



FACULTY OF PAIN MEDICINE

of the Royal College of Anaesthetists

Pain Medicine – Advanced Training The curriculum in more detail

Below is a list of clinical conditions that the trainee should have the knowledge and skills to diagnose and manage (not exhaustive):

- Acute Pain – Surgical and Non-surgical
- Mechanical neck pain
- Cervical Radicular Pain
- Mechanical Low back pain
- Lumbar radicular pain
- Thoracic spinal pain and chest wall pain
- Sacrococcygeal pain
- Single muscle myofascial syndromes
- Fibromyalgia
- Widespread generalised pain
- Post-surgical scar pain
- Brachial plexus injury
- Lumbosacral plexus injury
- Peripheral nerve injuries
- Peripheral neuropathies
- Pain from vascular insufficiency
- Common headache syndromes
- Cranial nerve neuralgias
- Post-herpetic neuralgia
- Pain from spinal cord injury or pathology
- Phantom limb and stump pain
- Central post-stroke pain
- Complex regional pain syndromes

Core clinical learning outcomes:

To be capable of delivering all aspects of pain medicine as an independent practitioner. This implies:

- Having a comprehensive knowledge of Pain Medicine service delivery
- Being able to assess a wide variety of patients with pain using a biopsychosocial model including, history taking, physical examination, psychological assessment and interpretation of investigations
- Being aware of the treatment options available to provide effective management for patients with acute, chronic and cancer pain

- Pharmacology of simple analgesics, opiates, NSAIDs, anticonvulsants, and antidepressant drugs
- Becoming technically proficient in a range of procedures for Pain Medicine
- Described in detail below
- Having the communication and organisational skills to be an effective member of the multi-disciplinary Pain Medicine team
- Demonstrates empathy when caring for patients with pain
- Providing clinical leadership in the development of comprehensive pain medicine services, for the benefit of both patients and the organization acting as an effective teacher of Pain Medicine topics
- Being able to assess evidence from research related to Pain Medicine including notes in epidemiology section below
- See below for further detail on the following:
 - Psychological treatments
 - Interventional treatments
 - Neuromodulation
 - Surgical treatments for pain

Knowledge:

PM_AK_01 Explains the importance of epidemiology in pain medicine practice

- Epidemiological surveys and cohort studies as the means to understand the prevalence, aetiology and natural history of painful conditions
- Understanding social impact and healthcare costs of pain
- Identifying ways to avoid pain becoming chronic
- Compensation and benefit claims in relation to pain
- Statistical methods in epidemiology
- Odds ratio, relative risk and absolute risk
- Number needed to treat and number needed to harm
- Role of meta-analyses and their limitations

PM_AK_02 Describes the principles of psychological assessment of patients with pain

- Emotional distress as a cause and a consequence of pain.
- Fear –avoidance behaviour, catastrophising
- Measuring the affective component of pain
- Mood rating scales
- McGill Pain Questionnaire
- Concurrent psychiatric illness in the context of chronic pain
- Somatisation disorders
- Coping strategies

PM_AK_03 Explains the doctor's contribution to Pain Management Programmes to include a cognitive behavioural approach

- Patient education
- Mechanisms for pain
- Limitations to investigations and physical interventions for pain
- Acting as a multi-disciplinary team member
- Legitimizing components of the programme
- Cognitive Behavioural therapy

- Acceptance and Commitment Therapy
- Other Contextual Cognitive Therapies

PM_AK_04 Describes the principles of pain management in patients with problem drug use, physiological tolerance, psychological dependence and addiction

- Screening of patients to identify addiction
- Drug seeking behaviours
- Neurobiological and physiological changes in response to drug misuse
- Prescribing analgesia for patients on opiate maintenance therapy
- Use of alternative methods of analgesia
- Avoidance of acute abstinence syndromes

PM_AK_05 Describes of the principles, practice and evidence for neural blockade and other interventions to treat chronic and cancer pain

- Anatomy of peripheral and central nervous system
- Peripheral and Central sensitisation
- Cellular function in pain transmission
- Pharmacology of local anaesthetic agents including toxicity
- Performance of diagnostic/prognostic blocks before neurodestructive blocks
- Pharmacology of neurolytic agents
- Radiofrequency, pulsed radiofrequency and cryotherapy lesioning
- Pharmacology of locally active steroids
- Adverse reactions and complications of neurolytic blocks
- Detailed knowledge of commonly performed interventions:
 - Myofascial trigger point injection
 - Peripheral nerve blocks Femoral, sciatic, peroneal, intercostal
 - Plexus blocks
 - Paravertebral blocks
 - Lumbar sympathetic block, coeliac plexus, stellate ganglion
 - Epidural injections
 - Facet joint and medial branch blocks
 - Injections into joints and bursae
 - Intrathecal neurolysis
 - Intrathecal and epidural opiates

