FELLOWSHIP OF THE INDIAN ACADEMY OF PAIN MEDICINE

CURRICULUM

Indian Academy of Pain Medicine

IAPM

The Academy of the Indian Society for Study of Pain

TABLE OF CONTENTS

GLOSSARY

IAPM – Indian Academy of Pain Medicine

IAPM-B - Indian Academy of Pain Medicine Basics

IAPM-C - Indian Academy of Pain Medicine Core

IAPM-KS - Indian Academy of Pain Medicine Knowledge & Skills

DSM – Diagnostic and Statistical Manual

ICD – International Classification of Diseases

ACKNOWLEDGEMENT

We gratefully acknowledge The Faculty of Pain Medicine, Australian and New ZealandCollege of Anaesthetists for granting permission to use the Pain Medicine Curriculum 2015, and CanMEDS - the physician competency framework developed by the Royal College of Physicians and Surgeons of Canada

Introduction

The fellowship curriculum in Pain Medicine contains the key learning outcomes to be achieved through the trainees' self- directed learning, clinical experience in the workplace and other educational experiences during training.

The Indian Academy of Pain Medicine offers a eighteen months (18 months) fellowship training program in pain medicine, undertaken in hospitals approved by the academy.

The scope of pain medicine practice

The specialty of pain medicine is concerned with the study of pain from a biopsychosocial perspective. Clinically this incorporates the evaluation, treatment and rehabilitation of persons with pain. The field spans three major clinical areas:

- Acute pain – post-operative, post-trauma, acute episodes of pain in medical conditions.
- Cancer pain – pain due to tumour invasion or compression; pain related to diagnostic or therapeutic procedures; pain due to cancer treatment.
- Chronic non-cancer pain – including more than 200 conditions described in the International Association for Study of Pain's (IASP) Taxonomy.

Aim of the curriculum

The purpose of the curriculum is to define the required learning, teaching and assessment of the fellowship training program.

More specifically, the curriculum aims to:

- Define the breadth and depth of knowledge and range of skills necessary for a pain physician to provide quality patient care.
- Provide the essentials for the trainees' self-directed learning
- Promote interaction between trainees and mentors, through formative workplace-based assessments and feedback.
- Provide consistency of standards and outcomes across different training settings.
- Outline the basic knowledge and skills required by the trainees to commence the training program.
- Provide a scope of continuing professional development activities.

Key sections of the curriculum

The key sections of the curriculum are:

1. Basics of Pain Medicine - **IAPM-B**
2. Core Topics Areas – **IAPM-C**
3. Knowledge and Skills expected to be acquired – **IAPM-KS**

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

IAPM-B 1.0 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.

IAPM-B 1.1 Bioethics

Justice	Autonomy
Beneficence	Non-maleficence

IAPM-B 1.2

The International Association for the Study of Pain (IASP) definition of pain

IAPM-B 1.3

The distinction between nociception and pain

IAPM-B 1.4

The differences between acute and chronic pain

IAPM-B 1.5

The philosophical models of pain. Cartesian dualism and alternative Monist theories such as Advaita.

IAPM-B 1.6

The different conceptual models in pain medicine

IAPM-B 1.7

The principles of the multi-disciplinary approach to pain management

IAPM-B 1.8

Common pain terms

Analgesia	Hyperalgesia	Hypoalgesia	Anaesthesia	Hyperaesthesia
Paraesthesia	Dysaesthesia	Hyperpathia	Allodynia	Anaesthesia dolorosa
Spontaneous pain	Evoked pain	Radicular pain	Radiculopathy	—

IAPM-B 1.9

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

Sensory threshold	Pain threshold	Pain tolerance level
Punctate mechanical allodynia	Dynamic mechanical allodynia	Pressure-evoked mechanical allodynia
Cold allodynia	Warmth allodynia	Hyperpathia

