganized thinking. Mukkutram assessment:<i>Vali</i>: Nervous function, dryness, joint pain.<i>azhal</i>: Heat-related signs, anger, digestion.<i>iyyam</i>: Lethargy, mucus, or excess sleep.</p> <p><b>5.Vital signs (15 minutes)</b> Temperature, pulse rate, respiratory rate, blood pressure, weight, height (Cm) and calculate bmi</p> <p><b>6.Psychological and mental status examination (MSE) (25 minutes)</b> Orientation: Awareness of time, place, and person. Memory: Assess short-term, long-term, and immediate recall. Attention / Concentration: Ability to focus on tasks. Insight: Awareness and understanding of the condition. Judgment: Ability to make sound decisions.</p> <p><b>7.Summary and preliminary diagnosis (5 minutes)</b></p>
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		<p>Chief complaints and findings from hopi and examination.          Formulate a preliminary diagnosis based on <i>siddha</i> and modern psychiatric principles.          Students watched the demonstration and applied for the practical examination.          The total duration of the activity is 2 hours.</p>
NLHP 14.3	Mental status examination and siddha psychiatric assessment for the depression ( <i>Manathalarchi</i> ) case	<p>The teacher will demonstrate an understanding of case-based learning by lecture with video clips. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and <i>siddha</i> examination), and discuss the findings.</p> <p><b>1.Mental status examination (MSE)</b>          Well-groomed or neglected? Posture: Slumped or erect? Facial expression: Sadness, tearfulness, or lack of expression?          Speech -rate: Slow, normal, or pressured? Volume: Soft, normal, or loud? Tone: Monotonous, hesitant, or expressive?          Mood and affect          Thought process-coherence, content, suicidal ideation, delusions          Perception-hallucinations,illusions          Cognition-orientation, attention and concentration, memory          Insight- awareness of their depressive state and understanding its impact.          Judgment-ability to make decisions about daily activities, relationships, and treatment adherence.          Environmental and seasonal influence: Assess any external factors influencing the patient's health</p> <p><b>2.Siddha psychiatric examination -30 min</b>  <i>Imporigal</i>  <i>Kanmendriyam</i>  <i>Uyirthathukkal: Vatham/pitham/kabam</i>  <i>Udal thathukkal</i>  <i>Mukkutram</i> assessment  <i>Naadi</i> (Pulse) diagnosis  <i>Envagai thervugal</i> (Eight diagnostic tools)  <i>Naadi</i> (Pulse): Determine mukkutram imbalance.  <i>Sparisam</i> (Touch): Assess skin texture, temperature, and moisture.</p>

		<p><i>Naa</i> (Tongue): Observe coating or discoloration.  <i>Niram</i> (Color): Skin tone changes (E.g., pale in depression).  <i>Mozhi</i> (Speech): Fast and incoherent speech indicates vatha imbalance; slow or slurred speech indicates <i>kapha</i> dominance; rapid speech suggests <i>pitha</i> imbalance.  <i>Vizhi</i> (Eyes): Dull, sunken, or lack of luster.  <i>Malam</i> (Stool): Constipation or irregularity (<i>vatham</i>).  <i>Moothiram</i> (Urine): Analyze for color, smell, and sedimentation to identify <i>thoda</i> disturbances.</p> <p>Case summary for depression  A. Mental status examination: Sad mood, hopeless thoughts, psychomotor retardation, or suicidal ideation. cognitive deficits in concentration and memory.  B. <i>Siddha</i> findings  Students observed the demonstration and applied for the practical examination.  The total duration of the activity is 1 hour.</p>
NLHP 14.4	Line of treatment for the patient in Post-traumatic stress disorder.	<p>The teacher will demonstrate an understanding of case-based learning through a lecture with video clips in groups, students will review the case details, determine the appropriate examination methods (Demographic information, clinical examination, mental status examination, and <i>Siddha</i> examination), and discuss the findings.</p> <ol style="list-style-type: none"> <li><b>1. Initial assessment( 10 min)</b>--Conduct a detailed medical, psychological, and social history. Assess trauma exposure, symptom severity, comorbid conditions (E.g., depression, anxiety, substance use disorders), and functioning.</li> <li><b>2. Psychoeducation( 5 min)</b>--Educate the patient about PTSD, including its symptoms, triggers, and treatment options. Normalize the experience of symptoms as part of the body's response to trauma. Discuss the importance of treatment adherence and coping strategies.</li> <li><b>3. Psychotherapy( 5 min)</b>--Supportive therapies -stress inoculation training (SIT): Teaches coping and relaxation techniques. dialectical behavior therapy (DBT): Beneficial for patients with emotional dysregulation or comorbid personality disorders.</li> <li><b>4. Medications( 10 min)</b>--medicated herbs- creates calming and mind-soothing effect. <i>Siddha</i> formulation- internal / External medicine</li> <li><b>5. External therapies( 10 min)</b>--<i>thokkanam</i> (Oil massage).</li> </ol>



		<p><b>6. Yoga and meditation( 10 min)</b>--<i>asanas</i> (Postures): Forward bends, <i>balasanam</i> (Child’s pose), and <i>shavasana</i> (Corpse pose) to relax the body.  <i>Pranayama</i> (Breathing techniques):(Alternate nostril breathing): Balances the mind and body.<i>bhramari</i> (Humming bee breath): Reduces anxiety and induces relaxation.  Meditation: Practice mantra chanting or guided visualization using affirmations like "<i>Om namah shivayam</i>" To restore mental peace.</p> <p><b>7. Dietary regulations( 5 min)</b>--Warm, nourishing, and easily digestible foods.</p> <p><b>8. Regular monitoring( 5 min)</b>--Evaluate the patient's mental and physical health periodically.</p> <p>Students observed the demonstration applied for the practical examination</p> <p>The total duration of the activity is 1 hour.</p>
NLHP 14.5	Examination of the post-traumatic stress disorder	<p>The teacher will demonstrate an understanding of case-based learning through a lecture with video clips in groups; students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and Siddha examination), and discuss the findings.</p> <p><b>1. Prepare the patient for clinical examination (10 minutes)</b>  Explain the process: Describe the steps of the examination (history taking, physical assessment, MES, and Siddha evaluation).</p> <p><b>2. Analyse history, complaints, and vitals (20 minutes)</b>  Chief complaints: Record primary symptoms: Flashbacks, nightmares, avoidance, hypervigilance, mood swings, or physical complaints like headaches or fatigue. Ask about triggers and situations that exacerbate symptoms.  Onset and duration: Identify when symptoms began and their relation to a traumatic event. Explore the duration and whether symptoms have worsened or stabilized.  Psychosocial history: Assess the impact of trauma on work, relationships, and daily functioning.  Investigate prior history of mental illness or substance use.  Medical history: Note past medical conditions and treatments, if any, and record any current medications or therapies.  Measure vitals-heart rate, pulse rate, blood pressure, temperature</p> <p><b>3. Mental status examination (MSE) (20 minutes)</b>  Appearance and behavior: Observe posture, grooming, and restlessness (Hyper-vigilance). Look for</p>

signs of avoidance or withdrawal.

Speech: Note tone, pace, and fluency. Hesitation or emotional pauses may indicate distress.

Mood and affect: Record emotional state (Anxiety, irritability, or numbness).

Thought process: Look for preoccupation with trauma or disorganized thinking.

Perception: Assess for hallucinations, flashbacks, or dissociative episodes.

Cognition: Evaluate memory, attention, and concentration. Note any confusion or difficulty focusing.

Insight and judgment: determine awareness of the condition and its impact.

#### **4. Siddha examination (20 minutes)**

*Imporigal*

*Kanmendriyam*

*Uyirthathukkal: Vatham/Pitham/Kabam*

*Udal Thathukkal*

*Envagai thervu-naadi ,sparisam,naa,niram,mozhi,vizhi,malam,moothiram .*

*Neikuri-kabha neer /pitha neer /vatha neer*

*Naadi*-(pulse diagnosis): check for *vatham* imbalance (linked to anxiety and restlessness). Assess *pitham* (irritability or anger) and *kabam* (emotional detachment or numbness).

Observation: Observe the patient's facial expressions, posture, and demeanor. Look for signs of stress, fatigue, or tension.