PM_AK_06 Describes the principles for placement and management of implantable drug delivery pumps [cross reference to sub syllabus]

- The detailed competencies can be found in “Guidance on competencies for intrathecal drug delivery” published by the FPM and available on the website

PM_AK_07 Describes the principles and indications for spinal cord stimulation [cross reference to sub syllabus]

- The detailed competencies can be found in “Guidance on competencies for spinal cord stimulation” published by the FPM and available on the website

PM_AK_08 Explains the basic principles and indications for neurosurgical techniques in Pain Medicine

- Root and ganglion surgery
- Trigeminal ganglion procedures
- Neurosurgically implanted spinal cord stimulators

- DREZ lesioning
- Deep brain stimulation
- Cordotomy

PM_AK_09 Describes the principles of Palliative Medicine

- Anticancer treatment as a means to analgesia
- Radiotherapy, chemotherapy and surgery
- WHO analgesic ladder
- Analgesia by the clock rather than PRN
- Dose titration using short-acting preparations before modified release.
- Adjuvant analgesics depending on pain mechanisms
- Control of nausea and other symptoms
- Role of neurodestructive procedures
- Role of intrathecal therapy
- Additional information is available in ““Guidance on competencies for management of cancer pain in adults “published by the FPM and available on the website

PM_AK_10 Explains the importance of medico-legal issues in Pain Medicine

- Accidents with the potential for compensation claims as causes of pain
- Iatrogenic causes for chronic pain
- The importance of informed consent
- High-risk pain relief procedures
- Acting as an expert witness in compensation claims
- Medical reports for benefits agencies

PM_AK_11 Discusses the principles of paediatric Pain Medicine [cross reference to sub syllabus]

- The detailed competencies can be found in “Guidance on competencies for paediatric pain medicine “published by the FPM and available on the website

PM_AK_12 Discusses the role of rehabilitation services and techniques

- Role of Physiotherapy
- Occupational therapy
- Graded exercise and targeting
- Pain as a disability in the workplace
- Rehabilitation as part of a pain management programme

PM_AK_13 Explains the importance of socio-economic, cultural and ethical issues in Pain Medicine

- Socio-economic consequences of chronic pain, particularly low back pain
- Impact on the workforce, cost of benefits
- Cultural influences on pain perception, expression, and expectations for treatment
- Ethics of animal experimentation in pain research
- Ethics of end-of-life care
- Ethics of disability assessment, patient advocate v. adjudicator
- Use of placebos/sham treatments in research
- Ethics of rationing and prioritization in healthcare
- Access to relief from severe pain as a human right

PM_AK_14 Describes the general and specific criteria for the proper development of pain medicine practice within the wider clinical and management contexts

- Pain medicine in the context of other local specialist services
- Interaction with spinal surgery, orthopaedics, rheumatology, oncology
- Interaction with services provided by professions allied to medicine
- Interaction with community-based pain management services

PM_AK_15 Explains business management principles for pain services

- Costs involved in setting up and running pain services
- Business modeling, estimating demand and patient throughput
- Tariffs for pain-related interventions
- Promoting services and maintaining relationships with potential referrers

PM_AK_16 Evaluates the factors influencing the organization and development of pain medicine services and is able to discuss how service development and practices can be implemented and evaluated

- Referral patterns and competition/cooperation with other services
- Collection of data for patient demographics, clinical presentations, new/follow-up ratios, and intervention rates.
- Development of patient pathways and criteria for interventions
- Audit of outcomes from consultations and interventions

Optional sub-specialty interests

Knowledge:

Spinal cord stimulation

PM_AK_17 Explains the science related to SCS

PM_AK_18 Describes the evidence base for SCS in different pain conditions including indications and contraindications

PM_AK_19 Explains the practical aspects of SCS devices and interactions with other devices/equipment

PM_AK_20 Explains the biopsychosocial aspects of pain that may interact with the use of SCS

PM_AK_21 Describes local referral pathways for patients being considered for SCS

- More detailed information on competencies can be found in “Guidance on competencies for spinal cord stimulation” published by the FPM and available on the website

Paediatric pain medicine

PM_AK_22 Explains the developmental neurobiology of pain, including nociception, ontology of neuropathic pain and the long term consequences of pain in infancy and childhood