IAPM-B 1.10

Placebo & Nocebo Broadly discuss current concepts of placebo effect

IAPM-B 2.0 Basic Sciences

IAPM-B 2.1

Anatomy of the peripheral and central nociceptive pathways, including:

- The somatosensory system with particular reference to dermatomes and peripheral nerves
- The autonomic nervous system

IAPM-B 2.2

Referred pain, including its embryological basis

IAPM-B 2.3

Anatomy of ascending and descending pathways of nociceptive modulation in the central nervous system

IAPM-B 2.4

Changes that occur following nerve injury, including Wallerian degeneration, neurapraxia, and axonotmesis

IAPM-B 2.5

Peripheral and central sensitisation of nociception including reference to:

- Synaptic plasticity
- N-methyl-D-aspartate (NMDA) receptors
- Long-term potentiation

IAPM-B 2.6

Mechanisms of transduction, transmission and modulation in nociceptive pathways

IAPM-B 2.7

Mechanisms of nociceptive pain and neuropathic pain

IAPM-B 2. 8

Clinical features of somatic and visceral pain

IAPM-B 2.9

Physiology of tolerance, dependence and addiction with respect to pharmacological agents

IAPM-B 3.0 Assessment of Pain

IAPM-B 3.1

The influence of the following factors on the patient's experience of pain:

- Social
- Cultural
- Psychological
- Personality
- Physical
- Genetic

IAPM-B 3.2

Response to the experience of pain including affective, cognitive and behavioural responses

IAPM-B 3.3

DSM and ICD framework for classification of psychiatric disorders with particular reference to anxiety and mood disorders

IAPM-B 3.4

The concept of coloured “flags” in relation to risk factors for developing chronic pain

IAPM-B 3.5

Perform a basic medical assessment including:

- General history-taking
- General physical examination
- Mental state examination

IAPM-B 3.6

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

IAPM-B 3.7

Problem-oriented synthesis of clinical information

IAPM-B 4.0 Management of Pain

IAPM-B 4.1

The treatment modalities that may be used in the management of pain:

- Psychological
- Physical
- Pharmacological
- Interventional

IAPM-B 4.2

The pharmacokinetic and pharmacodynamic principles of analgesics

IAPM-B 4.3

Pharmacogenetic variations in

- Codeine
- Tramadol
- Tricyclic antidepressants
- Non-steroidal anti-inflammatory drugs

IAPM-B 4.4

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

IAPM-B 4.5

Opioid equivalence in

- Buprenorphine
- Codeine
- Fentanyl
- Methadone
- Morphine
- Tapentadol
- Tramadol

IAPM-B 4.6

Pharmacokinetic and pharmacodynamic differences between the different systemic routes of administration of drugs, including:

Oral	Subcutaneous	Intramuscular	Intravenous	Transdermal
Sublingual	Buccal	Intranasal	Rectal	Inhalational

IAPM-B 5.0 Research Methodology

IAPM-B 5.1

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)

IAPM-B 5.2

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)

IAPM-B 5.3

Concepts of:

- Reliability
- Validity
- Sensitivity
- Specificity

IAPM-B 5.4

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

CORE TOPIC AREAS

IAPM-C 1.0 Neuropathic and related pain

IAPM-C 1.1

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

IAPM-C 1.2

Distinguish the use of terms such as nociceptive and neuropathic

IAPM-C 1.3

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

Applied basic knowledge

IAPM-C 1.4

Neurobiological basis for allodynia, hyperalgesia and hyperpathia

IAPM-C 1.5

Neurobiology of pain in

- Brain injury
- Spinal cord injury
- Traumatic peripheral nerve injury, including that incurred during surgery
- Compression neuropathy