Palpation: Assess for physical tension or tenderness, particularly in the head, neck, and shoulders.

Lifestyle and environment analysis: Evaluate daily routines, sleep patterns, and dietary habits. Note any environmental or relational stressors.

**5. Diagnosis (20 minutes)**-History and MSE findings: Likely indicate PTSD based on symptoms like flashbacks, avoidance, hypervigilance, and mood changes.

#### **6. Siddha treatment plan (30 minutes)**-

Internal treatments/external treatments-*Thokkanam* (Physical manipulation)-Apply gentle pressure to specific points to release tension.

Meditation and *pranayama*: Encourage deep breathing exercises and guided meditation for emotional stability.

Dietary advice

Students observed the demonstration and applied for the practical examination.

The total duration of the activity is 2 hours.

NLHP 14.6	Examination of obsessive-compulsive disorder (OCD)	<p>Case-based learning – in groups, review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and siddha examination) by demonstrating at the bedside, and discuss the diagnosis.</p> <p><b>1. History taking (25 minutes)</b></p> <p><b>Chief complaints</b>-Recurrent, intrusive thoughts (Obsessions).repetitive behaviors or rituals (Compulsions).duration, frequency, and impact of symptoms on daily life.</p> <p><b>History of present illness (HOPI)</b></p> <p>Duration: When symptoms first started.</p> <p>Onset: Sudden or gradual.</p> <p>Nature of symptoms: Describe the obsessions (e.g., fear of contamination, harm), describe the compulsions (e.g., washing, checking, counting).</p> <p>Triggers: Situations or events that provoke obsessions or compulsions.</p> <p>Relief: Temporary or no relief after rituals.</p> <p>Functional impact: Effects on personal, social, occupational, or academic functioning.</p> <p>Insight: Awareness of the irrational or excessive nature of symptoms.</p> <p><b>Past medical and psychiatric history</b></p> <p>Previous diagnoses or treatments (E.g., psychiatric therapy, medications).</p> <p>Family history of OCD or other psychiatric illnesses.</p> <p>History of tics, anxiety, or depressive disorders.</p> <p><b>Personal and social history</b></p> <p>Birth and developmental milestones.</p> <p>Social relationships and family support.</p> <p>Occupation and stressors at work or school.</p> <p>History of substance use or abuse.</p> <p>Medication history-Current medications (including psychotropics).</p> <p><b>2.General examination (5 minutes)</b></p> <p>Appearance, behavior</p> <p><b>3.vital signs (5 minutes)</b></p> <p>Blood pressuré,heart rate,respiratory rate,temperature.pulse rate.look for signs of autonomic arousal (E.g., sweating, tremors), especially if anxiety is present.</p> <p><b>4. Mental status examination (15 minutes)</b></p>
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NLHP 14.7	Mental status examination (MSE) and Siddha psychiatric evaluation for Obsessive-Compulsive Disorder (OCD).	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and <i>Siddha</i> examination) by demonstrating at the bedside, and discuss the diagnosis.</p> <p><b>1. Mental status examination (MSE) (30 minutes)</b></p> <ol style="list-style-type: none"> <li>1. Appearance and behavior-observation: assess grooming, hygiene, posture, and activity level. Are there repetitive movements or ritualistic behaviors?</li> <li>2. Speech-quality: fluent or hesitant? Rate: normal, rapid, or slow?content: repetitive or intrusive speech patterns related to obsessions?</li> <li>3. Mood and affect</li> <li>4. Thought process and content</li> <li>5. Perception-check for hallucinations or misinterpretations of stimuli.</li> <li>6. Cognition-attention and concentration, memory, executive function</li> <li>7. Insight and judgment</li> <li>8. Risk assessment-assess for self-harm or suicidal ideation linked to distress over ocd symptoms.</li> <li>9. Behavioral symptoms-ritualistic behaviors: record details of compulsive actions, their frequency, and trigger, mental agitation: levels of mental restlessness during the session.</li> </ol>

		<p>10. Emotional state-anxieties or fears: note if these dominate the patient's thoughts.dependency: reliance on rituals for emotional regulation.</p> <p><b>2. Siddha psychiatric examination (30 minutes)</b></p> <p><i>Imporigal</i></p> <p><i>Kanmendriyam</i></p> <p><i>Uyirthathukkal: Vatham/pitham/kabam</i></p> <p><i>Udal thathukkal</i></p> <p><i>Envagai thervu- naadi, sparisam, naa, niram, mozhi, vizhi, malam, moothiram .</i></p> <p><i>Neikuri-kaba neer /pitha neer /vatha neer</i></p> <p>Observation of <i>nadi</i> (pulse diagnosis)imbalance in <i>vatham</i>: Anxiety, restlessness, overthinking imbalance in <i>kabam</i>: rigidity, repetitive actions.imbalance in <i>Pitham</i>: Irritability and obsessive perfectionism.</p> <p><i>Gunam-sattvam</i>: The patient’s ability to remain calm and composed <i>rajo</i>: overactivity or restlessness linked to compulsions.<i>tamao</i>: lethargy or inability to resist compulsive behaviors.</p> <p>Diagnosis and classification-identify OCD as per <i>siddha</i> classifications of mental disorders.</p> <p>Students observed the demonstration and applied for the practical examination.</p> <p>The total duration of the activity is 1 hour.</p>
NLHP 14.8	Treatment plan for depression ( <i>Manathalarchi</i> ).	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate treatment plan for depression (<i>Manathalarchi</i>) by demonstrating at the bedside, and discuss the diagnosis.</p> <p>General principles of siddha treatment: Addressing the root cause and balancing the <i>mukkutram</i></p> <p><b>Internal medicines (Siddha formulations)(10 minutes )</b></p> <p>“<i>Vamanathal pitham thazhum</i>”-To reduce <i>pitham</i> we need to induce vomiting and purgation by following medicines-<i>sanjeevi mathirai, venkakkirattan mathirai, agasthiyar kuzhambu, kowsigar kuzhambu, drakshadhy kudineer</i></p> <p><i>nei preparations:Thaneervittaan nei, vallarai nei, brahmi nei, chooranam-sadamaanjil chooranam, parpam: Peranda parpum, nandukkal parpum, legiyam:Amukkara legiyam</i></p> <p><b>External therapies (Varmam therapy) (10 minutes )</b>: Activating specific <i>varmam</i> points (e.g., <i>thilartha kalam, adappa kalam</i>) to calm the mind and improve emotional balance. Sessions: 15–20 minutes daily or as required.</p>

		<p>Oil massage-medicated oils such as <i>arakku thailam</i>, <i>seeraga thailam</i>, <i>siru sandhanadhi thailam</i>, <i>thripala thailam</i> for relaxation and <i>vatha</i> pacification.frequency: 2–3 times per week.</p> <p><b>Yogam (10 minutes )--savasanam</b> (Corpse pose) – for complete relaxation. <i>Vajrasanam</i> (Diamond pose) – improves digestion and calms the mind.<i>balasanam</i> (Child’s pose) – for stress relief.</p> <p><i>Pranayama</i> (Breathing exercises)(10 minutes ) --alternate nostril breathing, <i>bhramari</i> (Bee breath), duration: 15–20 minutes daily.</p> <p><b>Diet therapy (5 minutes )--</b>cold, stale, and heavy foods that aggravate <i>kabam and vatham</i> (e.g., refrigerated items, excess fried foods).excess spicy or oily foods that disturb <i>pitha</i>.</p> <p><b>Meditation(Dhyanam) (10 minutes )--</b>Siddha-based spiritual practices focusing on inner peace.</p> <p><b>Lifestyle modifications (5 minutes )--</b>Sleep hygiene, physical activity, stress management</p> <p>Students observed the demonstration and applied for the practical examination.</p> <p>The total duration of the activity is 1 hour.</p>
NLHP 14.9	Collection of the demographic details and history taking of the patient with depression	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination) by demonstrating at the bedside, and discuss the diagnosis.</p> <p><b>1. Collection of demographic details (25 minutes)</b></p> <p>Name: Full name of the patient.</p> <p>Age: Current age (To understand age-specific mental health trends).</p> <p>Gender: Male, female, or other (To assess gender-related influences).</p> <p>Occupation: Employment status, work environment, and job satisfaction.</p> <p>Marital status: Single, married, divorced, or widowed (To evaluate social support).</p> <p>Educational background: Level of education attained.</p> <p>Socioeconomic status: Income level, living conditions, and financial stability.</p> <p>Cultural / Religious background: To understand values or beliefs influencing mental health.</p> <p><b>2. History taking related to depression (20 minutes)</b></p> <p>Chief complaints: Ask about primary symptoms like sadness, hopelessness, or fatigue.</p> <p>Duration: How long have these symptoms persisted?</p> <p>Precipitating factors: Any recent life events (e.g., loss, trauma, or stress)?</p> <p>Lifestyle: Sleep patterns, appetite changes, and physical activity levels.</p> <p>Substance use: Alcohol, tobacco, or drug use that may contribute to symptoms.</p>