PM_AK_23 Explains the developmental, contextual and practical considerations in acute procedural and chronic pain assessment in infants, children and adolescents

PM_AK_24 Explains the ethical and legal aspects of prescribing for children

PM_AK_25 Describes the evidence-base for effective treatments for children of different ages and in different contexts

PM_AK_26 Explains pain pharmacotherapy in infants, children and adolescents

PM_AK_27 Explains the biopsychosocial aspects: the role of the family and society in children’s pain

PM_AK_28 Describes the provision of health and education services for children and the initiation of effective multidisciplinary working

PM_AK_29 Describes the organisational aspects of children’s pain services including acute [postoperative and procedural], cancer pain and palliative medicine, and chronic pain

PM_AK_30 Explains child protection risks and procedures

PM_AK_31 Describes non pharmacological treatments

PM_AK_32 Describes common pain syndromes in childhood

- More detailed information on competencies can be found in “Guidance on competencies for paediatric pain medicine” published by the FPM and available on the website

Cancer pain

PM_AK_33 Describes the mechanisms of pain in the cancer patient

PM_AK_34 Describes the complex psychosocial dynamics in cancer pain

PM_AK_35 Describes the principles, practice and evidence for neurolytic blockade (including autonomic, peripheral and regional techniques)

PM_AK_36 Describes the principles, practice and evidence for the insertion and management of external and internal implantable drug delivery systems, both peripheral and central for the management of cancer pain

PM_AK_37 Explains/recalls the place and limitation of spinal stabilisation techniques (vertebroplasty and kyphoplasty), percutaneous cordotomy and highly specialised techniques with the management of cancer pain

PM_AK_38 Describes the basic principles of chemotherapy and radiotherapy in the management of cancer pain

PM_AK_39 Explains the structure of the palliative care system, and its interaction with primary and secondary care

- More detailed information on competencies can be found in “Guidance on competencies for management of cancer pain in adults” published by the FPM and available on the website

Intra-Thecal Drug Delivery (IDD)

PM_AK_40 Explains the science related to IDD

PM_AK_41 Describes the evidence base for IDD in different pain conditions and spasticity including indications and contraindications for adults and children with cancer pain, non-cancer pain and neurological conditions

PM_AK_42 Describes the pharmacology of intrathecal drugs

PM_AK_43 Explains the practical and safety aspects of using IDD devices and interactions with other devices and equipment

PM_AK_44 Explains the bio-psychosocial aspects of the patient’s presentation that may influence outcome from IDD and that may need to be managed to support IDD

PM_AK_45 Describes local referral pathways for patients being considered for IDD therapy

- More detailed information on competencies can be found in “Guidance on competencies for intrathecal drug delivery” published by the FPM and available on the website

Skills:

PM_AS_01 Demonstrates comprehensive and focused assessment of patients with pain, including but not exclusively:

- History taking
- Physical examination
- Psychological assessment
- Indications for and interpretation of investigations

Skills in musculoskeletal and neurological examination are of particular value. Depending on the scope of envisaged consultant practice, a trainee may need to develop skills in abdominal and pelvic examination, including vaginal and rectal examination.

PM_AS_02 Demonstrates the ability to recognise patients with pain who have psychological problems and who require psychological evaluation, and the ability to apply established treatments for the management of psychological distress in those with pain

- Use of psychological assessment tools, e.g. HADS, Beck depression inventory, Beck anxiety inventory
- Supportive psychotherapy and client-centred psychotherapy,
- Cognitive behavioural therapy.
- Operant conditioning
- Biofeedback
- Hypnosis, mental imagery and relaxation techniques

PM_AS_03 Demonstrates the ability to recognise patients with pain who require referral or support from other specialties

- Red flags in spinal pain
- Role of orthopaedic surgeons, spinal surgeons and rheumatologists in musculoskeletal pain
- Dangers of treating patients symptomatically when no diagnosis has been established

PM_AS_04 Demonstrates the safe and effective use of a comprehensive number of neural blockade procedures for pain management

including cancer pain [see cancer pain additional curriculum details]

- Myofascial trigger point injections
- Peripheral nerve blocks Femoral, sciatic, peroneal, intercostal
- Plexus blocks
- Paravertebral blocks
- Lumbar sympathetic block, coeliac plexus, stellate ganglion
- Epidural injections
- Facet joint and medial branch blocks
- Injections into joints and bursae
- Intrathecal neurolysis

PM_AS_05 Demonstrates the techniques for insertion of tunnelled or implanted spinal [epidural or intrathecal] drug delivery systems