IAPM-C 1.6

Neurobiology of pain following amputation of a limb

Clinical assessment of neuropathic pain

IAPM-C 1.7

Common tools and their limitations to assess neuropathic pain

IAPM-C 1.8

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

IAPM-C 1.9

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

IAPM-C 1.10

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

IAPM-C 1.11

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

Background

IAPM-C 2.1

Role of an acute pain service

IAPM-C 2.2

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

IAPM-C 2.3

Ongoing management of acute pain following discharge from hospital

IAPM-C 2.4

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

IAPM-C 2.5

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

IAPM-C 2.6

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

IAPM-C 2.7

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

IAPM-C 2.8

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

IAPM-C 2.9

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

IAPM-C 2.10

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

IAPM-C 2.11

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

IAPM-C 2.12

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

IAPM-C 2.13

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

IAPM-C 2.14

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

IAPM-C 2.15

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

IAPM-C 2.16

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

IAPM-C 2.17

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

IAPM-C 2.18

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

IAPM-C 2.19

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

IAPM-C 2.20

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:

Risk-benefit analysis	Monitoring of efficacy	Safety considerations

IAPM-C 2.21

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

Spinal cord injury	Burns
Trauma	Crush injuries and ischaemic limbs
Obstructive sleep apnoea	Pregnant or breast-feeding
Renal impairment (including those on dialysis)	Patients with chronic pain
Opioid-tolerant patients	Past or present substance abuse disorder

IAPM-C 2.22

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

IAPM-C 2.23

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

IAPM-C 2.24

Discuss the management of patients undergoing repeated painful procedures

IAPM-C 3.0 Spinal pain

IAPM-C 3.1

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

IAPM-C 3.2

Discuss controversies in diagnostic terminology in spinal pain

IAPM-C 3.3

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

- Prevalence
- Demography
- Personal and community costs

IAPM-C 3.4

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

IAPM-C 3.5

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

IAPM-C 3.6

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

Applied foundation knowledge

IAPM-C 3.7

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

IAPM-C 3.8

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

IAPM-C 3.9

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

IAPM-C 3.10

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

- Infection
- Trauma
- Neoplasia
- Metabolic bone disease
- Inflammatory disease

IAPM-C 3.11

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

IAPM-C 3.12

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

IAPM-C 3.13

Perform a gait analysis

IAPM-C 3.14

Recognise the clinical presentation of symptomatic spinal stenosis

IAPM-C 3.15

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

IAPM-C 3.16

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

Management of Spinal Pain

IAPM-C 3.17

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

IAPM-C 3.18

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

- Cognitive
- Behavioural
- Acceptance/ commitment

IAPM-C 3.19

Discuss principles of activity prescription in the management of spinal pain

IAPM-C 3.20

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

IAPM-C 3.21

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

IAPM-C 3.22

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 sacro-iliac)

Radiofrequency and electrothermal treatment

- Facet joint
- Intervertebral disc
- Sacro-Iliac joint
- Dorsal root ganglion

❖ **Spinal cord stimulation**

❖ **Peripheral nerve stimulation**

❖ **Intrathecal drug infusion**

IAPM-C 3.23

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

- Decompression/laminectomy
- Discectomy
- Disc replacement
- Fusion

IAPM-C 3.24

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

IAPM-C 4.0 Problematic substance use

Background

IAPM-C 4.1

Define the following concepts:

- Tolerance
- Physical dependence
- Psychological dependence
- Problematic substance use
- Addiction

IAPM-C 4.2

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

IAPM-C 4.3

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

IAPM-C 4.4

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

IAPM-C 4.5

Describe in detail regulations regarding the prescription, restrictions and monitoring of controlled substances in the relevant jurisdiction(s)

IAPM-C 4.6

Discuss the current DSM criteria for diagnosis of substance use disorder

IAPM-C 4.7

Discuss in detail the role of benzodiazepines in acute pain and chronic non-cancer pain

Clinical presentations and risk assessment

IAPM-C 4.8

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

IAPM-C 4.9

Compare and contrast intoxication and withdrawal syndromes from:

- opioids
- alcohol
- benzodiazepines
- amphetamines
- cannabis

IAPM-C 4.10

Identify people with or at risk of substance abuse

IAPM-C 4.11

Identify fellow healthcare professionals with or at risk of substance abuse

IAPM-C 4.12

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

IAPM-C 4.13

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

IAPM-C 4.14

Discuss the uses and limitations of urine drug testing

Management of problematic substance use

IAPM-C 4.15

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

IAPM-C 4.16

Discuss strategies to reduce opioid diversion

IAPM-C 4.17

Broadly discuss regimens of supervised withdrawal from:

- opioids
- benzodiazepines
- alcohol

IAPM-C 4.18

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

IAPM-C 4.19

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

IAPM-C 4.20

Counsel patients, their families and carers, and colleagues regarding the conduct of withdrawal of opioids and benzodiazepines in chronic non-cancer pain.

IAPM-C 4.21

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

IAPM-C 5.0 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

IAPM-C 5.1

Appreciate the taxonomy of functional gastrointestinal disorders and chronic pelvic pain syndromes, in particular the trend to move away from end-organ nomenclature

IAPM-C 5.2

Discuss the concurrence of somatic and visceral pain syndromes

Applied Basic Knowledge

IAPM-C 5.3

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

IAPM-C 5.4

Demonstrate an understanding of the neurobiology underlying:

- Visceral pain
- Visceral hyperalgesia

IAPM-C 5.5

Discuss current concepts of referred pain:

- Viscero-somatic
- Viscero-visceral
- Somato-somatic

IAPM-C 5.6

Discuss the “brain-gut axis” and the neurohumoural functions of the gut

Clinical assessment of visceral pain

IAPM-C 5.7

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

- Dysuria
- Dyschezia
- Dysmenorrhoea
- Dyspareunia

IAPM-C 5.8

Identify 'red flag' features that suggest active visceral disease

IAPM-C 5.9

Distinguish clinically between:

- Active visceral nociception
- Visceral hyperalgesia
- Referred pain with and without hyperalgesia:
- Viscero-somatic
- Viscero-visceral

IAPM-C 5.10

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

IAPM-C 5.11

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

IAPM-C 5.12

Discuss the principles of pharmacotherapy for visceral pain and visceral hyperalgesia

IAPM-C 5.13

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

IAPM-C 5.14

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

IAPM-C 5.15

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

IAPM-C 5.16

Discuss treatment options for the management of irritable bowel syndrome

IAPM-C 6.0 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

IAPM-C 6.1

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

IAPM-C 6.2

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

IAPM-C 6.3

Recognise the problems faced by cancer survivors who have persistent pain

IAPM-C 6.4

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

IAPM-C 6.5

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

- Pain
- Nausea/vomiting
- Respiratory distress
- Itch

IAPM-C 6.6

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

Applied basic knowledge

IAPM-C 6.7

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)

IAPM-C 6.8

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

IAPM-C 6.9

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

IAPM-C 6.10

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

IAPM-C 6.11

Define and distinguish between incident pain and incompletely relieved persistent pain

IAPM-C 6.12

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

IAPM-C 6.13

Describe the clinical presentations of mucositis induced by chemotherapy or immunotherapy

IAPM-C 6.14

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

IAPM-C 6.15

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

IAPM-C 6.16

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

- Radiotherapy
- Radiopharmaceuticals
- Chemotherapy
- Immune therapy
- Surgery

IAPM-C 6.17

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

- Diagnostic interventions
- Therapeutic interventions
- Surgery
- Radiotherapy
- Chemotherapy

IAPM-C 6.18

Discuss management of post-chemotherapy and post-radiotherapy pain

IAPM-C 6.19

Discuss management of mucositis, with particular reference to children

IAPM-C 6.20

Outline the changes in pain management when a patient is:

- No longer able to swallow
- Unconscious
- Likely to die within days

IAPM-C 6.21

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

- bisphosphonates
- denosumab
- corticosteroids

  ketamine

IAPM-C 6.22

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

IAPM-C 6.23

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

IAPM-C 6.24

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

IAPM-C 7.0 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

IAPM-C 7.1

Appraise the International Classification of Headache Disorders

IAPM-C 7.2

Generally discuss accepted definitions of terms associated with headache syndromes

IAPM-C 7.3

Describe a taxonomy of orofacial pain

Applied Basic knowledge

IAPM-C 7.4

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

IAPM-C 7.5

Describe potential neurobiological mechanisms for:

- Headache
- Facial pain
- Orodental pain

IAPM-C 7.6

Discuss the pathophysiology of trigeminal neuralgia

IAPM-C 7.7

Discuss the pathophysiology of:

- Post-traumatic headache
- Post-craniotomy headache
- Post-dural puncture headache

Assessment of headache and orofacial pain

IAPM-C 7.8

Perform a cranial nerve examination

IAPM-C 7.9

Perform an examination of the temporomandibular joint

IAPM-C 7.10

Perform an examination of the cervical spine

IAPM-C 7.11

Detail the critical factors for assessing life-threatening headache

IAPM-C 7.12

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

IAPM-C 7.13

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

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

IAPM-C 7.14

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

- Medication-related
- Medication overuse headache
- Medication-induced side effects
- Post-traumatic
- Headache attributable to head injury
- Headache attributable to neck injury or whiplash
- Disorders of intracranial pressure
- Increased intracranial pressure
- Decreased intracranial pressure
- Headache referred from other structures
- Tension-type headache
- Cervicogenic headache

Orofacial pain

IAPM-C 7.15

Recognise the clinical features of:

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

IAPM-C 7.16

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

IAPM-C 7.17

Distinguish pain of odontogenic and non-odontogenic origin

IAPM-C 7.18

Describe the spectrum of temporomandibular joint dysfunction

Management of headache and orofacial pain

IAPM-C 7.19

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

- Cognitive-behavioural therapy
- Relaxation
- Sleep hygiene
- Exercise
- Diet
- Massage
- Acupuncture

IAPM-C 7.20

Discuss the evidence base for pharmacological treatment of acute migraine:

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

IAPM-C 7.21

Discuss the evidence base for pharmacological prophylaxis in migraine:

- beta-blockers

- calcium channel blockers
- tricyclic agents
- topiramate
- pizotifen
- ergot derivatives
- other agents including SNRIs

IAPM-C 7.22

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

IAPM-C 7.23

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

IAPM-C 7.24

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

IAPM-C 7.25

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

- carbamazepine
- gabapentin
- clonazepam
- baclofen

IAPM-C 7.26

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

- Microvascular decompression
- Radiofrequency ablation
- Balloon compression

IAPM-C 7.27

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

IAPM-C 8.0 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

IAPM-C 8.1

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)

IAPM-C 8.2

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

Applied basic knowledge

IAPM-C 8.3

Discuss proposed pathophysiological mechanisms of CRPS

IAPM-C 8.4

Critically discuss “sympathetically maintained pain”

IAPM-C 8.5

Explain the rationale for programs of:

- Desensitisation
- Graded mobilisation

Clinical identification and assessment of CRPS

IAPM-C 8.6

Generate a differential diagnosis for a patient with presumed CRPS

IAPM-C 8.7

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

IAPM-C 8.8

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

IAPM-C 8.9

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

IAPM-C 9.0 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

IAPM-C 9.1

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”)

IAPM-C 9.2

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

Applied Basic knowledge

IAPM-C 9.3

Critically discuss the concepts of somatisation and hypervigilance

IAPM-C 9.4

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

IAPM-C 9.5

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

Assessment of widespread pain

IAPM-C 9.6

Outline the heterogeneity of clinical presentations of “widespread pain”

IAPM-C 9.7

Critically interpret the clinical finding of “tenderness”