		<p>Support systems: Family, friends, or community networks are available for emotional support.</p> <p><b>3. Observation (15 minutes)</b></p> <p>Appearance: Hygiene, clothing, and posture.behavior: restlessness, tearfulness, or withdrawal.speech: tone, pace, and coherence. Mood: sadness, irritability, or emotional blunting.</p> <p>Students observed the demonstration and applied for the practical examination.</p> <p>The total duration of the activity is 1 hour.</p>
NLHP 14.10	Mental status examination and siddha assessment for anxiety disorder.	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and siddha examination) by lecture with video clips, and discuss the diagnosis.</p> <p><b>A.Mental status examination (MES)- 30 minutes</b></p> <ol style="list-style-type: none"> <li>1. Appearance and behavior -observe: Grooming, hygiene, posture, eye contact, and motor activity. Note signs of restlessness (E.g., fidgeting, pacing, nail-biting).behavior: Cooperative or guarded?</li> <li>2. Speech -rate: Is speech rapid (Common in anxiety), volume: Loud or soft? Content: Look for expressions of worry, fear, or overthinking.</li> <li>3. Mood and affect mood: Ask the patient how they feel (E.g., anxious, tense, overwhelmed).affect: Observe congruence with stated mood. Is it appropriate or restricted?</li> <li>4. Thought process and content -thought process: Logical or scattered? Are there racing thoughts? Thought content: Identify fears, catastrophic thinking, or phobias. Assess for intrusive thoughts or disproportionate worry about daily activities.</li> <li>5. Perception -Any signs of misinterpretation of normal stimuli or heightened sensitivity? Rule out hallucinations or derealization.</li> <li>6. Cognition -Attention, memory, orientation</li> <li>7. Insight and judgment -Insight: Does the patient understand the irrational nature of their fears?Judgment: Assess the ability to make logical decisions under stress.</li> <li>8. Risk assessment about thoughts of self-harm, panic attacks, or avoidance behaviors.</li> </ol> <p><b>B.siddha psychiatric examination (30 minutes)</b></p> <p><i>Imporigal</i></p> <p><i>Kanmendriyam</i></p> <p><i>Uyirthathukkal: Vatham/pitham/kabam</i></p> <p><i>Udal thathukkal</i></p>

		<p><i>Envagai thervu-naadi ,sparisam,naa,niram,mozhi,vizhi,malam,moothiram</i>  <i>Neikuri-kabha neer /pitha neer /vatha neer</i>  <i>Mukutrram-vali</i>: Commonly heightened in anxiety. Symptoms include nervousness, rapid breathing, and dryness, <i>Azhal</i>: This can contribute to irritability and frustration. <i>Iyyam</i>: May manifest as withdrawal or lack of energy.  <i>Gunam-sattvam</i>: Evaluate the patient's resilience and coping mechanisms.  <i>Rajo</i>: Predominant in anxiety, leading to hyperactivity and restlessness. <i>Tamao</i>: This may cause avoidance or denial of triggers.behavioral observation-identify triggers during the session. Discuss recent episodes of worry or panic. Observe body language, repetitive gestures, or avoidance patterns. Emotional assessment -Ask about fear, worry, or tension affecting daily activities. Check for signs of suppressed emotions or trauma.  Students observe the demonstration and apply for the practical exam.  The total duration of the activity is 1 hour.</p>
NLHP 14.11	Examination of a patient with anxiety disorders	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Such as demographic details and clinical examination), present their findings using video clips, and discuss the diagnosis.</p> <p><b>1. Complaint and duration (10 minutes)</b>-Ask the patient to describe their main symptoms (e.g., excessive worry, restlessness, physical tension, or panic attacks). Record how long the symptoms have been present and their frequency / Intensity.</p> <p><b>2. History of present illness (15 minutes)</b>  when did the anxiety start? Was it sudden or gradual?  Are the symptoms worsening, staying the same, or improving?  Ask about specific triggers (e.g., stress at work, social situations, financial worries).  Psychological: Excessive worry, difficulty concentrating, irritability.  Physical: Palpitations, sweating, shortness of breath, muscle tension, headaches.</p> <p><b>3. Past history (10 minutes)</b>  Previous episodes of anxiety, history of physical illnesses, previous treatments, including medications, counseling, or alternative therapies.  Family history-any family history of anxiety, depression, or other psychiatric conditions?  Substance use-history of alcohol, caffeine, nicotine, or drug use that may influence anxiety symptoms.</p>



		<p><b>4. General examination (15 minutes)</b>  Assess grooming, hygiene, and posture.  Note signs of restlessness or hypervigilance.  Is the patient cooperative, guarded, or distracted?  Observe any fidgeting or repetitive behaviors.  Check for shallow or rapid breathing indicative of hyperventilation.</p> <p><b>5. Vitals (10 minutes)</b>  Pulse, blood pressure, respiratory rate, temperature, weight and BMI  Students watched the demonstration and applied for the practical examination  The total duration of the activity is 1 hour.</p>
NLHP 14.12	Mental status examination and siddha psychiatric assessment for adult personality disorder	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and <i>Siddha</i> examination), lecture with video clips, and discuss the diagnosis.</p> <p><b>Mental Status Examination (MES) - (60 minutes)</b></p> <p>1. Appearance and behavior (10 minutes)  Grooming and hygiene: Neat, careless, or overly meticulous  Posture: Rigid, relaxed, or tense  Motor activity: Restlessness, hyperactivity, or lethargy. Cooperative or hostile? Presence of attention-seeking, manipulative, or dramatic behaviors.</p> <p><b>2. Speech (5 minutes)</b>  Rate: Pressured, slow, or normal  Tone and volume: Dramatic, monotonous, or appropriate  Content: Self-focused, vague, or tangential.</p> <p><b>3. Mood and affect (10 minutes)</b>  Mood: "How would you describe your mood today?"  Affect: Congruent or incongruent with mood?  Range: Restricted, flat, or exaggerated.</p> <p><b>4. Thought process and content (15 minutes)</b>  Thought process: Logical, disorganized, tangential, or circumstantial?  Thought content-presence of paranoia, grandiosity, or unusual beliefs.</p>

		<p><b>5. Perception (5 minutes)</b> Hallucinations or delusions: Rule out psychotic features.</p> <p><b>6. Cognition (10 minutes)</b> Attention and concentration, memory, judgment, and executive function.</p> <p><b>7. Insight and judgment (5 minutes)</b> Insight: Does the patient recognize how their behavior impacts themselves and others? Judgment: Ability to make sound decisions.</p> <p><b>Siddha psychiatric assessment- (60 minutes)</b></p> <p>1. <i>Muklutram</i> analysis (15 minutes) <i>vali imbalance</i>: Restlessness, impulsivity, or erratic behavior. <i>azhal</i> imbalance: Aggression, irritability, or perfectionism. <i>iyyam</i> imbalance: Rigidity, dependency, or withdrawal.</p> <p>2. <i>Gunam</i> assessment (15 minutes) <i>sattvam</i>: Capacity for empathy, calmness, and understanding. <i>rajo</i>: Dominance of hyperactivity, ambition, or conflict-seeking. <i>tamao</i>: Traits like stubbornness, lack of insight, or avoidance.</p> <p>3. <i>Nadi</i> (pulse) diagnosis (10 minutes)</p> <p>4. Behavioral and emotional assessment (15 minutes)</p> <p>5. <i>Siddha</i>-based personality classification (5 minutes)</p> <p>Students watched the demonstration and applied for the practical examination. The total duration of the activity is 2 hours.</p>
NLHP 14.13	Line of treatment for adult personality disorder	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, and treatment plan ) by lecture with video clips, and discuss the diagnosis.</p> <p><b>A. Observation and identification of demographic details-20 min</b></p> <p>Name, age, gender, marital status, education level, occupation socioeconomic background-10 min Financial stability, living conditions, and, access to healthcare services. Lifestyle and habits-15 min- Substance use, diet and exercise Medical and psychiatric history-15 min</p>

