

Faculty of Medicine



JSS Academy of Higher Education & Research

(Deemed to be University)

Re-Accredited "A+" Grade by NAAC

Sri Shivarathreeswara Nagara, Mysuru - 570 015, Karnataka

Regulation & Syllabus

FELLOWSHIP IN PAIN MEDICINE
2020

MSc

REGULATION AND SYLLABUS FOR FELLOWSHIP PROGRAM 2020

FELLOWSHIP IN PAIN MEDICINE

CONTENTS	Page No
Chapter I Regulation for fellowship program in pain medicine	3
Chapter II Goals and General Objectives	6
Chapter III Monitoring Learning Process	7
Chapter IV Syllabus	21

CHAPTER I

REGULATION FOR FELLOWSHIP PROGRAM IN PAIN MEDICINE

1. Branch of Study

Post-doctoral Fellowship in Pain Medicine

2. Eligibility for admission

A candidate who has passed MD/DA/DNB in a medical college/ institution/ hospital recognized by medical council of India and / or National board of examination shall be eligible for admission. The candidate should also clear the entrance examination for the pain fellowship program conducted by JSS AHER. The entrance examination is MCQ pattern with 100 MCQs for 100 marks for the duration of 120 minutes.

3. Admission

A candidate desirous of admission to Fellowship in Pain Medicine (FIPM) is required to complete the application form and submit to the Deemed to be University along with prescribed documents on or before the scheduled date. Eligibility criteria, application form and details of documents to be submitted are available in the Deemed to be University website: www.jssuni.edu.in.

4. Registration

A candidate who has been admitted to FIPM program shall register in the Deemed to be University within a month of admission after paying the registration fee.

5. Duration of study

FIPM- The course of study shall be 12 months.

6. Methodology of training

The training of the fellow in pain medicine shall be residency pattern, with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the fellow in all facets of educational process is essential. The Fellow should take part in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC, and clinical meetings. He/ She shall participate in the teaching and training programme of postgraduate students. Training should include involvement in laboratory and experimental work, and research studies.

7. Attendance, progress, and conduct

A candidate pursuing Fellowship in pain medicine, shall work in Pain & Palliative care unit, Department of Anaesthesiology, JSS Medical College Hospital, Mysuru as fulltime student.

Every candidate is required to attend a minimum of 80% of the training in pain

medicine during one-year fellowship program. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year.

Any fellow who fails to complete the course in the manner stated above shall not be permitted to appear for the Deemed to be University Examinations.

8. Monitoring progress of study

Log Book: Each fellow shall maintain a log book and record his/her participation in the training fellowship programmes conducted by the department such as journal reviews, seminars, etc. Special mention shall be made of the presentations by the candidate as well as details of clinical or interventional pain procedures, if any, conducted by the candidate. The log book shall be scrutinized and certified by the program head, Head of the Department and Head of the Institution, and presented in the Deemed to be University practical/clinical examination.

Periodic assessment: Two assessments will be conducted. One will be conducted after the completion of 6 months of course and another will be conducted just before the final examination.

9. Research paper

Every candidate pursuing FIPM course is required to carry out one research study/ case report publication in pain medicine under the guidance of a program head within the period of course.

The research study is aimed to train the fellow in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions.

10. Schedule of examination

The exit examination for FIPM fellowship course shall be conducted by JSSAHER at the end of completion of 1-year training.

11. Scheme of examination

Total marks – 300 (Theory-100 + Practicals-200)

Written Examination (Theory):

Marks: 100

MCQ pattern -50 marks

50 Questions for 50 marks

Time -1 hours

Essays- 50 marks

3 Short Essays: 30 Marks (10x3)

4 Short Essays: 20 Marks (5x4)

Time- 2 hours

Practical and viva voce:

Marks: 200

Pattern of practical examination:

- Case Presentation 1: 25 Marks
- Case Presentation 2: 25 Marks
- Demonstration of two pain Interventions on Cadaver/ Mannequin: 100Marks (50 marks for each)
- Two spot stations: 50 Marks

Station 1- Drugs & Equipment: 25 Marks

Station 2- MRI, CT scan, Fluoroscopy & X-ray images: 25 Marks

Practical Examination shall be conducted to test the knowledge and competence of the candidates for making valid and relevant observations based on the clinical skills & his ability to perform interventional procedures.

Examiners - There shall be two examiners. Out of which one external & one internal examiner

Criteria for declaring as pass in Deemed to be University Examination: A candidate shall pass theory and practical examination separately and shall obtain 50% marks in each theory & practicals examination to be declared as pass.

Declaration of class: A successful candidate passing the FIPM examination in first attempt and secures grand total aggregate 75% of marks or more will be declared to have passed the examination with distinction, 65% but below 75% declared as First Class and 50% but below 65% declared as Second Class.

A candidate passing the Deemed to be University examination in more than one attempt shall be declared as Pass Class irrespective of the percentage of marks.

CHAPTER II

GOALS AND GENERAL OBJECTIVES

Goal

Proposed regulations are mostly as per IAPM guidelines

1. To facilitate the growth & development of pain palliative care unit of JSS MC & H in clinical, academic & research field
2. To bring up an academic formation to propagate teaching of Pain Medicine and to implement quality-oriented pain medicine practice for the benefit of needy.

General Objectives

1. Advance the practice of pain medicine in JSSMCH through the delivery of highest possible quality oriented pain management.
2. Training the fellows with wide range of knowledge and skills necessary for a pain physician to provide quality patient care.
3. Provide the essentials for the trainees' self-directed learning
4. Promote interaction between trainees and mentors through formative work place based assessments and feedback
5. Establish internationally approved pain treatment protocol and make the same available at JSSMCH.
6. Provide a scope of continuing professional development activities
7. To conduct research in the field of pain medicine in India

Components of the Fellowship curriculum:

The major components of the curriculum shall be:

1. Theoretical knowledge
2. Practical and clinical skills
3. Attitudes including communication skills.
4. Training in Research Methodology, Medical Ethics and Medicolegal aspects.

CHAPTER III

MONITORING LEARNING PROGRESS

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps mentors to evaluate students, but also students to evaluate themselves. The monitoring shall be done by the program head based on participation of students in various teaching / learning activities. It may be structured, and assessment be done using checklists that assess various aspects. Model checklists are given in this chapter which may be copied and used.

The learning outcomes to be assessed should include:

1. Personal Attitudes.
2. Acquisition of Knowledge.
3. Clinical and operative skills and
4. Teaching skills.

1. Personal Attitudes: The essential items are:

- Caring attitude.
- Initiative.
- Organizational ability.
- Potential to cope with stressful situations and undertake responsibility.
- Trustworthiness and reliability.
- To understand and communicate intelligibly with patients and others.
- To behave in a manner that establishes professional relationships with patients and colleagues.
- Ability to work in a team.
- A critical enquiring approach to the acquisition of knowledge.

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

2. Acquisition of Knowledge: The methods used comprise of 'Log Book' which records participation in various teaching/learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

- **Journal Review Meeting (Journal Club).** The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (see Model Checklist – I, Chapter III)
- **Seminars / Symposia.** The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search,

in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist (see Model Checklist-II, Chapter III)

- **Clinico-pathological conferences.** This should be a multidisciplinary study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

3. Clinical skills:

- **Day to Day work:** Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability, and communication skills
- **Clinical meetings:** Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list
- **Clinical and Procedural skills:** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the logbook.