IAPM-C 9.8

Critically evaluate the constructs of “myofascial pain” and “fibromyalgia

Management of widespread pain

IAPM-C 9.9

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

KNOWLEDGE & SKILLS

IAPM-KS 1.0 KNOWLEDGE & SKILLS

The IAPM 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

IAPM-KS 1.1

Triage pain patients with respect to urgency, complexity and facilities required

IAPM-KS 1.2

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

IAPM-KS 1.3

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 refer to (http:/who.int/classifications/icf/en/)

IAPM-KS 1.4

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

IAPM-KS 1.5

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

IAPM-KS 1.6

Perform a focused biomedical assessment, including but not limited to:

- Response to treatment
- Nutritional status
- Sleep function
- Sexual function

IAPM-KS 1.7

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 behavioural issues

IAPM-KS 1.8

Perform and interpret a pain-orientated physical examination, incorporating:

- Pain oriented sensory testing
- Assessment of function
- Relevant systems

IAPM-KS 1.9

Recognise that pain in any one patient may attract different concurrent descriptors and therefore different inferred mechanisms

IAPM-KS 1.10

Demonstrate ability to infer mechanism(s) of production of pain on the basis of clinical examination, irrespective of pre-existing diagnostic label(s)

IAPM-KS 1.11

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

IAPM-KS 1.12

Make judicious and resource-sensitive decisions about obtaining further investigative options

IAPM-KS 1.13

Integrate multiple sources of information towards a multi-axial formulation of diagnosis-function-context

IAPM-KS 1.14

Identify and explore the patient's issues, concerns, beliefs, goals and expectations with respect to their pain experience

IAPM-KS 1.15

Evaluate whether further specialised assessment and/or management in sociological, psychological or biomedical dimensions is required, and arrange if necessary

IAPM-KS 1.16

Develop understanding of the person and their family, in relation to their pain- associated limitations, losses and distress

Preparing Management Plans

IAPM-KS 1.17

Synthesise and justify management options based on evidence and the context in which the patient's experience of pain occurs

IAPM-KS 1.18

Formulate a management plan tailored to the individual patient

IAPM-KS 1.19

Recognise 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

IAPM-KS 1.20

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

IAPM-KS 1.21

Understand the principles and application of placebo theory in patients with pain

IAPM-KS 1.22

Critically discuss evidence-based psychological therapies related to pain medicine, including:

- Cognitive and behavioural therapies
- Mindfulness-based cognitive behaviour therapy; acceptance and commitment therapy; mindfulness-based stress reduction
- Narrative therapy

IAPM-KS 1.23

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

IAPM-KS 1.24

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

IAPM-KS 1.25

Critically discuss the evidence base for the efficacy and adverse effects of benzodiazepines and non-steroidal anti-inflammatories in the management of pain

IAPM-KS 1.26

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

IAPM-KS 1.27

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

IAPM-KS 1.28

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

IAPM-KS 1.29

Describe the application of multidisciplinary treatment principles in pain management programs

Implementing Management Plans

IAPM-KS 1.30

Explain to the patient the diagnostic formulation and the proposed management plan

IAPM-KS 1.31

Negotiate a therapeutic alliance with the patient towards implementation of the management plan

IAPM-KS 1.32

Supervise and monitor patient status and intervene as required to optimise patient care

IAPM-KS 1.33

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

IAPM-KS 1.34

Consult colleagues and other healthcare professionals to optimise patient wellbeing and enhance patient outcomes

IAPM-KS 1.35

Demonstrate the skills required to lead a multidisciplinary team in the implementation of a pain management plan

IAPM-KS 1.36

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

IAPM-KS 1.37

Demonstrate ability to rationalise and supervise complex pharmacotherapy in patients experiencing pain

IAPM-KS 1.38

Consider the use of alternative therapies to meet patient needs

IAPM-KS 1.39

Arrange appropriate follow up

IAPM-KS 2.0 What is expected of trainees during training

IAPM-KS 2.1

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.

IAPM-KS 2.2

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