		<p>Family history of mental illness or personality traits.previous psychiatric diagnoses or treatments.</p> <p><b>B. Line of treatment</b></p> <p>General approach to treatment -10 min</p> <p>Personality disorders are best managed through a combination of psychotherapy, pharmacotherapy, and lifestyle interventions.</p> <p><i>Siddha</i> line of treatment-15 min</p> <p>Internal / external medicine- calm the mind and promote emotional balance.</p> <p>Diet and lifestyle changes:15 min</p> <p><i>Yoga and meditation</i>: 10 min</p> <p><i>Asanas</i> for grounding (E.g., <i>shavasanam, balasanam</i>) and <i>pranayamam</i> for calming mental agitation.</p> <p>Lifestyle modifications-10 min</p> <p>Students observe the demonstration and applied for the practical examination.</p> <p>The total duration of the activity is 2 hours.</p>
NLHP 14.14	Invited seminar talks on psychology counselling	<p>The teacher will arrange invited talks at the symposium by external faculty on topics related to psychological counselling and its benefits. The invited discussions will cover the following subjects and will include video clips. Additionally, students will be guided in developing their clinical skills.</p> <ol style="list-style-type: none"> <li>1. Foundations and principles of counselling</li> <li>2. Specialized techniques in counselling</li> <li>3. Counseling for specific populations</li> <li>4. Mental health awareness and stigma</li> <li>5. Integrating technology and innovation in counseling</li> <li>6. Trauma and crisis counseling</li> <li>7. Holistic and alternative approaches in counselling</li> </ol> <p>Students watch the talks and apply for the practical examination.</p> <p>The total duration of the activity is 5 hours.</p>
NLHP 14.15	Field visits to government / Private psychiatric hospitals	<p>Team-based learning: Field visits to government and private psychiatric hospitals in groups, review the case details, interact with patients and healthcare professionals, determine the appropriate examination methods, participate in post-visit activities, and discuss the diagnosis.</p>

		<p><b>Hour 1: Pre-visit introduction &amp; orientation (60 minutes)</b> Introduction to the hospital (30 minutes), objectives of the visit (15 minutes), questions and expectations (15 minutes):</p> <p><b>Hour 2: Facility tour walkthrough (60 minutes)</b> Inpatient wards, outpatient clinics, rehabilitation areas, observation areas for patients in acute crisis</p> <p><b>Hour 3: Observation of patient care and therapeutic activities (60 minutes)</b>-Individual therapy observation (30 minutes), group therapy session (30 minutes).</p> <p><b>Hour 4: Interaction with healthcare professionals and observing medication management (60minutes)</b> Professional staff interaction (30 minutes), medication management observation (30 minutes)</p> <p><b>Hour 5: Post-visit reflection, Q&amp;A session &amp; wrap-up (60 minutes)</b>-Patient experience reflection (30 minutes), Q&amp;A session with the professionals (20 minutes), wrap-up and takeaways</p> <p>Post-visit activities (Optional for follow-up)-Field visit report (After visit), discussion session</p> <p>The total duration of the activity is 5 hours.</p>
NLHP 14.16	Mental status examination and Siddha psychiatric assessment for patients with phobias.	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and <i>Siddha</i> examination ) by demonstrating at the bedside, and discuss the diagnosis.</p> <p><b>1. Introduction and initial patient interaction-10 mins</b></p> <p><b>2. Mental status examination (MSE)-25 minutes</b> The mental status examination will focus on assessing the cognitive, emotional, and behavioral aspects of the patient's current state.</p> <p>A. Appearance and behavior (5 minutes):</p> <p>B. Mood and affect (5 minutes):</p> <p>C. Thought process and content (5 minutes):</p> <p>D. Perception (5 minutes):</p> <p>E. Insight and judgment (5 minutes):</p> <p><b>3. Siddha psychiatric examination-15 minutes</b></p> <p>a. Identification of <i>mukkutram</i> (10 minutes)</p>

		<p>b. Evaluation of <i>Siddha</i> treatments (5 minutes) Internal / External medicine, dietary changes, lifestyle modifications.</p> <p><b>4. Conclusion and feedback-10 minutes</b> Students keep a notebook for future documentation and research needs, observe the demonstration, and apply for the practical exam. The total duration of the activity is 1 hour.</p>
NLHP 14.17	Demographic details and the line of treatment in phobia condition	<p>The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, <i>Siddha</i> examination, treatment plan ) by demonstrating at the bedside, and discuss the diagnosis.</p> <p><b>Introduction and demographic information gathering (0-15 minutes)</b> Personal information, medical history, family history, social environment, presenting problem.</p> <p><b>Assessment of the phobia (15-30 minutes)</b> Specific phobia identification (10 minutes), functional impact of the phobia (5 minutes), physical and emotional symptoms (5 minutes) psychiatric and psychological history-30-45 minutes psychiatric history (10 minutes), coping mechanisms (5 minutes)</p> <p><b>Line of treatment and recommendations-45-60 minutes</b> Cognitive behavioral therapy, exposure therapy, relaxation technique, medication Students observe the demonstration and apply for the practical exam. The total duration of the activity is 1 hour.</p>
NLHP 14.18	Management protocol for anxiety disorders	<p>The teacher will conduct case-based learning. In groups, students will review the case details and treatment plan by demonstrating at the bedside and discussing the diagnosis.</p> <p><b>1. Personal information (10 minutes)</b>-Name, age, gender, marital status, occupation and education level, living arrangements</p> <p><b>2. Socioeconomic and cultural context (15 minutes)</b>-Socioeconomic status: Cultural beliefs and practices, family dynamics</p> <p><b>3. Medical history and presenting complaints (20 minutes)</b></p>

presenting symptoms: Nature, location, and duration of physical complaints.impact on daily life and functional ability.history of medical evaluations showing no organic cause.

Medical history: Past illnesses, surgeries, or treatments.history of frequent doctor visits for unexplained symptoms.

Psychiatric history: Previous mental health diagnoses, if any.history of anxiety, depression, or trauma.

**4. Psychosocial and emotional factors (15 minutes)**

Identify stressors such as financial issues, family conflicts, or work pressure.

Explore the possibility of secondary gains (E.g., attention, avoiding responsibilities).

Identifying the line of treatment-duration: 1 hour

**5. Psychological approaches (20 minutes)**

Psychoeducation:

Cognitive-behavioral therapy (CBT)

Stress management techniques

Behavioral activation

**6.Siddha medicine approaches (20 minutes)**

Internal / External medicine, external therapies, meditation, yogasanam

**7. Lifestyle and dietary adjustments (10 minutes)**

Dietary recommendations: Sleep hygiene

**8. Social and family interventions (10 minutes)**

Students observe the demonstration and apply for the practical exam.

The total duration of the activity is 2 hours.

**Table 4 : NLHT Activity**

(\*Refer table 3 of similar activity number)

Activity No*	CO No	Activity details
1.1	CO1,CO3	Procedures of <i>Thokkanam</i> (Physical manipulation)
1.2	CO1,CO3	Procedure for <i>Vedhu Maruthuvam</i> (Steam therapy)
1.3	CO1,CO3	Procedure for conducting <i>Pugai Maruthuvam</i> (Fumigation)
1.4	CO1,CO3	Procedure of <i>Kattu</i> (Compresss)
1.5	CO1,CO3	The procedure of <i>Ottradam</i> therapy (Fomentation)
1.6	CO1,CO3	Procedure for performing <i>Podithimirthal - Podithuval</i> (Powder massage)
2.1	CO3	Procedure for <i>Murichal</i> (Bone resetting / Surgical correction of malunited fracture)
2.2	CO3	Procedures of <i>Kombu Kattal</i> ( Bone setting by supporting / Splint / <i>Seeli kattumurai</i> )
2.3	CO3	Procedure for <i>Peechu</i> therapy
3.1	CO4,CO5	<i>Varmam therapy</i> for the management of <i>Saganavatham</i> (Cervical Spondylosis).
3.2	CO4,CO5	<i>Varmam therapy</i> for the management of <i>Thandagavatham</i> (Lumbar Spondylosis).
3.3	CO4,CO5	<i>Varmam therapy</i> for the management of <i>Arugu kai Narambu pinnal Seyalilzhappu</i> (Erb's palsy).
3.4	CO4,CO5	<i>Varmam therapy</i> for the management of <i>Patha Veezhchi</i> (Foot Drop).
3.5	CO4,CO5	<i>Varma therapy</i> for the management of <i>kuthiraival Vagai seyalilzhappu</i> (Cauda equina syndrome)
4.1	CO4	Room Specification of <i>varmam</i> application.