4. Teaching skills: Candidates should be encouraged to teach undergraduate, postgraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students

5. Periodic tests: One mid-term and one preparatory exam will be held.

6. Work diary: Every candidate shall maintain a work diary and record his/ her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

7. Records: Records & logbook will be maintained by the Program Head and will be made available to the Deemed to be University or MCI.

8. Logbook: The logbook is a record of the important activities of the candidates during his training. Collectively, logbooks are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

FORMAT OF MODEL CHECK LISTS

CHECK LIST-I

MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Fellow:

Name of the Faculty/Observer:

Date:

Sl NO	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper / subject					
6.	Audio-visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					

CHECK LIST – II

MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Fellow:

Name of the Faculty/Observer:

Date:

Sl No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio- Visual aids					
9.	Overall Performance					
10.	Any other observation					
	Total Score					

CHECK LIST - III

MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by Program Head, including posting in other departments)

Name of the Fellow:

Name of the Faculty/Observer:

Date:

Sl No	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigation work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counseling Patients and relatives' and Case follow up.					
10.	Overall quality of ward work					
	Total Score					

CHECK LIST - IV

EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the Fellow:

Name of the Faculty:

Date:

Sl No	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					

10.	Investigations required <ul style="list-style-type: none"> • Complete list • Relevant order • Interpretation of investigations 					
11.	Ability to react to questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	Total Score					

CHECK LIST - V

MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

SI No		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc., specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses AV aids appropriately		

CHECK LIST – VI

MODEL CHECK LIST FOR RESEARCH WORK PRESENTATION

Name of the student:

Name of the faculty:

Date:

Sl No	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Interest shown in selecting a topic					
2	Appropriate review of literature					
3	Discussion with guide & other faculty					
4	Quality of protocol					
5	Preparation of proforma					
	Total score					

CHECK LIST - VII

CONTINUOUS EVALUATION OF RESEARCH WORK BY GUIDE / CO GUIDE

Name of the Student:

Name of the Faculty:

Date:

SI No	Items for observation during presentations	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Periodic consultation with guide/ co-guide					
2.	Regular collection of case Material					
3.	Depth of analysis / discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

LOGBOOK

Table 1: Academic activities attended

Name:

Admission Year:

Date	Type of Activity Specify Seminar, Journal Club, Presentation, UG/PG teaching	Particulars

LOGBOOK

Table 2: Academic presentations made by the student

Name:

Admission year:

Date	Topic	Type of Presentation Specify Seminar, Journal Club, Presentation, UG teaching

LOGBOOK

Table 3: Diagnostic and therapeutic pain interventions performed

Name:

Admission year:

College:

Date	Name	ID No.	Procedure	Category O, A, PA, PI*

*** Key:**

O - Washed up and observed

A - Assisted senior Pain Physician

PA - Performed procedure under the direct supervision of a senior Pain physician

PI - Performed independently

MODEL OVERALL ASSESSMENT SHEET

SI No	Faculty Member & Others	Name of Student and Mean Score*									
		A	B	C	D	E	F	G	H	I	J
1.	Journal Review Presentations										
2.	Seminars										
3.	Clinical work in wards										
4.	Clinical presentation										
5.	Teaching skill practice										
	Total Score										

Signature of Program Head

Signature of HOD

The above overall assessment sheet used along with the logbook should form the basis for certifying satisfactory completion of course of study, in addition to the attendance requirement.

* KEY:

Mean score : Is the sum of all the scores of checklists 1 to 7.

A, B,Name of the trainees.

CHAPTER V- SYLLABUS

COURSE CONTENT

The course contents are divided into -

1. Basics of pain medicine
2. Core topic areas
3. Minimally Invasive Pain and Spine Interventions
4. Knowledge and skills

The Basics of Pain Medicine defines the prerequisite knowledge and skills that are required at the start of the training program. It is to ensure that the trainee has a commitment towards pain medicine as a specialty and has prepared adequately to further build on his/ her current specialty abilities. The content of this phase reflects the essential knowledge and skills required of trainees entering the fellowship in pain medicine.

The Core topic areas direct teaching and learning in relation to specific topic areas in pain medicine, in which the pain physician should be an expert by the end of training. Advanced pain medicine training should be delivered in a designated multi-disciplinary specialist centres undertaking a wide variety of pain management services spanning the full range of pain medicine treatment options/plans. Trainees are expected to spend 18 months in these dedicated advanced units of training in addition to the time spent in intermediate and higher training.

BASICS OF PAIN MEDICINE

Foundations of Pain Medicine

It is expected that trainees to have acquired the following basic knowledge and skills prior to commencing training in pain medicine

1. Bioethics

Justice Autonomy	Justice Autonomy
Beneficence Non-maleficence	Beneficence Non maleficence

2. The International Association for the Study of Pain (IASP) definition of pain
3. The distinction between nociception and pain
4. The differences between acute and chronic pain
5. The philosophical models of pain. Cartesian dualism and alternative Monist theories such as Advaita.
6. The different conceptual models in pain medicine
7. The principles of the multi-disciplinary approach to pain management
8. Common pain terms

Analgesia	Hyperalgesia	Hypoalgesia	Anaesthesia	Hyperaesthesia
Paraesthesia	Dysesthesia	Hyperpathia	Allodynia	Anaesthesia dolorosa
Spontaneous	Evoked pain	Radicular Pain	Radiculopathy	-

9. Terms used in sensory testing of pain including, but not limited to:

Sensory threshold	Pain threshold	Pain tolerance level
Punctate mechanical allodynia	Punctate mechanical allodynia	Punctate mechanical allodynia
Cold allodynia	Warmth allodynia	Hyperpathia

10. Placebo & Nocebo Broadly discuss current concepts of placebo effect

Basic Sciences

1. Anatomy of the peripheral and central nociceptive pathways, including:
 - The somatosensory system with particular reference to dermatomes and peripheral nerves
 - The autonomic nervous system
2. Referred pain, including its embryological basis
3. Anatomy of ascending and descending pathways of nociceptive modulation in the central nervous system
4. Changes that occur following nerve injury, including Wallerian degeneration, neurapraxia, and axonotmesis
5. Peripheral and central sensitization of nociception including reference to:
 - Synaptic plasticity
 - N-methyl-D-aspartate (NMDA) receptors
 - Long-term potentiation
6. Mechanisms of transduction, transmission, and modulation in nociceptive pathways
7. Mechanisms of nociceptive pain and neuropathic pain
8. Clinical features of somatic and visceral pain
9. Physiology of tolerance, dependence, and addiction with respect to pharmacological agents

Assessment of Pain

1. The influence of the following factors on the patient's experience of pain:
 - Social
 - Cultural
 - Psychological
 - Personality
 - Physical
 - Genetic

2. Response to the experience of pain including affective, cognitive and behavioural responses
3. DSM and ICD framework for classification of psychiatric disorders with particular reference to anxiety and mood disorders
4. The concept of coloured "flags" in relation to risk factors for developing chronic pain
5. Perform a basic medical assessment including:
 - General history-taking
 - General physical examination
 - Mental state examination
6. Interpret basic investigations, including but not limited to:
 - Full blood count
 - Biochemical screening including liver function tests
 - Arterial blood gases
 - Thyroid function tests
 - Electrocardiograms
 - Plain radiographs
7. Problem-oriented synthesis of clinical information

