



European Professional Development Module PDM in Pain Medicine for ANAESTHESIOLOGISTS

FROM THE STANDING COMMITTEE ON EDUCATION AND PROFESSIONAL DEVELOPMENT (EPD) OF THE SECTION AND BOARD OF ANAESTHESIOLOGY (EBA)

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Part 1. General information about the European Professional Development Module for anaesthesiologists

The way to excellence: From ETR for trainees to the PDM for Specialists

The European Training Requirements (ETR) in Anaesthesiology list learning objectives during specialty training which pave the way to harmonised quality of care and patient safety throughout Europe. The next step to excellence in anaesthesiology requires professional development in a particular domain such as perioperative medicine, intensive care medicine, critical emergency medicine or pain medicine. The European Professional Development Modules (PDMs) for anaesthesiologists summarise learning objectives to enrich and increase competencies raising clinical experts and professional leaders to a higher level of qualification. The introduction of PDMs was discussed at the European Union of Medical Specialists (UEMS) Webinar in June 2021.

The road to a competent professional we call ETR, the road to mastery we call Professional Development.

Scope of the PDM in Pain Medicine for anaesthesiologists

Training in anaesthesiology includes many of the competencies required in pain medicine, including routine image-guided blocks, handling of analgesic drugs, routine care of all patient groups (from newborn to frail elderly), skills in the management of patients in pre-hospital, perioperative, intensive care and critical emergency settings. The ETR in anaesthesiology lists competencies in pain medicine in general and in specific core domains. Not all learning objectives listed in the ETR, however, reach level D (perform and manage independently). Attaining full competencies in all domains of the broad discipline of anaesthesiology in the minimum training timeframe would be an ideal but impossible demand in any European country. After completion of training in anaesthesiology, the PDM in Pain Medicine for anaesthesiologists will increase the number and level of competencies, enriching the knowledge skills and attitudes in this clinical field. The aim of the PDM in pain medicine for anaesthesiologists is to provide a framework for harmonising the practice and teaching of advanced pain medicine across Europe by expert specialist clinicians.

Considering the high societal and personal impact of chronic pain in all European countries there is a need for mastery in pain medicine delivered in pain clinics, or equivalent. Pain clinics are currently run by multidisciplinary staff including anaesthesiologists. Empowering anaesthesiologists through a competency-based professional development programme, the PDM in Pain Medicine, will give sustained benefit to European citizens. This programme includes teaching, educating others, including primary health care physicians, as well as non-technical skills, ethics and health economics. These enhanced skills will contribute to the sustained societal impact of the PDM in Pain Medicine for anaesthesiologists.

Some tasks in the specialty of anaesthesiology may, in future, be performed by robots or artificial intelligence. In pain medicine there will always be the need for humans with humanity and compassion to deliver care. Empowering specialists in anaesthesiology in ethics and professionalism will further contribute to the sustained societal impact of the PDM in Pain Medicine for anaesthesiologists.

PDM Pain Medicine development

In June 2019 the European Board of Anaesthesiology (EBA) appointed a working group within the Standing Committee on Education and Professional Development (EPD) to develop a PDM in the domain of pain medicine for specialists. The first European PDM draft was submitted for approval by the UEMS in January 2022. and the concept further discussed in June 2022. during a joint zoom meeting with the UEMS Executive. Finally, the PDM concept was introduced to other Sections and Boards during the April 2024 Spring UEMS Council meeting in Brussels.

This PDM in Pain Medicine reflects the multidisciplinary nature in the field of pain medicine as well as recognising the specific expertise and competencies related to the management of pain already obtained through specialist training in anaesthesiology. The PDM in Pain Medicine for anaesthesiologists could serve as a model for advanced training in other medical disciplines involved in pain medicine (e.g. radiology, surgery, neurology, psychiatry).

Duration and type of training in PDM in Pain Medicine

Minimum training duration is 1 year. The authority responsible for governing and ensuring the adequacy of medical training in European countries can decide to count previous experience gained through clinical practice and additional recognised training (e.g. accredited courses, fellowships, observerships) in the field of pain management towards advanced training if the requirements for knowledge and skills defined by the PDM in Pain Medicine are met. According to the UEMS basic principles training is competency-based and not number- or count-based.

The training programme includes a variety of training activities including attendance at training courses, lectures, work with outpatients, interventional procedures, ward rounds, multidisciplinary meetings, clinical research and medical simulation training. Training activities are not uniform throughout Europe and depend on national structures and processes in each location.

Candidates for PDM in Pain Medicine

The PDM in Pain Medicine has been developed for anaesthesiologists who have successfully completed a specialist training programme consistent with the EBA UEMS ETR in anaesthesiology and wish to attain a higher level of competency in the domain of pain medicine.