4.2	CO4	Measurements and manipulating techniques in <i>varmam</i> application
4.3	CO4	<i>Varmam</i> points around the head, neck, and <i>Varmam</i> points in the extremities.
4.4	CO4	<i>Paduvarmam</i> - manipulation techniques
4.5	CO4	Manipulation techniques for stimulating <i>varmam</i> points of trunk
4.6	CO4	<i>Paduvarmam</i> (7-12) - manipulation techniques
5.1	CO1,CO4	Varma medicine used for <i>odivu /murivu</i> condition
5.2	CO1,CO4	Internal medicines utilized in <i>varmam</i> application
5.3	CO1,CO4	Preparation of <i>varmam</i> medicine
5.4	CO4	Preparation of <i>Varmam Marunthugal</i> - External Medicines
5.5	CO4	Preparation of <i>Varmam</i> medicines
6.1	CO1,CO4	Varma <i>ilakkumurai</i> for <i>thalai</i> to <i>kazhuthu</i> (head to neck), <i>kazhuthu-muthugu/maarbu</i> ( neck to chest/trunk) <i>varmam</i> illness
6.2	CO1,CO4	The <i>varmam ilakkumurai</i> in <i>kaal saarntha varmam, kai saarntha varmam</i> illness
6.3	CO1,CO4	Methods of <i>Sarvaanga Thadaval</i>
6.4	CO1,CO4	<i>Varmam</i> application in specific clinical conditions-musculoskeletal disorders( <i>thasai kootu noigal</i> ), neuromuscular disorder.



6.5	CO1,CO4	Varmam application in specific clinical conditions- respiratory illness, and gynecological conditions
6.6	CO1,CO4	The physiology of signaling pathways and neurotransmitters.
6.7	CO1,CO4	The Therapeutic applications of <i>Adangal</i>
7.1	CO5	Hemiplegia( <i>Pakkavatham</i> )
7.2	CO5	Quadriplegia ( <i>Astatantira vatham</i> ) and paraplegia. ( <i>Aruna vatham</i> )
7.3	CO5	Parkinson's disease ( <i>Nadukkuvatham</i> or <i>Panikambavatham</i> )
7.4	CO5	Peripheral neuropathy ( <i>Vata karsanam</i> )
7.5	CO5	The vagus nerve (Cranial Nerve X)
7.6	CO5	Olfactory nerve (Cranial nerve I) and optic nerve (Cranial nerve II)
7.7	CO5	Oculomotor nerve (Cranial Nerve III),trochlear nerve (Cranial Nerve IV) and abducent nerve (Cranial Nerve VI)
7.8	CO5	The trigeminal nerve (cranial nerve V)
7.9	CO5	The facial nerve (a cranial nerve VII)
7.10	CO5	The vestibulocochlear nerve (a cranial nerve VIII)
7.11	CO5	The glossopharyngeal nerve (Cranial nerve IX)
7.12	CO5	The accessory nerve (Cranial nerve XI)

7.13	CO5	The hypoglossal nerve (Cranial Nerve XII)
8.1	CO2	Identification, collection and display of <i>karpa</i> plants.
8.2	CO2	Identification, collection, and display of <i>Karpa</i> Raw drugs.
9.1	CO2	Demonstration of <i>Pranayamam</i> steps
9.2	CO2	Demonstration of yoga postures with video clips.
9.3	CO2	Demonstration of <i>Thiyanam</i> (Meditation).
9.4	CO2	Demonstration of various posture of <i>mudhras</i> .
9.5	CO2	Demonstration of <i>Tharanai</i> (Focused thoughts) .
9.6	CO2	Demonstration of various <i>yoga</i> postures with general health benefits.
9.7	CO2	Demonstration of <i>yoga</i> postures in various disease conditions.
9.8	CO2	Discussion on the contraindication of various <i>yoga</i> postures.
10.1	CO5	Delirium
10.2	CO5	Spondyloarthropathy (SpA)
10.3	CO5	The recommended intake of nutrients
10.4	CO5	Prevention of diseases and promoting health in old age
11.1	CO5	Acute Osteomyelitis
11.2	CO5	Spinal tuberculosis (Pott's disease)
11.3	CO5	Rickets

11.4	CO5	Osteoporosis
12.1	CO5	Rheumatoid arthritis (RA)
12.2	CO5	Osteoarthritis (OA)
12.3	CO5	Osteochondroma
12.4	CO5	Bone metastasis
13.1	CO5	Periarthritis of the shoulder.
13.2	CO5	Calcaneal spur .
13.3	CO5	Intervertebral disc prolapse
13.4	CO5	splints in the reduction procedure.
13.5	CO5	Shoulder joint dislocation
13.6	CO5	Plaster of paris (POP)
13.7	CO5	Skull fracture
13.8	CO5	Traction
13.9	CO5	The Achilles tendon
13.10	CO5	Semilunar cartilage injuries and Muscle injury.
14.1	CO6,CO7	Demonstrate the Psychiatric examination
14.2	CO6	Overview of the different types of schizophrenia and their treatment methods.
14.3	CO6	Management strategies for Schizophrenia.

14.4	CO6	Treatment for adult personality disorders
14.5	CO6	Treatment for <i>Paithiyam</i> Diseases
14.6	CO6	Clinical features of <i>kirigai</i> ( <i>Kirigaikalin Gunankal</i> )
14.7	CO6	Common treatments for <i>Kirigai</i> , including 18 <i>Kirigaikku Kulambu</i> and <i>Muzhukku thylam</i> .
14.8	CO6	Treatment for <i>Unmatha Noi</i> (Psychosis)
14.9	CO6	Treatment of <i>mathathiyam</i> .
14.10	CO6	<i>Maruthuvam</i> for <i>Mayakkam</i> .
14.11	CO6	<i>Maruthuvam</i> for <i>Valippu Noi</i>
14.12	CO6	Management of <i>Kakai valippu</i>
14.13	CO6,CO7	History taking and mental status examination in the psychiatric disorders.

**Table 5 : List of Practicals**

(\*Refer table 3 of similar activity number)

<b>Practical No*</b>	<b>CO No</b>	<b>Practical Activity details</b>
1.1	CO1,CO3	Application of <i>Siddha thokkanam muraigal</i> (Physical manipulation techniques)
1.2	CO1,CO3	Application of <i>ottradam</i> (Fomentation)
1.3	CO1,CO3	Application of <i>Siddha thokkanam muraigal</i> (Physical manipulation techniques) in infertility condition
1.4	CO1,CO3	Application of <i>Vedhu Maruthuvam</i> (Steam therapy)
2.1	CO1,CO3	Application Of <i>nasiyam</i> ( Liquid nasal application)
2.2	CO1,CO3	Application of <i>patti kattal</i> (Bandaging)
2.3	CO1,CO3	Application of <i>Peechu maruthuvam</i> ( Enema / Douche)
2.4	CO1,CO3	Application of <i>Kombu Kattal</i> ( Bone setting by splinting / <i>seeli kattumurai</i> )
3.1	CO1,CO4	Application of <i>Varmam</i> therapy for the management of <i>Saganavatham</i> (Cervical Spondylosis).
3.2	CO4,CO5	Application of <i>varma</i> therapy for management of <i>thandagavatham</i> (Lumbar Spondylosis).
3.3	CO4,CO5	<i>Varmam</i> therapy for the management of <i>Patha Veezhchi</i> (Foot Drop).
4.1	CO4	Plotting of <i>Varmam</i> points in mannequins
5.1	CO1,CO4,CO6	<i>Varmam</i> Applications in Psychiatry Disorder-Depression ( <i>manathalarchi</i> )
5.2	CO1,CO4,CO6,CO7	<i>Varmam</i> application in psychiatric disorder- Mental Restlessness
6.1	CO4,CO5	<i>Varmam</i> Application in Central Nervous System- <i>Mugavaatham</i> (facial palsy)