Management of Pain

1. The treatment modalities that may be used in the management of pain:
 - Psychological
 - Physical
 - Pharmacological
 - Interventional
2. The pharmacokinetic and pharmacodynamic principles of analgesics
3. Pharmacogenetic variations in
 - Codeine
 - Tramadol
 - Tricyclic antidepressants
 - Non-steroidal anti-inflammatory drugs
 - Describe the:
 - Mechanism(s) of action _
 - Adverse effects including toxicity _
 - Indications, precautions, and contraindications for use of the following drugs

Paracetamol	Non-steroidal anti-inflammatory drugs	Opioid agonists, partial agonists, agonist-antagonists and antagonists	Tramadol & tapentadol
Antidepressants	Anticonvulsants	Benzodiazepines	Local anaesthetics

4. Opioid equivalence in
 - Buprenorphine
 - Codeine
 - Fentanyl
 - Methadone
 - Morphine
 - Tapentadol
 - Tramadol
5. Pharmacokinetic and pharmacodynamic differences between the different systemic routes of administration of drugs, including:

Oral	Subcutaneous	Intramuscular	Intravenous	Transdermal
Sublingual	Buccal	Intranasal	Rectal	Inhalational

Research Methodology

1. Principles of clinical epidemiology, including:
 - Terminology and presentation of epidemiological data
 - Different types of epidemiological study design: descriptive (correlational, case reports/series, cross-sectional surveys); analytical (observational, case-control, cohort); interventional (experimental studies or clinical trials)
2. Principles of biostatistics, including:
 - Different data types (parametric/non-parametric, continuous/interval, ratio, categorical, dichotomous), and their relevance to statistical analysis
 - Influence of sample size on derived indices such as a proportion or a mean
 - Calculation and interpretation of a 95 per cent confidence interval of a mean or a proportion
 - Concept of probability testing, sample distributions and the importance of appropriate sampling techniques
 - Concepts of significance and power when testing an hypothesis
 - Appropriate use of tests of agreement between continuous data, such as Pearson and Spearman correlation coefficients and intra-class correlation
 - Application, limitations, and interpretation of tests used to analyze single studies and meta-analyses: specifically, t-test, chi-squared test, odds ratios, analysis of variance, effect size, survival curves and number- needed-to-treat (NNT)
3. Concepts of:
 - Reliability
 - Validity
 - Sensitivity
 - Specificity
4. Principles of assessing scientific evidence, including:
 - Grades of evidence and methodologies and difficulties of combining evidence

- as in systematic reviews and meta-analyses
- Influence of bias, chance, and confounding variables in studies, and methods to reduce them

1. CORE TOPIC AREAS

Headache and orofacial pain

Only a minority of people with headache disorders are appropriately diagnosed; headache is an underestimated and undertreated problem throughout the world. A number of specific headache and facial pain disorders may be identified based on careful clinical assessment.

Background

Appraise the International Classification of Headache Disorders

Generally, discuss accepted definitions of terms associated with headache syndromes

Describe a taxonomy of orofacial pain

Applied Basic knowledge

Describe the anatomy of the cranial and upper cervical nerves and the innervation of the scalp, sinuses, and teeth

Describe potential neurobiological mechanisms for:

Headache

Facial pain

Oro dental pain

Discuss the pathophysiology of trigeminal neuralgia

Discuss the pathophysiology of:

Post-traumatic headache

Post-craniotomy headache

Post-dural puncture headache

Assessment of headache and orofacial pain

Perform a cranial nerve examination

Perform an examination of the temporomandibular joint

Perform an examination of the cervical spine

Detail the critical factors for assessing life-threatening headache

Demonstrate awareness of potential causes of headache that may be overlooked on initial assessment including:

Idiopathic intracranial hypertension

Low cerebrospinal fluid (CSF) pressure headache (intracranial hypotension)

Post-craniotomy headache

Pathology in the eyes and ears

Space-occupying lesions
Vascular disease
Sinus pathology

Headache

Distinguish between the clinical features of the following primary chronic daily headache syndromes:

Migraine (with and without aura)
Transformed migraine
Cluster headache and variants

Orofacial pain

Recognise the clinical features of:

Trigeminal neuralgia
Other cranial neuralgias
Post-herpetic neuralgia
"Burning mouth" syndrome

Apply a differential diagnosis approach to determining the anatomical origin of "atypical" facial pain

Distinguish pain of odontogenic and non-odontogenic origin

Describe the spectrum of temporomandibular joint dysfunction

Management of headache and orofacial pain

Discuss the evidence base for non-drug interventions in primary and secondary headache syndromes:

Cognitive-behavioural therapy
Relaxation
Sleep hygiene
Exercise
Diet
Massage
Acupuncture

Discuss the evidence base for pharmacological treatment of acute migraine:

Simple analgesics
non-steroidal anti-inflammatory drugs
antiemetics
triptans
opioids

Discuss the evidence base for pharmacological prophylaxis in migraine:

beta-blockers
calcium channel blockers
tricyclic agents topiramate

pizotifen
ergot derivatives
other agents including SNRIs

Discuss the evidence base for and the role of botulinum toxin in the management of chronic migraine

Discuss the role of occipital nerve stimulation in the management of refractory migraine

Discuss the treatment options available in the management of medication- overuse headache

Discuss the evidence base for pharmacological treatment of trigeminal neuralgia with: carbamazepine

gabapentin

clonazepam

baclofen

Discuss the efficacy and complications of surgical options for trigeminal neuralgia:

Microvascular decompression

Radiofrequency ablation

Balloon compression

Discuss the evidence base behind the treatments for temporomandibular joint disease including but not limited to:

Cognitive behavioural therapy

Physical therapies

Dental splints

Temporomandibular joint irrigation

Temporomandibular joint surgery

2. Spinal pain

Compare and contrast the current International Association for the Study of Pain (IASP) Classification of Spinal Pain with other classification systems

Discuss controversies in diagnostic terminology in spinal pain

Discuss the public health dimensions of the problem of spinal pain, including but not limited to:

Prevalence Demography

Personal and community costs

Recognise risk factors for transition of acute to chronic low back pain

Recognise risk factors for transition of acute to chronic neck pain following "whiplash" injury

Discuss factors predictive of chronicity after acute spinal pain, including but not restricted to the "flag" system

Applied foundation knowledge

Describe the neuroanatomy and function of the spine and identify potential structures that can be associated with pain

Critically appraise the value of zygo-apophyseal joint blocks, medial branch blocks and denervation as part of a long-term plan

Clinical assessment of spinal pain

Discuss the rationale and use of psychological and functional questionnaires for chronic spinal pain

Identify the potential specific causes of acute and chronic spinal pain: Infection

Trauma Neoplasia

Metabolic bone disease Inflammatory disease

Distinguish between radiculopathic and referred pain, with respect to limb girdle or limb pain associated with spinal pain

Critically interpret commonly used physical examination tests, for example, Lasegue/straight leg raise test, slump test, etc