Trainers for PDM in Pain Medicine

The trainer should be a recognised expert in the field of pain management with sufficient practical and teaching experience. They must fulfil the requirements of a trainer as stated in the ETR in anaesthesiology (part 3):

Training staff must have competence level **E** in the assigned area of training.

Training staff must have sufficient time allocated for the training assignment.

Training staff must have knowledge about the PDM Pain Medicine.

Training staff must have a positive attitude towards clinical training and expertise in didactic teaching, a clear commitment to theoretical teaching and practical instruction of trainees within the full range of clinical practice.

Combinations of competencies in clinical practice, teaching and scientific work are beneficial. However, trainers do not have to be researchers but collaboration of trainers not involved in research with researchers is recommended.

Training institutions

High quality training can only be provided in high quality training centres by high quality trainers and must be assessed in a meaningful and robust way. The training hospital as the training centre or the training unit consisting of more than one training hospital (with rotation of the trainees) must offer all relevant specialties and subspecialties of pain medicine.

All relevant clinical activities must be available so that the clinical skills and attitudes listed in part 2, including expertise in invasive techniques, monitoring technologies and diagnostic methods can be learned.

Faculty, teachers, trainers, consultants and tutors must be available in sufficient numbers for the trainer-trainee ratio to support efficient and effective training. Manpower planning is under the jurisdiction of each member state according to their needs.

Educational activities including lectures, meetings, seminars on matters such as mortality and morbidity, critical incident reporting and clinical audit must be available in sufficient number.

Regular participation in training in medical simulation scenarios must be made available to support improvement in non-technical skills as well as technical and teaching skills.

Accreditation of trainings centres, internal and external audits are highly encouraged by UEMS EBA.

Certified programmes, diplomas, university courses, mentoring/coaching programmes and e-learning must offer the content described in part 2 below.

Assessment of competencies in PDM in Pain Medicine

All training activities in the programme are recorded. Documentation recommended by the EBA includes:

- logbook
- portfolio (e-portfolio)

Logbook documents all clinical procedures and cases.

Portfolio continuously monitors progress and acquisition of competencies, interventions at the specific competence level, instruction from the trainer, self-reflection on the management of the case and the value for progress in the training programme. Regular meetings of the trainer with the PDM learner permit provision of guidance and planning further learning for progress.

Review of logbooks and portfolios also allow quality control of the training institution.

A combination of formative and summative assessment should be used for assessing the status of the competencies acquired as outlined in the *Handbook on Competence-based Teaching and Assessment: A guide for trainers of the European Board of Anaesthesiology (EBA)* (<https://sites.google.com/view/eba-uems/eba-standing-committees/epd>).

Completion of the PDM in Pain Medicine

The EBA recommends national regulatory authorities, chambers of physicians, and / or scientific societies to document completed PDM specialist training as a certificate in advanced training within anaesthesiology.

In future the EBA will propose European certification from UEMS for advanced training in a PDM to facilitate specialists' mobility throughout Europe.

Part 2. Domains and competencies in the PDM Pain Medicine for anaesthesiologists

Descriptions of domains

The following list of domains of expertise and the competencies within these domains are to be obtained during PDM training:

1. Domains of specific pain states

- 1.1 Acute pain
- 1.2 Chronic pain
- 1.3 Neuropathic pain
- 1.4 Multidisciplinary Pain Teams

2. Domains of specific patient groups

- 2.1 Pain Medicine in Elderly
- 2.2 Pain Medicine in Cancer Patients, Palliative and End of Life Care
- 2.3 Pain Medicine in Infants, Children and Adolescence
- 2.4 Pain Medicine in Intensive Care Medicine

3. Domains of general core competencies in pain medicine

- 3.1 Communication in Pain Medicine
- 3.2 Behavioural and Psychological Aspects of Pain Medicine
- 3.3 Pain Research and Evidence-Based Practice
- 3.4 Ethics and Health Economics in Pain Medicine
- 3.5 Gender Medicine
- 3.6 Sustainability and Health Care Economics
- 3.7 Resilience in Pain Medicine
- 3.8 Manual Medicine and Osteopathy
- 3.9 Acupuncture
- 3.10 Non-Evidence-Based Interventions

4. Teaching, Education, and Organization of Training in Pain Medicine

- 4.1 Teaching and Education in Pain Medicine
- 4.2 Organization of Training

Learning objectives of PDM

For each domain, learning objectives are divided into knowledge, skills and attitudes that are deemed necessary to achieve the required level of competencies. For advanced training in a PDM the EBA uses different definitions for level of competencies compared to the definition used in the ETR:

- A1** basic concepts
- A2** knows generally
- A3** knows specifically and broadly