6.2	CO1,CO4	Varmam Application in Central Nervous System-Hemiplegia ( <i>Pakkavatham</i> )
6.3	CO1,CO4,CO5	Varmam application in central nervous system- <i>valippu noi</i> ( <i>Epilepsy</i> )
6.4	CO1,CO4	Varmam Application in Medical Emergencies-Shock
6.5	CO4	Varmam Application in Medical Emergencies-Fever
6.6	CO4,CO7	Varmam Application in Medical Emergencies-Epistaxis
6.7	CO4,CO7	Varmam Application in Locomotor Disorder (upper limb) -Wrist Joint Pain
6.8	CO1,CO4	Varmam Application in Locomotor Disorder-sciatica
6.9	CO4,CO5	Varmam Application in Locomotor Disorder (Lower limb)-knee joint pain
6.10	CO1,CO4	Adangal application for Tension headache / Migraine
6.11	CO1,CO4	Important <i>adangal</i> in the head region
6.12	CO1,CO4	Important <i>adangal</i> in chest-abdomen region
6.13	CO1,CO4	Important <i>adangal</i> in the upper limb region

6.14	CO1,CO4	Important <i>adangal</i> in lower limb region
6.15	CO1,CO4	<i>Varma Thadavu murai nootpungal</i> (Finger techniques)
7.1	CO5,CO7	Clinical examination of higher intellectual functions .
7.2	CO5	Clinical examinations of 12 Pairs of cranial nerves.
7.3	CO5	Clinical Examination of Motor System.
7.4	CO5	Clinical Examination of the Sensory System.
7.5	CO5	Clinical examination of superficial reflexes and Deep tendon reflexes.
7.6	CO5,CO7	Clinical examination of cerebellar dysfunction and examination of posture, stance and gait.
7.7	CO5	Clinical examination of the involuntary movements.
7.8	CO5,CO7	Clinical examination of skull, spine and nerve.
7.9	CO5,CO7	Clinical examination of Autonomic nervous system.
7.10	CO5,CO7	Clinical case writing and case presentation of central nervous system diseases.
8.1	CO1,CO2,CO6,CO7	Application of the suitable <i>kayakarpam</i> therapy.
8.2	CO1,CO2,CO6,CO7	Application of long-term benefits of <i>kaya karpam</i> medicines in managing and preventing diseases

9.1	CO1,CO2,CO6	Application of <i>Yogam</i>
9.2	CO1,CO2,CO6	Education of the patients safty on yoga practice for orthopedic health
9.3	CO1,CO2,CO6	Development of specific yoga modifications to patients.
9.4	CO1,CO2,CO6	Demonstration of Yoga to improve range of motion and flexibility.
9.5	CO1,CO2,CO6	Application of long-term benefits of yoga in managing and preventing orthopaedic diseases
9.6	CO1,CO2,CO6,CO7	Application of breathing exercises ( <i>Pranayama</i> ) to pain management and stress reduction.
10.1	CO5,CO7	Basics of history taking-common complaints in geriatrics
10.2	CO5	Nutrition
10.3	CO5	Physical examination
10.4	CO5	Cognitive function
10.5	CO5	Neuropsychiatric examination
10.6	CO5,CO7	Survey of nutrition assessment of older people with or without systemic illness in nearby locality of your college.
10.7	CO5	Functional examination
10.8	CO5	Gait
10.9	CO5,CO7	Urinary incontinence



11.1	CO5,CO7	Basics of history taking and common complaints in orthopaedics.
11.2	CO5,CO7	General examination of the joints
11.3	CO5,CO7	Clinical case writing and presentation of orthopaedic disease.
11.4	CO5,CO7	Field visit to orthopaedic traditional Hospital and modern Hospital.
12.1	CO5,CO7	Examination of hip joint
12.2	CO5	Examination of knee joint.
12.3	CO5,CO7	Clinical case writing and case presentation of orthopaedic disease
13.1	CO5	Examination of shoulder joint.
13.2	CO5	Examination of the elbow joint.
13.3	CO5	Examination of the wrist joint
13.4	CO5	Examination of the ankle joint
13.5	CO5,CO7	Clinical case writing and presentations of orthopaedic diseases
13.6	CO5,CO7	Documentation of single case study by individual students.
14.1	CO6,CO7	Siddha psychiatric case format-
14.2	CO6,CO7	Siddha Psychiatric Case Format-Initial assessment
14.3	CO6,CO7	Mental status examination and siddha psychiatric assessment for the depression ( <i>Manathalarchi</i> ) case
14.4	CO6,CO7	Line of treatment for the patient in Post-traumatic stress disorder.
14.5	CO6,CO7	Examination of the post-traumatic stress disorder

14.6	CO6,CO7	Mental status examination (MSE) and Siddha psychiatric evaluation for Obsessive-Compulsive Disorder (OCD).
14.7	CO6,CO7	Examination of obsessive-compulsive disorder (OCD)
14.8	CO6	Treatment plan for depression ( <i>Manathalarchi</i> ).
14.9	CO6,CO7	Collection of the demographic details and history taking of the patient with depression
14.10	CO6,CO7	Examination of a patient with anxiety disorders
14.11	CO6,CO7	Mental status examination and siddha assessment for anxiety disorder.
14.12	CO6	Mental status examination and siddha psychiatric assessment for adult personality disorder
14.13	CO6	Line of treatment for adult personality disorder
14.14	CO6	Invited seminar talks on psychology counselling
14.15	CO6	Field visits to government / Private psychiatric hospitals
14.16	CO6,CO7	Mental status examination and Siddha psychiatric assessment for patients with phobias.
14.17	CO6,CO7	Demographic details and the line of treatment in phobia condition
14.18	CO6,CO7	Management protocol for anxiety disorders

**Table 6 : Assessment Summary: Assessment is subdivided in A to H points****6 A : Number of Papers and Marks Distribution**

Subject Code	Papers	Theory	Practical/Clinical Assessment (150)					Grand Total
			Practical	Viva	Elective	IA	Sub Total	
SIDUG-VPS	2	200	100	20	10 (Set-TB)*	20	150	350

**6 B : Scheme of Assessment (Formative and Summative)**

PROFESSIONAL COURSE	FORMATIVE ASSESSMENT			SUMMATIVE ASSESSMENT
	First Term (1-6 Months)	Second Term (7-12 Months)	Third Term (13-18 Months)	
Third	3 PA & First TT	3 PA & Second TT	3 PA	UE**

**PA:** Periodical Assessment; **TT:** Term Test; **UE:** University Examinations; **NA:** Not Applicable.

\*\*University Examination shall be on entire syllabus

**6 C : Calculation Method for Internal assessment Marks**

Term	Periodical Assessment*				Term Test**	Term Assessment	
	A	B	C	D		F	G
	1 (20)	2 (20)	3 (20)	Average (A+B+C/3) (20)	Term Test (MCQ+SAQ+LAQ and Practical) (Converted to 20)	Sub Total	Term Assessment
First						D+E	D+E /2
Second						D+E	D+E /2
Third					NIL		D
Final IA	Average of Three Term Assessment Marks as Shown in 'G' Column						
	* Select an Evaluation Methods which is appropriate for the objectives of Topics from the Table 6 D. Convert it to 20 marks. ** Conduct Theory (100 Marks) (MCQ (20*1 Marks), SAQ (8*5), LAQ (4*10)) and Practical (100 Marks) Then convert to 20 Marks.						