Perform a gait analysis

Recognise the clinical presentation of symptomatic spinal stenosis

Distinguish between acute and acute-on-chronic episodes of spinal pain

Reinterpret pre-existing investigations and opinions in the light of clinical findings

Management of Spinal Pain

Critically discuss the evidence base for management of acute low back pain with or without radiculopathic pain

Discuss the efficacy of psychological therapies in chronic spinal pain, including but not limited to:

Cognitive Behavioural

Acceptance/ commitment

Discuss principles of activity prescription in the management of spinal pain

Generally, discuss the evidence for efficacy and adverse effects of physical therapies in chronic spinal pain, including but not limited to:

Graded exercise exposure Stretching/strengthening Posture training Hydrotherapy

Manual therapy Massage Acupuncture Biofeedback

Critically discuss the evidence base for the efficacy of pharmacological treatments for chronic spinal pain

Critically discuss the evidence base for the indications, efficacy and complications of interventions used for chronic spinal pain, including

Injections

Epidural/caudal steroids Medial branch injections Prolotherapy

Trigger point injections Botulinum toxin

Intra-articular steroids (apophyseal and sacroiliac)

Radiofrequency and electrothermal treatment

Facet joint

Intervertebral disc

Sacro-Iliac joint

Dorsal root ganglion

- Spinal cord stimulation
- Peripheral nerve stimulation
- Intrathecal drug infusion

Critically discuss the evidence base for the indications, efficacy and limitations of surgical interventions for chronic spinal pain:

Decompression/laminectomy

Discectomy

Disc replacement

Fusion

Broadly appreciate the evidence base for the efficacy and complications of complementary and alternative medicine in spinal pain, for example, acupuncture, chiropractic

3. Neuropathic and related pain

Descriptors of pain and other pain-related terms as in the International Association for the Study of Pain (IASP) Taxonomy.

Distinguish the use of terms such as nociceptive and neuropathic

Distinguish between a clinical phenomenon, its inferred explanation, and its relationship to a diagnostic entity

Applied basic knowledge

Neurobiological basis for allodynia, hyperalgesia and hyperpathia

Neurobiology of pain in

Brain injury Spinal cord injury

Traumatic peripheral nerve injury, including that incurred during surgery Compression neuropathy

Neurobiology of pain following amputation of a limb

Clinical assessment of neuropathic pain

Common tools and their limitations to assess neuropathic pain

Presentations of pain in the following neurological diseases: Stroke

Trigeminal neuralgia Parkinson's disease Multiple sclerosis

Syringomyelia

Peripheral neuropathies: diabetic, HIV-associated

Acute herpes zoster infection and post-herpetic neuralgia Guillain-Barre syndrome

Neurofibromatosis Erythromelalgia

Management of Neuropathic Pain

Mechanism-based versus a disease-based approach to the pharmacological treatment of neuropathic pain

Basic pharmacological principles of drug and botulinum toxin treatment for painful dystonia

Clinical scenarios in which neuromodulation may be considered for control of central neuropathic pain

4. Visceral Pain

Visceral pain is common and yet poorly understood. The unique afferent neurobiological basis for visceral pain, with predilection for somatic referral and ability to provoke strong emotional responses make this topic clinically distinctive and challenging.

Background

Appreciate the taxonomy of functional gastrointestinal disorders and chronic pelvic pain

syndromes, in particular the trend to move away from end-organ nomenclature

Discuss the concurrence of somatic and visceral pain syndromes

Applied Basic Knowledge

Generally, describe the innervation of the viscera within the:

- Thorax (cardiac and non-cardiac)
- Abdomen (including peritoneal and retroperitoneal spaces)
- Pelvis (female and male)

With particular reference to:

Stellate ganglion

Splanchnic nerves

Coeliac ganglion

Hypogastric plexus

Ganglion impar

Pudendal nerve

Demonstrate an understanding of the neurobiology underlying:

Visceral pain

Visceral hyperalgesia

Discuss current concepts of referred pain:

Viscero somatic

Viscero-visceral

Somato-somatic

Discuss the "brain-gut axis" and the neurohumoral functions of the gut

Clinical assessment of visceral pain

Elicit a history of painful visceral dysfunction, including but not limited to: Dysuria

Dyschezia

Dysmenorrhoea

Dyspareunia

Identify 'red flag' features that suggest active visceral disease

Distinguish clinically between:

Active visceral nociception

Visceral hyperalgesia

Referred pain with and without hyperalgesia:

Viscero-somatic

Viscero-visceral

Demonstrate a mechanistic approach to identifying non-visceral causes of thoracic, abdominal and pelvic pain, especially post-surgical neuropathic pain

Demonstrate a mechanistic approach to differentiating causes of pain at the somatic-visceral interface of the pelvis and perineum, in female and in male patients

Management of visceral pain

Discuss the principles of pharmacotherapy for visceral pain and visceral hyperalgesia

Discuss the evidence base for the indications, effectiveness and adverse effects of invasive therapies used for chronic visceral pain

Discuss treatment options for capsular pain associated with liver, spleen and renal pathology

Discuss the role of exogenous gonadal hormones in treatment of gynaecological visceral pain

Discuss treatment options for the management of irritable bowel syndrome

5. Pain related to cancer

Management of pain in the presence of a terminal illness is different from the management of acute or chronic pain but uses techniques from both fields.

Background

Identify sociocultural influences on the experience of cancer and of cancer-related pain

Compare and contrast the assessment and management of persons with cancer pain and those with chronic non-cancer pain

Recognise the problems faced by cancer survivors who have persistent pain

Discuss the meaning and significance of the World Health Organization analgesic guidelines for pain in cancer

Show awareness of protocols addressing unpleasant end-of-life symptoms including but not limited to:

Pain

Nausea/vomiting

Respiratory distress

Itch

Recognise the essential role of close liaison with other teams, specifically from oncology, radiation oncology and palliative care

Applied basic knowledge

Discuss the biological mechanisms contributing to the experience of pain:

Arising from a solid viscus

Arising from a hollow viscus

Directly related to cancer (tumour invasion, compression, metastases etc.)

Indirectly related to cancer (pressure areas, acute herpes zoster infection)

Related to cancer treatments (surgery, radiotherapy, chemotherapy, hormone therapy or immunotherapy)

Recognise interactions of medications, particularly the anti-cancer drugs, with the cytochrome P450 enzyme system and how this might influence analgesic treatments

Discuss the analgesic benefits of cancer-modifying treatments such as: Chemotherapy

Radiotherapy Hormone therapy

Discuss biological mechanisms contributing to:

Post-chemotherapy pain, with particular reference to

Chemotherapy-induced peripheral neuropathy

Mucositis

Post-radiotherapy neuropathic pain

Clinical assessment of cancer pain

Define and distinguish between incident pain and incompletely relieved persistent pain

Apply a mechanism-based approach to identifying the origins and contributing factors to pain in cancer

Describe the clinical presentations of mucositis induced by chemotherapy or immunotherapy

Discuss the presentation of oncological emergencies in the patient with cancer-related pain, including but not limited to:

Acute spinal cord compression

Life-threatening increased intracranial pressure

Acute bowel obstruction and perforation of a viscus

Hypercalcaemia

Long bone fracture

Management of cancer-associated pain

Discuss the different goals of care for a pre-terminal patient compared with those for a terminal patient