- B1** assists, direct observation
- B2** performs safely with reasonable fluency under direct supervision
- B3** performs safely from start to finish with assistance
knows all the steps and the reasons that lie behind the methodology
- B4** performs safely and straight forward under indirect supervision
can adapt to well-known variations in the procedure encountered, recognises and is able to deal with most of the common problems, without direct input from the trainer
knows and demonstrates when help is needed, when to call for assistance/advice from the supervisor (knows personal limitations)

- C** performs safely and independently under distant advice
competent to do without assistance, including complications but may need help/advice

- D** performs safely and independently as an outstanding clinician and technician
can be trusted to carry out the procedure, independently, without need for help/advice
can deal straightforward and with difficult cases to a satisfactory level, without the requirement for external input

- E** instructs, supervises and teaches

a. Knowledge

Minimal requirements in the PDM for some learning objectives are only at the level of competence A1 or A2 in the domain 3.

Specific and wide knowledge at the level of competence A3 including up-to-date evidence and exceeding the knowledge assessed in the European Diploma in Anaesthesiology and Intensive Care (EDAIC) is required for learning objectives (levels listed below in the domain descriptions).

b. Clinical skills

Minimal requirements in the PDM for some skill competencies are only at the observer level or applied under supervision (level of competence A1 to A3, B1 to B4, C) in the domain 3.

Specific and wide clinical and technical skills at level of competence up to D and E and implementation of advanced knowledge and up-to-date evidence is required in the PDM (levels listed below in the domain descriptions).

c. Specific attitudes

Specific attitudes uniform in all clinical settings of pain medicine are only reported here and apply throughout the PDM Pain Medicine for anaesthesiologists:

- Attain attributes in the generic roles as a professional leader, academic scholar, and inspired humanitarian including:
 - Treating patients and their relatives with empathy, respect, courtesy and without discrimination
 - Treating other health care professionals with empathy, respect, courtesy and without discrimination
 - Fulfilling duties and accepting responsibilities with integrity, honesty, confidentiality, probity and compassion
 - Communication: excellent rapport, inspires confidence, listens well

- Cooperation: always willing to help even if personally inconvenient
- Self-motivation: hard-working, keen to learn, full of energy, goes beyond the call of duty
- Stress response: copes well, seeks help when needed, thinks ahead, efficient even when under pressure
- Promoting safety of patients and staff
- When developing a pain treatment plan always chose the simplest and safest among modalities with comparable efficacy
- Delivering patient information including alternatives and discussion of risks
- Teamwork with other health care professionals to ensure smooth patient care and safety
- Training in the management of rare adverse events and uncommon clinical situations in the medical simulation centre
- Commitment to critical incident reporting
- Careful, systematic, traceable documentation of pain medicinal considerations
- Dedication to monitoring, recording and improving the quality of pain management
- Consider that patients have the right to be heard, believed, and informed, regarding their pain and its management

Content related to pain medicine from ETR in Anaesthesiology

General competencies already gained during specialist training according to the ETR in anaesthesiology need to be refreshed and clinical skills increased throughout to competence level **E**.

Items from ETR domain 1.6 on acute pain management

Items from ETR domain 2.5 on multidisciplinary chronic pain management

Items from ETR domains on competencies in invasive pain treatment and in pain medicine in various clinical fields, including:

- 1.2 General anaesthesia and sedation
- 1.3 Regional anaesthesia
- 1.5 Point of care ultrasound (POCUS)
- 1.7 Intensive care medicine
- 1.8 Critical emergency medicine (CREM)
- 2.4 Paediatric anaesthesiology

1. Domains of specific pain states

1.1 Acute pain

a. Knowledge

- Epidemiology, origin, assessment and treatment of various acute pain states including but not limited to:
 - perioperative/procedural pain
 - pain of spinal, musculoskeletal and joint origin
 - head and oro-facial pain states
 - visceral pain
 - pain related to trauma
 - inflammatory pain
- Evidence for interventions (pharmacological and non-pharmacological) that can reduce the incidence of progression from acute to chronic pain
- Concept and importance of red and yellow flags in assessing the acute pain patient
- Role of anaesthesiologists in setting up and running hospital acute pain services

b. Clinical skills

- Perform a thorough clinical assessment according to the bio-psycho-social model of pain **E**
- Be able to recognise and manage red flags in the acute pain patient from history and physical examination (e.g. possible fracture, tumour, headache, infection or serious neurologic deficit) and initiate further investigation or specialist referral as needed **E**
- Be able to recognise and manage yellow flags during the evaluation of the acute pain patient and to address the underlying psychosocial factors (e.g. attitudes, behaviours, social and work environment) as part of a multimodal/multidisciplinary treatment plan **E**
- Explain and discuss risks/benefits of the treatment and obtain verbal and where appropriate written consent **E**
- Prevention, early recognition and management of pain treatment related side-effects **E**
- Documentation of treatment(s), outcomes and possible adverse events **E**
- Define and implement institutional standard operating procedures for the in-hospital acute pain service **E**
- Define and implement patient information material for post-discharge analgesia **E**

c. Specific attitudes

- Recognise the principle of minimum intervention – using the simplest and safest treatment option(s) likely to be effective