## 6 D : Evaluation Methods for Periodical Assessment

S. No.	Evaluation Methods
1.	Practical / Clinical Performance
2.	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3.	Open Book Test (Problem Based)
4.	Summary Writing (Research Papers/ Samhitas)
5.	Class Presentations; Work Book Maintenance
6.	Problem Based Assignment
7.	Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OPSE), Mini Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedures (DOP), Case Based Discussion (CBD)
8.	Extra-curricular Activities, (Social Work, Public Awareness, Surveillance Activities, Sports or Other Activities which may be decided by the department).
9.	Small Project
10.	Activities Indicated in Table 3 - Column G3 as per Indicated I, II or III term in column I3.

### Topics for Periodic Assessments

Exam type	Paper 1	Paper 2
PA1	Topic 1	Topic 8
PA 2	Topic 2	Topic 9
PA 3	Topic 3	Topic 10
TT 1	Topic No 1- 3	Topic No 8- 10
PA 4	Topic 4	Topic 11
PA 5	Topic 5	Topic 12
PA 6	Topic 6	Topic 13
TT 2	Topic No 4-6	Topic No 11-13
PA 7	Topic No 7.1- 7.4	Topic No 14.1- 14.5
PA8	Topic No 7.5 – 7.8	Topic No 7.6 – 7.10
PA9	Topic No 7/9 – 7.11	Topic No 14.11 – 14.16

## 6 E : Question Paper Pattern

### III PROFESSIONAL B.S.M.S EXAMINATIONS

#### SIDUG-VAR

#### PAPER-I

Time: 3 Hours Maximum Marks: 100

INSTRUCTIONS: All questions compulsory

		<b>Number of Questions</b>	<b>Marks per question</b>	<b>Total Marks</b>
Q 1	MULTIPLE CHOICE QUESTIONS (MCQ)	20	1	20
Q 2	SHORT ANSWER QUESTIONS (SAQ)	8	5	40
Q 3	LONG ANSWER QUESTIONS (LAQ)	4	10	40
				100

**Similar for Paper II.**

**6 F : Distribution of theory examination**

<b>Paper 1 (Varmam,Puramaruthuvam and Sirappumaruthuvam)</b>					
<b>Sr. No</b>	<b>A List of Topics</b>	<b>B Marks</b>	<b>MCQ</b>	<b>SAQ</b>	<b>LAQ</b>
1	<b>PURA MARUTHUVAM -I (EXTERNAL THERAPY)</b>	12	Yes	Yes	Yes
2	<b>PURAMARUTHUVAM-2 (EXTERNAL THERAPY)</b>	08	Yes	Yes	No
3	<b>MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY</b>	10	Yes	Yes	Yes
4	<b>INTRODUCTION AND CLASSIFICATION OF VARMAM</b>	22	Yes	Yes	Yes
5	<b>VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL</b>	07	Yes	Yes	No
6	<b>VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES)</b>	11	Yes	Yes	Yes
7	<b>DISORDERS OF CENTRAL NERVOUS SYSTEM</b>	30	Yes	Yes	Yes
<b>Total Marks</b>		<b>100</b>			

<b>Paper 2 (Varmam,Puramaruthuvam and Sirappumaruthuvam)</b>					
<b>Sr. No</b>	<b>A List of Topics</b>	<b>B Marks</b>	<b>MCQ</b>	<b>SAQ</b>	<b>LAQ</b>
8	<b>KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU</b>	12	Yes	Yes	Yes
9	<b>ATTANGA YOGAM</b>	8	Yes	Yes	No
10	<b>GERIATRICS</b>	10	Yes	Yes	Yes
11	<b>INTRODUCTION TO ORTHOPAEDICS</b>	13	Yes	Yes	Yes
12	<b>DISEASES OF THE BONES AND JOINTS</b>	11	Yes	Yes	Yes
13	<b>REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES</b>	16	Yes	Yes	Yes
14	<b>PSYCHIATRY DISORDERS</b>	30	Yes	Yes	Yes
<b>Total Marks</b>		<b>100</b>			

## 6 G : Instructions for UG Paper Setting & Blue print

1. All questions shall be compulsory.
2. The maximum marks for one question paper shall be 100.
3. Questions shall be drawn based on Table 6F, which provides the topic name, types of questions (MCQ(Multiple Choice Question), SAQ(Short Answer Question), LAQ(Long Answer Question)).
4. The marks assigned in Table 6F for each topic/group of topics shall be considered as the maximum allowable marks for that topic/group of topics.
5. Ensure that the total marks allocated per topic/group of topics do not exceed the limits specified in Table 6F.
6. Refer to Table 6F before setting the questions. Questions shall be framed only from topics where the type is marked as “YES”, and avoided if marked as “NO”.
7. Each 100-mark question paper shall contain:
  - 20 MCQs
  - 8 SAQs
  - 4 LAQs
8. MCQs:
  - Majority shall be drawn from the Must to Know part of the syllabus.
  - Questions from the Desirable to Know part of syllabus shall not exceed 3.
  - Questions from the Nice to Know part of syllabus shall not exceed 2.
9. SAQs:
  - Majority shall be drawn from the Must to Know part of the syllabus.
  - Questions from the Desirable to Know part of syllabus shall not exceed 1.
  - No questions shall be drawn from the Nice to Know part of syllabus.
  - SAQs shall assess understanding, application, and analysis, rather than simple recall.
10. LAQs:
  - All LAQs shall be drawn exclusively from the Must to Know part of the syllabus.
  - No questions shall be taken from the Desirable to Know or Nice to Know part of the syllabus.
  - Number of LAQs should not exceed one per topic unless maximum marks exceed 20 for the topic.
11. Long Answer Questions shall be structured to assess higher cognitive abilities, such as application, analysis, and synthesis.
12. Follow the guidelines in User Manual III for framing MCQs, SAQs, and LAQs.

**Demo Blueprint for Illustration. Blue printing should be done based on Instructions for Question paper setting and using 6 F table.**

<b>Paper No:1</b>		
<b>Question No</b>	<b>Type of Question</b>	<b>Question Paper Format</b>
<b>Q1</b>	<p><b>Multiple choice Questions</b>  <b>20 Questions</b>  <b>1 mark each</b>  <b>All compulsory</b></p>	<ol style="list-style-type: none"> <li>1. PURA MARUTHUVAM -I (EXTERNAL THERAPY)</li> <li>2. PURA MARUTHUVAM -I (EXTERNAL THERAPY)</li> <li>3. PURAMARUTHUVAM-2 (EXTERNAL THERAPY)</li> <li>4. PURAMARUTHUVAM-2 (EXTERNAL THERAPY)</li> <li>5. PURAMARUTHUVAM-2 (EXTERNAL THERAPY)</li> <li>6. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY</li> <li>7. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY</li> <li>8. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY</li> <li>9. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY</li> <li>10. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY</li> <li>11. INTRODUCTION AND CLASSIFICATION OF VARMAM</li> <li>12. INTRODUCTION AND CLASSIFICATION OF VARMAM</li> <li>13. VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL</li> <li>14. VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL</li> <li>15. VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES)</li> <li>16. DISORDERS OF CENTRAL NERVOUS SYSTEM</li> <li>17. DISORDERS OF CENTRAL NERVOUS SYSTEM</li> <li>18. DISORDERS OF CENTRAL NERVOUS SYSTEM</li> <li>19. DISORDERS OF CENTRAL NERVOUS SYSTEM</li> <li>20. DISORDERS OF CENTRAL NERVOUS SYSTEM</li> </ol>
<b>Q2</b>		<ol style="list-style-type: none"> <li>1. PURAMARUTHUVAM-2 (EXTERNAL</li> </ol>