Discuss the role of cancer therapies in the management of cancer-related pain, including but not limited to:

Radiotherapy

Radiopharmaceuticals

Chemotherapy Immune therapy

Surgery

Discuss the management of acute pain in cancer patients, including:

Diagnostic interventions

Therapeutic interventions

Surgery

Radiotherapy

Chemotherapy

Discuss management of post-chemotherapy and post-radiotherapy pain

Discuss management of mucositis, with particular reference to children

Outline the changes in pain management when a patient is:

No longer able to swallow

Unconscious

Likely to die within days

Critically discuss the use of other adjuvant analgesics in cancer pain including but not limited to:

bisphosphonates

denosumab

corticosteroids

ketamine

Discuss the role of interventional procedures in the management of cancer pain that is unresponsive to non-invasive treatment, including but not limited to:

Neuraxial and intracerebroventricular administration of medications

Neurolytic blocks, with particular reference to:

Saddle block

Coeliac plexus block

Surgical procedures

Cordotomy

Critically discuss the use of complementary and alternative medicines in patients with cancer pain

Discuss the evidence base for cannabinoids in the management of pain and other symptoms in patients

6. Complex Regional Pain Syndrome (CRPS)

Complex regional pain syndromes (CRPS) are enigmatic challenges to understanding and management. Insight into their pathophysiology and natural history, and application of evidence-based approaches to prevention and treatment are essential.

Background

Discuss the historical progression of terminology of these conditions, towards the current clinical and research (Budapest) diagnostic criteria (including sensitivity, specificity and positive predictive value)

Compare and contrast adult and paediatric CRPS in terms of presentation, disease course, and prognosis

Applied basic knowledge

Discuss proposed pathophysiological mechanisms of CRPS

Critically discuss "sympathetically maintained pain"

Explain the rationale for programs of: Desensitisation

Graded mobilisation

Clinical identification and assessment of CRPS

Generate a differential diagnosis for a patient with presumed CRPS

Perform a functional assessment of the CRPS-affected part including:

Comparison with the non-affected side

Performance of activities of daily living

Gait analysis

Management of CRPS

Outline the role of the following strategies in achieving improved function in patients with CRPS:

Psychological (including cognitive) and physical techniques, including but not limited to:

Graded paced exercise and activity

Restoration of independence in activities of daily living

Management of fear/avoidance

Graded motor imagery

Pharmacotherapy

Interventions, including but not limited to:

Implantable devices

Sympathectomy

Infusion therapy

Critically discuss preventative strategies employed for CRPS according to the current evidence base (for example, vitamin C, steroids, ketamine)

7. Chronic Widespread Pain

Specialist pain medicine physicians will be asked to assess and manage patients who have pain that is not well understood by medical science. Such presentations are marked by incomplete knowledge, uncertainty as to causation, and controversy as to appropriate management. Not infrequently the conditions are associated

with strongly held but scientifically unsupported beliefs. "Chronic widespread pain for which there is no obvious cause" is a case in point. This study unit requires integration of the other core topic areas.

Background

Demonstrate understanding of historical speculations about the nature of pain that is not well understood, the shortcomings of these speculations, and the medical and social outcomes that have arisen as a result of the adoption of these concepts. These include but are not limited to:

Symptoms as psychological by default (DSM-V and ICD-10)

Symptoms as injury (for example, "repetitive strain injury")

Symptoms as disease entity (for example, "fibromyalgia syndrome")

Be aware of developments in the field of psycho-neuro-immuno-biology relevant to the experience of chronic pain

Applied Basic knowledge

Critically discuss the concepts of somatisation and hypervigilance

Discuss the "diagnostic" category of somatic symptom and related disorders (according to DSM-V or ICD-10), including but not limited to:

Somatic symptom disorder

Illness anxiety disorder

Conversion disorder (functional neurological symptom disorder)

Psychological factors affecting other medical conditions

Factitious disorder

Recognise the potential contributions of sources of somatic and visceral nociception to the experience of widespread pain

Assessment of widespread pain

Outline the heterogeneity of clinical presentations of "widespread pain"

Critically interpret the clinical finding of "tenderness"

Critically evaluate the constructs of "myofascial pain" and "fibromyalgia"

Management of widespread pain

Discuss reasons for the paucity of quality evidence in the management of chronic widespread pain

8. Acute pain

Background

Role of an acute pain service

Safe and effective delivery of acute pain management techniques in hospitals including education of staff and patient monitoring requirements; responses to inadequate

or excessive medication; and equipment used

Ongoing management of acute pain following discharge from hospital

Role of acute pain management in rehabilitation, including enhanced recovery or “fast-track” surgery

Discuss the risk factors and mechanisms involved in the transition of acute to chronic pain, and critically evaluate the evidence for measures that may mitigate this transition

Applied Basic knowledge

Pharmacokinetics and pharmacodynamics of opioids and local anaesthetics administered into the epidural space or cerebrospinal fluid

Physiological consequences of a central neuraxial (epidural or intrathecal) block with local anaesthetics and/or opioids

Adjuvant agents that may be used to enhance the quality or extend the duration of central neuraxial or other regional analgesia blocks, and discuss their mechanisms of action, risks and benefits

The contribution of maladaptive psychological coping skills and psychiatric illness and socio-environmental factors to the experience of acute pain (pain ratings, opioid use) and the risks of persistent pain and prolonged opioid use after discharge from hospital

Clinical assessment of acute pain

Assessment of acute pain (including acute neuropathic pain) in the adult patient, including the nonverbal patient, and the relevance of functional assessment

Assessment of acute pain in the older patient (especially those with dementia) including difficulties, relevance of functional assessment and use of other pain evaluation methods that do not rely on verbal ability

Assessment of acute pain in children including difficulties, relevance of functional assessment

Causes of delirium in the acute pain setting and the effect this may have on assessment and treatment of the patient

Management of Acute Pain

Compare and contrast the evidence for efficacy and adverse effects in the management of acute pain with:

opioids paracetamol

non-steroidal anti-inflammatory drugs tramadol and tapentadol

Critically discuss the evidence-base for the indications, efficacy and adverse effects of the following drugs in the management of acute pain:

NMDA-receptor antagonists anticonvulsants antidepressants

alpha-2 adrenergic agonists inhalational agents calcitonin

corticosteroids systemic lignocaine

Assess and manage all adverse effects related to pharmacological therapies in acute pain management, including but not limited to:

Opioid-induced ventilatory impairment and excessive sedation Nausea and vomiting

Opioid-induced pruritus Constipation

Opioid-induced cognitive dysfunction

Describe the complications that may be associated with neuraxial analgesia and other regional analgesia (including secondary to needle/catheter insertion and drug administration) and how these may be mitigated and managed

Outline a plan to transition patients to oral analgesia from patient-controlled analgesia (PCA), epidural or regional analgesia for the management of acute pain

Discuss the use of ultrasound imaging in the performance of regional analgesic techniques

For patients receiving: PCA

Epidural analgesia (including patient-controlled epidural analgesia) Intrathecal analgesia

Plexus analgesia (including patient-controlled regional analgesia) Major peripheral nerve analgesia

Paravertebral analgesia

Outline:

Discuss issues specific to the management of acute pain in special situations

Discuss the management of patients who are taking anticoagulants or anti-platelet agents and who have or are about to receive catheters in situ for neuraxial or major peripheral nerve analgesia