1.2 Chronic pain

Terminology

a. Knowledge

- Definition of pain and classification of types of pain
- Understand terminology used in describing pain and associated conditions

b. Clinical skills

- Prepare a structured patient pain report using internationally accepted terminology E

Anatomy and physiology

a. Knowledge

- Anatomy of peripheral and central nervous system
- Ascending and descending pathways involved in pain transmission, modulation and processing
- Neurotransmitters involved in nociception
- Neuroimmune mechanisms involved in pain
- Mechanisms of peripheral and central sensitisation
- Mechanisms and changes related to development of chronic pain
- Understand the processes involved in peripheral and central sensitisation
- Understand the role of synaptic plasticity and long-term potentiation in chronic pain
- Understand patient related psychological and socioeconomic factors that can contribute to transition from acute to chronic pain / development of “pain behaviour” (e.g., drug abuse, worker’s compensation)

Pharmacology

a. Knowledge

- Mechanism(s) of action, pharmacodynamics/-kinetics, therapeutic indications, side effects, contraindications, and interactions
- Concept of multimodal analgesia
- Role of adjuvants in pain management
- Influence of route of administration on the pharmacology of medications used in pain medicine
- Mechanisms of development of dependence / substance abuse related to agents used in pain management and treatment plans aimed at minimising those risks

c. Specific attitudes

- Commitment to lifelong continuing professional education, perpetual refreshment of competencies in reflective learning, and maintaining an inquisitive attitude

Assessing pain

a. Knowledge

- Validated pain assessment tools, questionnaires and techniques
- Understand the elements of a pain oriented clinical examination – physical, psychological, functional, socio-economic
- Concept and principles of pain oriented sensory testing

- Influence of psychological, sociological and cultural factors on beliefs of pain, behaviour, preferences and expected treatment outcomes
- Knowledge of the biopsychosocial model of chronic pain, emphasizing the interrelation between biological, psychological, and social factors in pain perception and management
- Understand the epidemiology, origin, assessment, and treatment of various chronic pain states, including but not limited to:
 - musculoskeletal pain (e.g. osteoarthritis, myofascial pain syndrome)
 - pain in autoimmune disorders (e.g. rheumatoid arthritis)
 - chronic low back pain
 - headache
 - diffuse chronic pain states (fibromyalgia / chronic widespread pain syndrome)
 - chronic visceral pain (including pelvic/urogenital pain syndromes, chronic functional abdominal pain, inflammatory pain, irritable bowel syndrome, chronic chest/thoracic pain)
 - pain in connective tissue disorders
 - somatoform pain disorder
 - chronic postoperative pain
- Influence of pain on functions of daily living, including but not limited to level of activity, independence, work, quality of life, sexual function, sleep
- Imaging and other diagnostic tests in the evaluation of the pain patient, including but not limited to X-ray, CT scan, MRI, ultrasound, PET, electrophysiological examinations, laboratory studies

b. Clinical skills

- Elicit a clinical history of the pain patient using appropriate and validated pain assessment questionnaires and tools **E**
- Elicit a clinical history of comorbidities and comedications of the pain patient **E**
- Perform a thorough pain oriented clinical examination (physical and psychological) **E**
- Perform pain oriented sensory testing **E**
- Critically interpret and judiciously use imaging and other diagnostic tests in the evaluation of the pain patient **E**
- Assess the patients psychological, sociological (including family history), economic and cultural background and their influence on beliefs of pain, behaviour, preferences and expected treatment outcomes **E**
- Assess the influence of pain on the patient's functions of daily living, level of activity, independence, work, sexual function and sleep **E**
- Demonstrate empathic and compassionate communication during pain assessment **E**
- Assess patient's needs, beliefs, preferences, history of pain therapy **E**
- Use valid and reliable tools for measuring pain and associated symptoms to evaluate/re-evaluate treatment efficacy and outcomes **E**
- Keep detailed record of patient's pain history, examinations, treatments, and progress **E**

c. Specific attitudes

- Establishing effective and empathic interaction with patients, including patients with impaired capacity of discernment and consent and their relatives