PM_AS_06 Demonstrates the basic practice of stimulation induced analgesia e.g. TENS

- TENS
- Acupuncture-like TENS

- Acupuncture, dry needling, electro-acupuncture, acupressure
- Transcranial magnetic stimulation

PM_AS_07 Demonstrates the application of audit to pain medicine

PM_AS_08 Demonstrates the ability to undertake research in pain medicine

PM_AS_09 Demonstrates an understanding of responsibilities when undertaking medico-legal work

PM_AS_10 Demonstrates empathy when caring for patients with pain

PM_AS_11 Demonstrates an appreciation of the clinical boundaries of anaesthetist-led pain services in providing pain management for a wide range of patients in diverse clinical settings

- Importance of involving other specialists in patient care especially when the diagnosis is unknown (as in PM_AS_03)

PM_AS_12 Demonstrates the safe and competent use of imaging techniques during pain medicine procedures

- Image intensifier
- Ultrasound
- CT-guided procedures

PM_AS_13 Active participant in educational programmes within pain medicine

PM_AS_14 Active participant and presenter in departmental and multi-disciplinary team meetings as part of safe and effective pain medicine patient management

Spinal cord stimulation

PM_AS_15 Demonstrates the ability to make an accurate assessment of pain in the context of neuromodulation

PM_AS_16 Demonstrates ability to work in a multidisciplinary team

PM_AS_17 Demonstrates ability to recognise complications and refer to other appropriate teams/specialists when needed

PM_AS_18 Demonstrates an appreciation of appropriate skills mix for multidisciplinary management in neuromodulation

PM_AS_19 Demonstrates effective communication with other healthcare professionals in primary and secondary care e.g. surgical specialties for assessment and treatment of complications and communication with specialist teams offering SCS therapy

Paediatric pain medicine

PM_AS_20 Demonstrates accurate assessment of pain intensity in infants, children and adolescents including the premature neonate and child with neurodevelopmental delay

PM_AS_21 Demonstrates safe and effective pharmacological management of acute and procedural pain in all ages including the premature neonate

PM_AS_22 Demonstrates an ability to lead multidisciplinary management of chronic and cancer pain in children

PM_AS_23 Demonstrates an ability to perform necessary practical procedures for safe, effective evidence based practice

PM_AS_24 Demonstrates an ability to manage transition from paediatric to adult health and social services where appropriate

PM_AS_20 Demonstrates an ability to initiate and take an appropriate [including leading] role in child protection processes

PM_AS_25 Demonstrates effective communication with children and families

PM_AS_26 Demonstrates effective communication with other paediatric healthcare professionals

PM_AS_27 Demonstrates effective communication and liaison with social, educational and community paediatric services

PM_AS_28 Demonstrates an appreciation of appropriate skills mix for multidisciplinary pain management in children of different ages, abilities and social educational needs

PM_AS_29 Demonstrates ability to take effective leadership role in children's pain management

Cancer pain

PM_AS_30 Demonstrates the ability to accurately assess pain in the cancer pain patient

PM_AS_31 Demonstrates the ability to work in a multi-disciplinary team

PM_AS_32 Demonstrates the ability to perform neurolytic blockade (including autonomic, peripheral and regional techniques) in the management of cancer pain

PM_AS_33 Demonstrates the ability to set up and manage external and internal implantable drug delivery systems, both peripheral and central, for the management of cancer pain

PM_AS_34 Demonstrates the ability to deliver, where appropriate, some of the highly specialised treatments for the management of cancer pain, including but not exclusively, percutaneous cordotomy

PM_AS_35 Demonstrates effective communication with patients and families/carers

PM_AS_36 Demonstrates effective communication with other healthcare professionals in primary and secondary care

PM_AS_37 Demonstrates appreciation of the need for multi-disciplinary management in the cancer sufferer

Intra-Thecal Drug Delivery (IDD)

PM_AS_38 Demonstrates an ability to make an accurate assessment of pain and spasticity on the context of IDD

PM_AS_39 Demonstrates an ability to work in a multidisciplinary team

PM_AS_40 Demonstrates ability to recognise complications and refer to other appropriate teams/specialists when needed

PM_AS_41 Demonstrates an appreciation of appropriate skills mix for multidisciplinary pain management in IDD service

PM_AS_42 Demonstrates effective communication with other healthcare professionals in primary and secondary care, including but limited to general practitioners, surgical specialties for assessment and treatment of urgent complications, neurologists and/or paediatricians for patients with spasticity and communication with other specialist teams offering IDD therapy.