Discuss the potential complications specific to the concurrent use of anticoagulant and antiplatelet agents in patients undergoing central neuraxial and major regional nerve blockade

Discuss the management of patients undergoing repeated painful procedures

9. Problematic substance use

Background

Define the following concepts:

Tolerance

Physical dependence

Psychological dependence

Problematic substance use

Addiction

Critically discuss the differences in understanding and use of these terms between the disciplines of pain medicine and addiction medicine

Distinguish between inappropriate prescription (inappropriate prescriber behaviour) and unsanctioned use (unsanctioned user behaviour) of drugs

Describe the impact of the following non-prescription substances on health and pain experience:

caffeine
nicotine
alcohol
cannabis
methamphetamine and other stimulants

Applied basic knowledge

Describe in detail regulations regarding the prescription, restrictions, and monitoring of controlled substances in the relevant jurisdiction(s) Discuss the current DSM criteria for diagnosis of substance use disorder Discuss in detail the role of benzodiazepines in acute pain and chronic non-cancer pain

Clinical presentations and risk assessment

Recognize the different forms of substance abuse that may be co-morbid with the experience of chronic pain

Compare and contrast intoxication and withdrawal syndromes from:

opioids
alcohol
benzodiazepines
amphetamines
cannabis

Identify people with or at risk of substance abuse

Identify fellow healthcare professionals with or at risk of substance abuse

Critically appraise the tools available to assist clinical assessment of suitability for, and monitoring of, prescription of opioids for chronic non-cancer pain

Stratify patients into "risk" categories when considering opioid prescription for pain

Discuss the uses and limitations of urine drug testing

Management of problematic substance use

Quantify medication use by persons with chronic pain, including assessing the cumulative effects of multiple substances

Discuss strategies to reduce opioid diversion

Broadly discuss regimens of supervised withdrawal from:

opioids
benzodiazepines
alcohol

Demonstrate understanding of controlled opioid substitution therapy programs in the relevant jurisdiction

Assist in the management of patients with problematic substance use in the context of acute and chronic pain, including monitoring, drug therapy and rehabilitation

Counsel patients, their families and careers, and colleagues regarding the conduct of

withdrawal of opioids and benzodiazepines in chronic non-cancer pain.

Work ethically with general practitioners, families and, where appropriate, employers of patients with co-morbid pain and problematic substance use

MINIMALLY INVASIVE PAIN AND SPINE INTERVENTIONS

Minimally invasive pain and spine interventions (MIPSI) is developed by Indian society for study of pain, primarily has been divided into 9 categories. These interventional pain procedures are approved as per international guidelines and evidencing except those with negative recommendations. FIPM trainee fellows are expected to get supervised or hands on experience of MIPSI.

CATEGORIES

1. Joints, Bursa, Tendons, Ligaments AND Muscles
2. Nerves
3. Epidurals
4. vertebral augmentation
5. Neurostimulation
6. Intrathecal Drug Delivery
7. Endoscopic / Epiduroscopic Procedures
8. Pain Biologics
9. Others

CATEGORY-1

JOINTS, BURSA, TENDONS, LIGAMENTS AND MUSCLES

Procedures

1. Major Joint/ Bursa Intervention
2. Intermediate Joint/ Bursa Intervention
3. Minor Joint/ Bursa Intervention
4. Sacroiliac Joint Intra- Articular
5. Sacroiliac Joint Denervation
6. Shoulder Arthrogram
7. Hip Arthrogram
8. Tendon Sheath or Ligament
9. Cervical Sheath or Ligament
10. Thoracic Facet Joint Intraarticular Intervention
11. Lumbar Facet Joint Intraarticular Intervention
12. Sacral Intraarticular Facet Joint Intervention
13. Cervical Median Branch Rhizotomy (RFA)
14. Thoracic Median Branch Rhizotomy (RFA)
15. Lumbar Median Branch Rhizotomy (RFA)
16. Sacral Median Branch Rhizotomy (RFA)

CATEGORY-2

NERVES

1. Greater occipital nerve: diagnostic block
2. Greater occipital nerve: RF Ablation
3. Lesser occipital nerve: diagnostic block
4. Lesser occipital nerve: RF Ablation
5. Third occipital nerve: Diagnostic Block
6. Third Occipital nerve: RF Ablation
7. Suprascapular nerve block for shoulder manipulation
8. PRF of suprascapular nerve
9. Intercostal nerve (single)
10. Intercostal nerves (multiple)
11. Ilioinguinal / Iliohypogastric nerves; Diagnostic block
12. Trigeminal Nerve (any branch)- Diagnostic Block
13. Trigeminal Nerve (any branch)- Radiofrequency Ablation
14. Sphenopalatine Ganglion: Diagnostic Block
15. Sphenopalatine Ganglion: Radiofrequency Ablation
16. Stellate Ganglion (cervical sympathetic): Diagnostic Block
17. Superior Hypogastric Plexus: Diagnostic Block
18. Superior Hypogastric Plexus: Neurolysis
19. Thoracic or lumbar paravertebral sympathetic: Diagnostic block
20. Thoracic or lumbar paravertebral sympathetic: Neurolysis
21. Ganglion impar: Diagnostic block
22. Ganglion Impar: Radiofrequency Ablation
23. Celiac plexus: Diagnostic block
24. Celiac Plexus: Chemical Neurolysis
25. Thoracic paravertebral block
26. Lumbar Paravertebral Block
27. PRF Dorsal Root Ganglion: Cervical
28. PRF Dorsal Root Ganglion: Lumbar
29. Other peripheral nerve

CATEGORY-3

EPIDURALS

1. Interlaminar- cervical
2. Interlaminar- thoracic
3. Interlaminar- lumbar
4. Transforaminal- cervical
5. Transforaminal- thoracic
6. Transforaminal- lumbar
7. Transforaminal- sacral
8. Interlaminar- sacral (caudal epidural)

9. Caudal decompressive neuroplasty
10. Adenomyosis; Chemical
11. Adenomyosis: Mechanical
12. Transforaminal neuroplasty

CATEGORY-4

VERTEBRAL AUGMENTATION

1. Vertebral Augmentation – thoracic (unipedicular or bipedicular approach)
2. Vertebral Augmentation- cervical (unilateral or bilateral approach)
3. Vertebral Augmentation- lumbar (unipedicular or bipedicular approach)
4. Sacroplasty unilateral
5. Sacroplasty bilateral
6. Vertebral augmentation with balloon- thoracic
7. Vertebral augmentation with balloon- lumbar
8. Vertebral augmentation with balloon- sacral

CATEGORY-5

NEUROSTIMULATION

1. Spinal cord stimulator- trial
2. Spinal cord stimulator- placement
3. Dorsal root ganglion stimulator- trial
4. Dorsal root ganglion stimulator- placement
5. Removal/ adjustment of leads/ generator
6. Sacral nerve root stimulation
7. Peripheral nerve stimulator- trial
8. Peripheral nerve stimulator- placement

CATEGORY-6

INTRATHECAL DRUG DELIVERY

1. Intrathecal port
2. Intrathecal pump implantation
3. Intrathecal trial drug administration
4. Epidural catheter placement
5. Epidural external port placement
6. Intrathecal neurolysis