Management of pain

a. Knowledge

- Pharmacological agents in pain medicine (*see section 1.3 Pharmacology in Pain Medicine*)
- Principles, indications, contraindications, and efficacy of cognitive methods and behavioural modification in the management of pain and psychological therapies (relaxation, hypnosis, coping skills training, biofeedback, cognitive behavioural therapy)
- Role and value of physical methods and procedures in the management of pain and functional recovery of patients
- Principles, indications, contraindications, and efficacy of regional anaesthetic techniques, including sympathetic ganglion blocks and local infiltration of medications (e.g. soft tissue and trigger point injections, intraarticular injections)
- Principles, indications, contraindications, and efficacy of interventional procedures used in pain management, including but not limited to radiofrequency and electrothermal lesions, neurolysis, cryoablation, central, spinal, radicular and peripheral neurostimulation, intrathecal drug delivery
- Principles, indications, contraindications, and efficacy of neuromodulation techniques used in pain management, including:
 - spinal cord stimulation (SCS)
 - non-invasive brain stimulation techniques (repetitive transcranial magnetic stimulation (rTMS), cranial electrotherapy stimulation (CES), transcranial direct current stimulation (tDCS))
 - transcutaneous electrical nerve stimulation (TENS)
- Understand the role of appropriate image guidance modalities in performing invasive procedures
- Knowledge of national and international standards and regulations regarding radiation safety, particularly in the context of image-guided pain management interventions (e.g., fluoroscopy, CT-guided procedures)
- Principles, indications, contraindications, and efficacy of surgical procedures in the management of pain
- Influence of patient related factors on the choice and performance of pain management procedures (e.g. age, organ dysfunction, current medical therapy)
- Management of pain in patient with opioid addiction and/or tolerance
- Current guidelines regarding management of patients on anticoagulant and antiplatelet agents undergoing invasive procedures
- Mechanism, role and clinical efficacy of complementary methods in the management of pain, including acupuncture, herbal medication, homeopathy and use of supplements
- Concept of placebo / nocebo as related to pain medicine
- side effects and complications related to various pain treatment modalities
- Guidelines and research relating to the field of pain management
- Awareness of the configuration and roles of a multidisciplinary team (MDT) in chronic pain management, including the contributions of various specialties (e.g., anaesthesiology, physiotherapy, psychology, psychiatry, neurology, primary care) and allied health professionals.
- Understand the principles of team-based care and the coordination required for effective multidisciplinary pain management, including communication strategies, shared decision-making, and integrated care planning.

- Recognize the role of telemedicine and e-Health technologies in chronic pain management, including virtual consultations, remote monitoring, and digital health tools, and their application for patient follow-up, education, and self-management support.

b. Clinical skills

- Integrate various modalities of pain treatment into a comprehensive multimodal and, if needed, multidisciplinary treatment plan including pharmacological, psychological, physical and interventional procedures as appropriate **E**
- Be able to perform various regional anaesthetic techniques, including neuraxial procedures, sympathetic nerve and ganglion blocks and local infiltration techniques (e.g. soft tissue and trigger point injections, intraarticular injections) **E**
- Be able to use appropriate image-guided techniques (e.g. ultrasound, X-ray, CT, MRI) **E**
- Be able to perform invasive procedures in pain management:
 - soft tissue / trigger point injections **E**
 - intraarticular injections **E**
 - superficial / deep peripheral nerve blocks **E**
 - neuraxial nerve blocks **E**
 - radiofrequency / electrothermal lesions, e.g. spinal facet joint **E**
 - deep /neurolytic blockades, e.g. lumbar sympathectomy, coeliac plexus **B3**
 - implantation of central / spinal cord stimulation devices **B2**
 - implantation of radicular / peripheral neurostimulation device **B2**
 - transcutaneous optimisation of neurostimulation **C**
 - implantation of an intrathecal drug delivery pump **B3**
 - transcutaneous re-filling and optimisation of intrathecal drug delivery pump **C**
- Implement necessary measures of radiation protection, including the use of protective equipment (e.g., lead aprons, shields) and adherence to radiation safety protocols to ensure the safety of patients and medical staff during image-controlled interventions **E**
- Be able to decide on patients transfer to and collaboration with a pain centre for non-invasive and invasive pain management (e.g. spinal cord stimulation, repetitive transcranial magnetic stimulation, cranial electrotherapy stimulation, transcranial direct current stimulation, intrathecal drug delivery pump) **E**
- Be able to differentiate the need for pain therapy as symptom control versus surgical correction of a pathomechanism; be able to decide on patients transfer to surgical intervention **E**
- Integrate physical medicine and rehabilitation procedures in the treatment and functional recovery plan of pain patients **E**
- Integrate complementary methods in the management of pain (e.g. acupuncture and use of supplements) **D**
- Apply nocebo / placebo strategies (e.g. doctor's attention as a drug) **E**
- Recognise in a timely manner and initiate appropriate management of side effects and complications related to various pain treatment modalities **E**
- Informing the patient/legal guardian in a comprehensive manner about therapeutic procedures and alternatives, including expected outcomes and associated risks **E**
- Apply written / multimedia patient information material **E**