	<b>Short answer Questions</b> <b>8 Questions</b> <b>5 Marks Each</b> <b>All compulsory</b>	THERAPY) 2. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY 3. INTRODUCTION AND CLASSIFICATION OF VARMAM 4. INTRODUCTION AND CLASSIFICATION OF VARMAM 5. VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL 6. DISORDERS OF CENTRAL NERVOUS SYSTEM 7. DISORDERS OF CENTRAL NERVOUS SYSTEM 8. DISORDERS OF CENTRAL NERVOUS SYSTEM
<b>Q3</b>	<b>Long answer Questions</b> <b>4 Questions</b> <b>10 marks each</b> <b>All compulsory</b>	1. PURA MARUTHUVAM -I (EXTERNAL THERAPY) 2. INTRODUCTION AND CLASSIFICATION OF VARMAM 3. VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES) 4. DISORDERS OF CENTRAL NERVOUS SYSTEM
<b>Paper No:2</b>		
<b>Question No</b>	<b>Type of Question</b>	<b>Question Paper Format</b>
<b>Q1</b>	<b>Multiple choice Questions</b> <b>20 Questions</b> <b>1 mark each</b> <b>All compulsory</b>	1. KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU 2. KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU 3. ATTANGA YOGAM 4. ATTANGA YOGAM 5. ATTANGA YOGAM 6. GERIATRICS 7. GERIATRICS 8. GERIATRICS 9. GERIATRICS 10. GERIATRICS 11. INTRODUCTION TO ORTHOPAEDICS 12. INTRODUCTION TO ORTHOPAEDICS 13. INTRODUCTION TO ORTHOPAEDICS 14. DISEASES OF THE BONES AND JOINTS 15. REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES 16. PSYCHIATRY DISORDERS 17. PSYCHIATRY DISORDERS 18. PSYCHIATRY DISORDERS

		19. PSYCHIATRY DISORDERS 20. PSYCHIATRY DISORDERS
<b>Q2</b>	<b>Short answer Questions 8 Questions 5 Marks Each All compulsory</b>	1. ATTANGA YOGAM 2. GERIATRICS 3. DISEASES OF THE BONES AND JOINTS 4. DISEASES OF THE BONES AND JOINTS 5. REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES 6. PSYCHIATRY DISORDERS 7. PSYCHIATRY DISORDERS 8. PSYCHIATRY DISORDERS
<b>Q3</b>	<b>Long answer Questions 4 Questions 10 marks each All compulsory</b>	1. KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU 2. INTRODUCTION TO ORTHOPAEDICS 3. REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES 4. PSYCHIATRY DISORDERS

## 6 H : Distribution of Practical Exam

S.No	Heads	Marks
1	<p>Major clinical Examination of the patient (Long case- 1)</p> <p>Duration:90 minutes</p> <p>Procedure:</p> <p>IP case sheet writing</p> <p>Distribution of Marks:</p> <ol style="list-style-type: none"><li>1.Demographic data, Chief Complaints and duration -4 marks</li><li>2. History taking - 5 marks</li><li>3. General Examination (Pothu parisothanai) -4 marks</li><li>4. Relevant Systemic Examination ( Sirappu parisothanai-CNS / Orthopaedics/MSE ) -5 marks</li><li>5.Gnanenthiriyam( Sensory Function) -3 marks</li><li>6.Kanmenthiriyam(Motor Function) -3 marks</li><li>7. Uyirthatthukkal -3 marks</li><li>8.Udal thatthukkal -3 marks</li><li>9. Envagaithervugal - 3 marks</li><li>10. Investigations -4 marks</li><li>11.Noikanippu vivatham (Differential Diagnosis) - 3 marks</li><li>12.Noikanippu (Diagnosis) -3 marks</li><li>13. One-day medicine - 3 marks</li><li>14. Puramaruthuvam, Varmam &amp;Yogasanam - 5 marks</li><li>15. Piramarunthukal (Other medicines)- 5 marks</li><li>16. Unavu &amp; Maruthuva Arivurai (Diet &amp; Medical advice) - 4 marks</li></ol>	60

2	<p>Minor Clinical Examination (Short case-1)  Duration:30 minutes  Procedure:  OPD Based Diagnosis  Distribution of Marks:  1. Demographic data, Chief Complaints, and duration – 4 marks  2. General Examination, Relevant Systemic Examination (Pothu parisothanai, Sirappu parisothanai ) –4 marks  3.Noikurikunankalin thokuppu (Positive findings) – 3 marks  4.Noikanippu (Diagnosis) -3 marks  5. Investigations -2 marks  6. Oneday medicine &amp; Puramaruthuvam - 4 marks</p>	20
3	Clinical Demonstration of Anyone of the procedure –(External therapy / varmam / yogasanam)	10
4	Viva voce	20
5	Electives	10 (Set-TB)
6	Internal Assessment	20
7	Record (Case sheet writing)	10
<b>Total Marks</b>		<b>150</b>

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5	Rajaram TK. <i>Varma Maruthuvathin Adipadaigal</i> . Munchirai: A.T.S.V.S. Siddha Medical College & Hospital; 2007.
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22	Ahuja. A Short Textbook of Psychiatry. 7/e Reprint, 2024 edition. JPB; 2011. 272 p.
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## Abbreviations

Domain		T L Method		Level		Assessment		Integration	
CK	Cognitive/Knowledge	L	Lecture	K	Know	T-CS	Theory case study	V-SATV	V-SATV
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how	T-OBT	Theory open book test	V-UK	V-UK
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how	P-VIVA	Practical Viva	V-UT	V-UT
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does	P-REC	Practical Recitation	V-UV	V-UV
CS	Cognitive/Synthesis	REC	Recitation			P-EXAM	Practical exam	V-NU	V-NU
CE	Cognitive/Evaluation	SY	Symposium			PRN	Presentation	V-MT	V-MT
PSY-SET	Psychomotor/Set	TUT	Tutorial			P-PRF	Practical Performance	V-GMM	V-GMM
PSY-GUD	Psychomotor/Guided response	DIS	Discussions			P-SUR	Practical Survey	V-GMK	V-GMK
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming			P-EN	Practical enact	V-SSM-NM	V-SSM-NM
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning			P-RP	Practical Role play	V-NN1	V-NN1
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning			P-MOD	Practical Model	V-NN2	V-NN2
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning			P-POS	Practical Poster	V-NAVO	V-NAVO
AFT-RES	Affective/Responding	PrBL	Project-Based Learning			P-CASE	Practical Case taking	H-MM	H-MM
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning			P-ID	Practical identification	H-VPS	H-VPS
AFT-SET	Affective/Organization	TPW	Team Project Work			P-PS	Practical Problem solving	H-AM	H-AM
AFT-CHR	Affective/ characterization	FC	Flipped Classroom			QZ	Quiz	H-SMM	H-SMM
PSY-PER	Psychomotor/perception	BL	Blended Learning			PUZ	Puzzles	H-KM	H-KM
PSY-COR	Psychomotor/ Complex Overt Response	EDU	Edutainment			CL-PR	Class Presentation	H-RM	H-RM
		ML	Mobile Learning			DEB	Debate		
		ECE	Early Clinical Exposure			WP	Word puzzle		
		SIM	Simulation			O-QZ	Online quiz		
		RP	Role Plays			O-GAME	Online game-based assessment		
		SDL	Self-directed learning			M-MOD	Making of Model		
		PSM	Problem-Solving Method			M-CHT	Making of Charts		



		KL	Kinaesthetic Learning			M-POS	Making of Posters		
		W	Workshops			C-INT	Conducting interview		
		GBL	Game-Based Learning			INT	Interactions		
		LS	Library Session			CR-RED	Critical reading papers		
		PL	Peer Learning			CR-W	Creativity Writing		
		RLE	Real-Life Experience			C-VC	Clinical video cases		
		PER	Presentations			SP	Simulated patients		
		D-M	Demonstration on Model			PM	Patient management problems		
		PT	Practical			CHK	Checklists		
		X-Ray	X-ray Identification			Mini-CEX	Mini-CEX		
		CD	Case Diagnosis			DOPS	DOPS		
		LRI	Lab Report Interpretation			CWS	CWS		
		DA	Drug Analysis			RS	Rating scales		
		D	Demonstration			RK	Record keeping		
		D-BED	Demonstration Bedside			COM	Compilations		
		DL	Demonstration Lab			Portfolios	Portfolios		
		DG	Demonstration Garden			Log book	Log book		
		FV	Field Visit			TR	Trainers report		
						SA	Self-assessment		
						PA	Peer assessment		
						360D	360-degree evaluation		
						PP-Practical	Practical		
						VV-Viva	Viva		
						DOAP	Demonstration Observation Assistance Performance		
						SBA	Scenario Based Assessment		
						CBA	Case based Assessment		
						S-LAQ	Structured LAQ		
						OSCE	Objective Structured Clinical Examination		
						OSPE	Objective Structured Practical Examination		

						DOPS	Direct observation of procedural skills		
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