CATEGORY-7

INTRA DISCAL PROCEDURES

1. Discogram/ discography-cervical
2. Discogram/ discography-Thoracic
3. Discogram/ discography-Lumbar
4. Cervical Intradiscal Ozonucleolysis

5. Thoracic Intradiscal Ozonucleolysis
6. Lumbar Intradiscal Ozonucleolysis
7. Percutaneous Disc Decompression
8. Lumbar IDET
9. Lumbar Biacuplasty
10. Cervical Nucleoplasty
11. Cervical nucleotomy
12. Cervical RF Discectomy
13. Lumbar Nucleotomy
14. Lumbar Nucleoplasty
15. Cervical Annuloplasty
16. Lumbar Annuloplasty

CATEGORY-8

ENDOSCOPIC / EPIDUROSCOPIC PROCEDURES

1. Epiduroscopy
2. Percutaneous Endoscopic Foraminoplasty Lumbar
3. Percutaneous Endoscopic Foraminoplasty cervical
4. Percutaneous Endoscopic Foraminotomy Lumbar
5. Percutaneous Endoscopic Foraminotomy cervical Anterior Approach
6. Percutaneous Endoscopic Foraminotomy cervical posterior Approach
7. Percutaneous Endoscopic lumbar Disc Decompression Transforaminal Approach
8. Percutaneous Endoscopic lumbar Disc Decompression Interlaminar Approach
9. Percutaneous Endoscopic stenotic lumbar decompression (PSLD)
10. Percutaneous Endoscopic stenotic Cervical decompression (PSLD)
11. Percutaneous Lumbar Inter body fixation without cage/ graft
12. Percutaneous Lumbar Inter body fixation with cage/ graft
13. Percutaneous Lumbar Inter body fixation with expandable cage
14. Percutaneous Transforaminal Lumbar Interbody fixation (PTLIF)

CATEGORY-9

PAIN BIOLOGICS

1. PRP/ BM/ Adipose Tissue/ Major Joint/ Bursa Intervention (knee, hip, shoulder, trochanteric bursa, subacromial bursa, pes anserine bursa)
2. PRP/ BM/ Adipose Tissue Intermediate Joint/ Bursa Intervention (Temporomandibular, acromioclavicular, wrist, elbow, ankle, olecranon bursa)
3. PRP/ BM/ Adipose Tissue Joint/ Bursa Intervention (Fingers (PIP,DIP) Toes)

CATEGORY-10

OTHERS

1. Prolotherapy
2. Trigger point infiltration

3. Trigger point dry needling
4. Botulinum toxin(botos) injection
5. Acupuncture with electrical stimulation
6. Acupuncture without electrical stimulation
7. Diathermy
8. Transcutaneous Electrical nerve stimulation
9. Shock wave therapy

TECHNICAL SKILLS TO BE ACQUIRED

Teaching and Learning Activities

A candidate pursuing the course should work in the institution as a full-time student. No candidate should be permitted to run a clinic/laboratory/nursing home, while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself/herself from work without valid reasons.

A list of teaching and learning activities designed to facilitate students acquire essential knowledge and skills outlined is given below.

- 1. Lectures:** Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.
- 2. Integrated Lectures:** These are recommended to be taken by multidisciplinary teams by orthopedics, rheumatology, radiology, neurology, physiotherapy, psychology.
- 3. Journal Club:** Recommended to be held once a month.
- 4. Subject seminar:** Recommended to be held once a week.
- 5. Student Symposium:** Recommended as an optional multidisciplinary programme. The evaluation may be similar to that described for subject seminar.
- 6. Ward Rounds:** The fellow should do ward rounds every day. The pain unit should have grand rounds for teaching clinical methods.
- 7. Mortality & Morbidity Meetings:** Recommended once a month.
- 8. Teaching Skills:** The fellow must teach postgraduate students.
- 9. Continuing Medical Education Programmes (CME):** At least 1 state / national level Conference/ CME should be attended.
- 10. Case presentation-**Clinical case presentation is held once in a month where fellow presents detailed history, examination and pain management which will be discussed by the panel
- 11. Bed side clinics or teaching-** Discussion of pain management and relevant clinical material will be carried out on daily basis.

Rotation and Posting in other departments / Pain centers

Postings to other speciality departments like anatomy, radiology, neurology, orthopaedics, rheumatology, physiotherapy, and psychology. External posting to other pain centers to any other city upto a period of 1 month as an observer to get experience of advanced pain management techniques.

KNOWLEDGE AND SKILLS

The FIPM fellowship would help the trainee to dynamically apply high- level knowledge, skills, and professional attitudes in the practice of pain medicine across stable, unpredictable, and complex situations

Clinical assessment and formulation

1. Triage pain patients with respect to urgency, complexity and facilities required
Elicit and interpret a detailed biopsychosocial history of:

- The patient experiencing pain
- The pain experienced by the patient
- The consequences of the experience of pain for the patient

2. Discuss the application of the World Health Organization (WHO) International Classification of Functioning, Disability and Health (ICF) concepts to people experiencing pain:

- Functioning and disability
- Body functions and body structures
- Activities and participations
- Contextual factors
- Environmental factors
- Personal factors

The WHO ICF is a classification of health and health-related domains. For more information refers to (<http://who.int/classifications/icf/en/>)

3. Perform a focused sociological assessment of the patient, including but not limited to:

- Housing
- Eating habits
- Support
- Family and life roles
- Employment/occupational factors
- Financial status
- Recreational activities
- Mobility, including driving capability
- Cultural beliefs
- Meaning and purpose

4. Perform a focused psychological assessment and mental state examination of the patient, including but not limited to:
 - Developmental history
 - Family medical and psychological history
 - Personal psychological history
 - Personality style
 - Coping strategies
 - Cognitive impairment
 - Identification of lifetime stresses
5. Perform a focused biomedical assessment, including but not limited to:
 - Response to treatment
 - Nutritional status
 - Sleep function
 - Sexual function
6. Adapt assessment techniques to specific populations such as:
 - Children
 - Older patients
 - Patients from linguistically or culturally diverse backgrounds
 - Patients who are cognitively impaired
 - Patients with behavioral issues
7. Perform and interpret a pain-orientated physical examination, incorporating:
 - Pain oriented sensory testing
 - Assessment of function
 - Relevant systems
8. Recognize that pain in any one patient may attract different concurrent descriptors and therefore, different inferred mechanisms
9. Demonstrate ability to infer mechanism(s) of production of pain on the basis of clinical examination, irrespective of pre-existing diagnostic label(s)
10. Critically review existing investigations and interpretations, including but not limited to bone scans, computed tomography (CT) scans, magnetic resonance imaging (MRI), positron emission tomography (PET) scans, and electro-diagnostic techniques
11. Make judicious and resource-sensitive decisions about obtaining further investigative options
12. Integrate multiple sources of information towards a multi-axial formulation of diagnosis function- context
13. Identify and explore the patient's issues, concerns, beliefs, goals, and expectations with respect to their pain experience

14. Evaluate whether further specialized assessment and/or management in sociological, psychological or biomedical dimensions is required, and arrange if necessary
15. Develop understanding of the person and their family, in relation to their pain-associated limitations, losses, and distress