- Obtaining and documenting patient's informed consent for all therapies/procedures according to ethical standards and national legislature **E**
- Obtaining and keeping patient compliance with therapeutic plan **E**
- Explain and discuss limitations, risks and potential economic aspects of using non-evidence-based alternatives in the management of pain **E**
- Define (temporary) limits of evidence-based pain therapy as therapy-refractory (e.g. in somatoform disorders, pension requests) **E**
- Document and keep patients' pain chart and all procedures according to national requirements **E**
- Assess and address the impact of chronic pain on the patient's functional ability, sleep and emotional status **E**
- Define and implement a plan for diagnosis of pain (including biological, psychological, social dimensions) **E**
- Define and implement a plan for pain therapy (including timeline and escalation/de-escalation strategy) **E**
- Achieve understanding and compliance from the patient and navigate him/her through the pain diagnostic and (potentially life-long) pain therapeutic pathway **E**
- Establish / work within a multiprofessional team encompassing primary, secondary and social care to ensure continuity of care for the patient with chronic pain **E**
- Collaborate effectively with multidisciplinary team members to develop and implement comprehensive pain management plans, tailored to individual patient needs and preferences **E**
- Coordinate care within an multidisciplinary team, ensuring the integration of inputs from various healthcare providers, including physiotherapists, psychologists, pharmacists, and social workers, to optimize patient outcomes **E**
- Facilitate team meetings and case conferences, contributing to the evaluation and management of complex pain cases, and ensuring a holistic approach to care **E**
- Define and implement institutional standard operating procedures for multidisciplinary pain clinic **E**
- Utilize telemedicine and e-Health tools effectively to assess and manage patients with chronic pain, ensuring seamless communication, follow-up, and continuity of care
- Integrate digital health technologies, such as mobile apps, wearable devices, and remote monitoring systems, to support patient engagement, education, and self-management in chronic pain care

c. Specific attitudes

- Maintain a patient-centred approach, emphasizing empathy, respect, and understanding of the patient's experience and preferences in pain management
- Recognise the principle of minimum intervention, using the simplest and safest techniques likely to be effective to achieve the clinical goal
- Demonstrate awareness of the risks associated with image-controlled interventions and remain vigilant in applying radiation protection measures to minimize exposure for both patients and healthcare providers
- Become skilled at discerning pain from simulation, often related to drug abuse or worker's compensation
- Show respect for the contributions of all multidisciplinary team members and foster a collaborative, patient-centred approach to pain management

- Commit to continuous learning and adaptation in the use of new technologies and methods to improve patient care and enhance the sustainability of healthcare delivery

1.3 Neuropathic pain

a. Knowledge

- Definition, epidemiology, aetiology and treatment of neuropathic pain
- Role of metabolic, infectious, toxic, autoimmune, mechanical and ischaemic mechanisms in the development of neuropathies
- Principles, indications, contraindications, and efficacy of medications used in the treatment of neuropathic pain including antidepressants and anticonvulsants
- Role of non-pharmacological treatment modalities in neuropathic pain patients including physical/occupational therapy, psychotherapy, procedural (e.g. sympathectomy, central and peripheral stimulation)
- Differences between various neuropathic pain syndromes including painful mononeuropathies (e.g. traumatic, carpal tunnel syndrome), radiculopathies, plexopathies (brachial, lumbosacral), polyneuropathies (e.g. diabetic and other metabolic neuropathies), central pain syndromes, postherpetic neuralgia, complex regional pain syndrome(s), postsurgical pain syndromes (e.g. postmastectomy pain, post thoracotomy syndrome, phantom limb pain), trigeminal neuralgia
- Pathomechanisms of deafferentation pain syndromes (e.g. postamputation pain, postherpetic neuralgia, pain after central nervous system injury) and their diagnosis
- Evidence for methods used in preventing and treating neuropathic pain

b. Clinical skills

- Evaluation of the patient with neuropathic pain according to the bio-psycho-social model **E**
- General medical examination including special attention to status of skin (colour, rashes, swelling, temperature abnormalities) and musculoskeletal system (presence of swelling, laxity, tenderness) as well as sensibility and reflexes **E**
- Evaluation of locomotor symptoms – negative (e.g., hypotonia, decreased strength and endurance) or positive signs (increased muscle tone, tremor, dystonia and dyskinesia) and incoordination, ataxia and apraxia **E**
- Evaluation for systemic diseases (infectious, malignant, autoimmune) and substance abuse **E**
- Assessing potential psychological issues (anxiety, depression, sleep disturbances) **E**
- Adequate use and interpretation of imaging and other diagnostic tests in the evaluation of the pain patient, including but not limited to quantitative sensory testing, nerve conduction velocity, pain questionnaires (e.g. painDETECT), laboratory studies
- Educate the patient - help patients acquire adequate knowledge about her/his condition and have realistic expectations about the expected treatment outcomes **E**
- Define and implement a multimodal therapy plan for various neuropathic pain syndromes including medications, physical therapy and if necessary psychological treatment and invasive procedures that is acceptable to the patient **E**
- ganglionic local opioid application (GLOA) **E**
- Document treatments and procedures as well as the patient's pain evolution **E**
- Recognise and manage adverse effects of pain therapy **E**