Preparing Management Plans

1. Synthesize and justify management options based on evidence and the context in which the patient's experience of pain occurs
2. Formulate a management plan tailored to the individual patient Recognize and respond to the uncertainty inherent in the practice of pain medicine, including but not limited to:
 - Accommodating unpredictability
 - Managing risk in complex patient care situations
 - Varying practice according to contextual and cultural influences
3. Adapt plans to the specific needs of the following patient groups experiencing pain:
 - Children and adolescents
 - Pregnant women
 - Elderly patients (including those with dementia)
 - Patients with mental health disorders
 - Opioid-tolerant patients
 - Patients with active or past substance abuse problems
 - Indigenous patients and those from other ethnic and cultural backgrounds
 - Patients with intellectual disabilities
4. Understand the principles and application of placebo theory in patients with pain Critically discuss evidence-based psychological therapies related to pain medicine, including:
 - Cognitive and behavioral therapies
 - Mindfulness-based cognitive behavior therapy; acceptance and commitment therapy; mindfulness-based stress reduction
 - Narrative therapy
5. Discuss in detail clinical pharmacotherapy in pain medicine, including but not limited to the use of:
 - paracetamol
 - non-steroidal anti-inflammatory drugs
 - opioids
 - tramadol and tapentadol

- NMDA-receptor antagonists
- local anaesthetic agents
- anticonvulsants
- antidepressants
- benzodiazepines
- alpha-2 adrenergic agonists
- anti-emetics
- laxatives

6. With respect to opioids:

- Compare and contrast rational use in acute, chronic non-cancer and cancer-associated pain
- Critically discuss the evidence base for their efficacy in non-cancer pain
- Critically discuss commonly used dose equivalents for oral, parenteral, transdermal and neuraxial (epidural, intraspinal) routes of opioid administration
- Describe the pharmacokinetic and pharmacodynamic differences between immediate-release and slow-release oral opioid formulations
- Discuss the rationale for opioid rotation
- Describe the use and idiosyncrasies of methadone and buprenorphine
- Critically discuss opioid-induced hyperalgesia
- Discuss the assessment, prevention, and symptomatic relief of adverse effects of
- opioids with particular reference to:
 - Constipation
 - Nausea and vomiting
 - Sedation
 - Confusion or delirium
- Discuss the long-term effects of the use of opioids including, but not limited to
- their immuno-modulatory, endocrine, and psycho-cognitive effects
- Detail the factors that need to be considered when patients are discharged from
- hospital with opioids for ongoing management of acute pain
- Negotiate a plan for withdrawal from opioids where appropriate

7. Critically discuss the evidence base for the efficacy and adverse effects of benzodiazepines and non-steroidal anti-inflammatories in the management of pain. Discuss in detail physical treatment modalities related to pain medicine, including but not limited to:

- Principles of physical activity
- Principles of pacing and graded activity
- Passive and active therapy

8. Discuss in detail the role of procedural treatment modalities related to pain medicine, including but not limited to:
 - Peripheral injections
 - Soft tissue
 - Intra-articular
 - Neuraxial injections
 - Ablative techniques
 - Chemical
 - Electrical/thermal
 - Surgical
 - Neuromodulation
 - Neurostimulation
 - Cerebrospinal fluid drug delivery
 - Surgical interventions
9. Critically discuss the use of complementary and alternative medicine (CAM) used in the community for the treatment of pain including:
 - Evidence for mechanisms of action
 - Analgesic efficacy
 - Potential interactions and adverse effects
10. Describe the application of multidisciplinary treatment principles in pain management Programs

Implementing Management Plans

1. Explain to the patient the diagnostic formulation and the proposed management plan
2. Negotiate a therapeutic alliance with the patient towards implementation of the management plan
3. Supervise and monitor patient status and intervene as required to optimize patient care Differentiate those patients who require:
 - Multimodal approach from one practitioner
 - Multidisciplinary approach from a team
 - Referral to other medical specialists and/or allied healthcare _professionals
4. Consult colleagues and other healthcare professionals to optimize patient wellbeing and enhance patient outcomes
5. Demonstrate the skills required to lead a multidisciplinary team in the implementation of a pain management plan
6. Incorporate as part of a comprehensive pain management plan, where indicated:
 - Risk assessment
 - Psychological treatment modalities
 - Suitable physical therapies

- Rational pharmacotherapy
 - Appropriate interventional treatment modalities
 - Patient education
7. Demonstrate ability to rationalize and supervise complex pharmacotherapy in patients experiencing pain
 8. Consider the use of alternative therapies to meet patient needs
 9. Arrange appropriate follow up

Attitudes and Communication Abilities:

1. Adopt ethical principles in all aspects of pain practice. Professional honesty and integrity are to be fostered. Pain management should be catered to all in need, irrespective of the social status, caste, creed, or religion of the patient.
2. Develop communication skills, in particular the skill to explain the various options available in the pain and palliative care management and to obtain a true informed consent from the patient.
3. Provide leadership in the working environment and get best out of the team in a congenial working atmosphere.
4. Apply high moral and ethical standards while carrying out human or animal research.
5. Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues and superiors when needed.
6. Respect patient's rights and privileges including patient's right to information and right to seek a second opinion.

**QUARTERLY ASSESSMENT OF KNOWLEDGE AND SKILLS
SKILL ORIENTED LEARNING AND DIRECTLY OBSERVED
PROCEDURAL SKILLS**

Assessment Period & Posting:
Evaluator:

EVALUATION

SI No		Poor 0	Below average 1	Average 2	Good 3	Very Good 4
1	Knowledge relevant to Pain Medicine					
2	Abilities in history taking, psycho- social assessment and physical examination					
3	Skills in communication with patients					
4	Abilities in planning & interpretation of investigations					
5	Contribution to multi-disciplinary teamwork					
6	Taking informed consent for pain interventions					
7	Adoption of safety techniques / Radiation safety practices					
8	Understanding Fluoroanatomy and sonoanatomy					
9	Understanding the appropriate usage of drugs / equipment / techniques of pain interventions					
10	Procedural skills and monitoring during the procedure					
11	Communication with the faculty					

12	Post procedural instructions to the patients, Documentation and Follow up					
	Total Score					
Specific Remarks, if any Signature of the staff:						

WHAT IS EXPECTED OF TRAINEES DURING TRAINING?

As part of their professional and personal development it is expected that trainees will:

- Contribute to the work of their training department.
- Set their learning goals for each quarter.
- Actively seek the clinical experience to meet training requirements and their learning goals.
- Reach performance standards appropriate to their stage of training.
- Meet other training requirements, including achievement of all learning outcomes, recording of experiences in their learning portfolio, attendance at courses, participation in training-related activities such as supervisory feedback and reviews, as well as completion of assessments.
- Actively participate in self-assessment and reflect on feedback received and strive to improve their performance in line with training requirements.
- Seek appropriate assistance and support in situations where difficulty is experienced or where novel clinical experiences arise.

There is an opportunity for trainees to explore aspects of pain medicine not covered in detail during the core training stage. These optional topic areas (OTAs), include but are not limited to:

- Addiction medicine
- Chronic pelvic pain
- Consultation liaison psychiatry
- Paediatric pain medicine
- Pain medicine in aged care
- Palliative care
- Physical interventions
- Rehabilitation medicine