c. Specific attitudes

- Be aware of pain catastrophising and help the patient reach acceptance of her/his condition
- Understand the importance of being able to stay active for patients with neuropathic and chronic pain – help the patient focus on the abilities she/he still has and use them to gradually increase their activity level despite the pain that is present

1.4 Multidisciplinary Pain Teams

a. Knowledge

- Understand the structure and function of a multidisciplinary chronic pain team (MDT), including the roles of different healthcare professionals such as neurologists, psychiatrists, specialists in geriatric medicine, physical medicine and rehabilitation physicians, psychologists, physiotherapists, nurses, occupational therapists, social workers, and pharmacists
- Knowledge of the benefits of an MDT approach in managing complex chronic pain conditions, including improved patient outcomes, comprehensive care, and reduced healthcare utilization.
- Awareness of the principles of team dynamics, leadership, and effective communication within an MDT to ensure coordinated and integrated care delivery

b. Skills

- Facilitate and actively participate in MDT meetings, case discussions, and decision-making processes to ensure a comprehensive evaluation of patient needs **E**
- Develop and implement integrated care plans that incorporate the expertise and interventions of various MDT members **E**
- Communicate effectively with all members of the MDT, fostering a culture of collaboration, respect, and shared decision-making **E**
- Evaluate and monitor patient progress within the MDT framework, adjusting care plans based on feedback from team members and the patient’s evolving needs **E**

c. Specific Attitudes

- Value the diversity of perspectives and expertise within the MDT, recognizing the importance of each member’s contribution to patient care
- Promote a patient-centered approach that respects individual preferences, cultural values, and social contexts
- Encourage an open, supportive, and non-hierarchical environment that facilitates effective communication and collaboration among team members

2. Domains of specific patient groups

2.1 Pain medicine in elderly

a. Knowledge

- Anatomical and physiological alterations associated with ageing and their impact on the presentation and responses to pain
- Understand multifactorial nature of pain in the elderly
- Conditions common in the elderly presenting with specific pain including skeletal pain (e.g. metastasis or osteoporotic fractures), chronic neuralgic pain, chronic visceral pain syndrome
- Pain evaluation tools appropriate for the assessment of pain in elderly patients

- Association of commonly present mood disorders in the elderly (anxiety and depression) with long term pain and their impact on quality of life
- Changes in pharmacokinetics/dynamics of analgesic drugs occurring with ageing (NSAIDs, opioids, tricyclic antidepressants, anticonvulsants), and their influence on effectiveness, side effects and need for dose adjustment
- Interactions of other prescribed drugs and comorbidities when establishing a pain treatment plan in the elderly
- Scores and methods of assessing potential overdose, central nervous side effects, delirium, cognitive dysfunction
- Value of psychosocial interventions in the elderly population

b. Clinical skills

- Be able to assess intensity of pain in the elderly patient with impaired communication ability and cognitive decline (patients with dementia) **E**
- Use age appropriate and validated questionnaires and tools to assess and differentiate between acute and chronic pain **E**
- Establish a management plan prioritising facilitation of physical activity/performing activities of daily living **E**
- Monitor effects of pain management plan and adjust when needed **E**
- Combine non-pharmacological methods with pharmacological treatment of pain **E**
- Be able to integrate psychosocial interventions as part of a pain management strategy in the elderly population **E**
- Actively assessing potential side effects **E**
- Recognise and manage dependence and misuse of analgesics, ensure appropriate monitoring **E**

c. Specific attitudes

- Understand the importance of being able to stay active and integrated into social life for elderly patients, help the patient focus on the abilities she/he still has

2.2 Pain medicine in cancer patients, palliative and end of life care

a. Knowledge

- Epidemiology and evaluation of cancer pain
- Mechanisms involved in cancer-induced pain
- Cancer related pain syndromes:
 - bone pain (cranium, vertebrae, long bones, chronic bone pain)
 - neuropathic pain (e.g. spinal cord compression, mono/polyneuropathies, meningeal carcinomatosis)
 - visceral pain (e.g. pancreatic, hepatic, intestinal obstruction)
 - chemotherapy induced neuropathies and associated pain
- Pharmacological treatment of oncologic pain including the use of opioids: the WHO analgesic scale, opioid tolerance, management of break-through pain
- Interventional therapies for cancer pain management: e.g. spinal administration of analgesics and neurolytic procedures
- Indications for specialised interventions including vertebroplasty, analgesic radiotherapy, and use of radioisotopes

- Understand the principles of pain management in terminal patients within a multidisciplinary palliative care team, including the goals of maximizing comfort, enhancing quality of life, and managing symptoms effectively for patients with life-limiting illnesses
- Knowledge of pharmacological and non-pharmacological approaches to pain management in palliative care, including opioid and non-opioid analgesics, adjuvant therapies, and integrative techniques.
- Awareness of the unique considerations in managing pain in palliative care settings, including the need for flexibility, individualized care plans, and the ethical principles of autonomy, beneficence, non-maleficence, and justice
- Understanding of the legal aspects of end of life / terminally ill care
- Understand psychological needs in palliative care patients and their relatives

b. Clinical skills

- Be able to devise a multidisciplinary pain management plan for the cancer patient **E**
- Conduct comprehensive pain assessments in palliative care patients, considering the physical, psychological, and social dimensions of pain **E**
- Develop and implement individualized pain management plans for palliative care patients, incorporating input from a multidisciplinary team and adapting to the patient's changing needs and preferences **E**
- Communicate effectively with patients, families, and MDT members about the goals of pain management in palliative care, treatment options, and potential risks and benefits **E**
- Discuss the ethical issues related to pain management (e.g. side effects of opioid escalation) in terminally ill patients and palliative care with the patients and/or their relatives/legal guardian **E**
- Utilize appropriate technology, including telemedicine and e-Health tools, to support continuity of care, patient monitoring, and family engagement in palliative care settings

c. Specific attitudes

- Effectively communicate with patients and relatives, treat patients with respect of basic ethical principles such as autonomy, privacy, dignity, confidentiality, including discussing end of life decisions
- Show compassion and empathy in all interactions with cancer and palliative care patients and their families, acknowledging the complex emotional and psychological aspects of end-of-life care
- Respect patient autonomy and prioritize shared decision-making, ensuring that pain management plans align with the patient's values, goals, and preferences.
- Foster a culture of collaboration within the MDT, recognizing the contributions of all team members in providing holistic, patient-centered palliative care

2.3 Pain medicine in infants, children and adolescents

a. Knowledge

- Relevance and prevalence of paediatric pain
- nociceptive development in humans
- Pharmacokinetic / pharmacodynamic differences between paediatric and adult populations
- Assessment tools and methods for pain evaluation in adolescents, children and neonates
- Postoperative pain management in neonates and children
- Principles of management of the paediatric patient with chronic pain, including psychological care
- Non-pharmacological measures of coping with pain in the paediatric patient

b. Clinical skills

- Be able to perform a pain oriented clinical examination and use age-appropriate pain evaluation tools (assessment of non-verbal cues) in the paediatric patient **E**
- Define and implement a comprehensive multimodal pain management plan (**E**) including as necessary:
 - analgesics, co-analgesics and adjuvants
 - invasive techniques and regional analgesia
 - physical rehabilitation (in cooperation with a physical and rehabilitation medicine physician)
- Actively include parent(s)/legal guardian(s) in the pain management plan of the paediatric patient **E**
- Educate parents/guardians about non-pharmacological measures that can help the child in coping with pain (e.g. touch, distraction techniques) **E**
- Work within a multidisciplinary team (primary care, psychologist, paediatrician, physical and rehabilitation medicine physician, social care / school counsellor etc.) to ensure continuity of care and adequate environment for the development and social integration of the child with chronic pain conditions **E**

c. Specific attitudes

- Initiate and conduct the pain exam in a developmentally appropriate way taking into account the child's age as well as cognitive and affective level
- Recognition of neurobehavioural development changes in child with chronic pain
- Be attentive to non-verbal cues in behaviour of the child and parents/guardians
- Involve parents/guardians in the evaluation, treatment and further measures, balancing the importance of the patient's privacy and increasing autonomy (adolescents) in decision-making on one hand, and the communication within the family on the other hand
- Be vigilant for symptoms of depression and/or anxiety in exploring mood, behaviour and expectations
- Assess the potential for substance abuse in adolescent patient with chronic pain

2.4 Pain medicine in Intensive Care medicine

a. Knowledge

- Pain incidence in intensive care
- Mechanisms and changes related to development of pain in intensive care
- Understand the various sources of pain in ICU patients: acute illness related pain / continuous treatment related pain (e.g. mechanical ventilation) / pre-existing chronic pain states / intermittent nursing and procedural pain
- Association between pain, agitation and delirium
- Influence of organ dysfunction related to critical illness on the pharmacokinetics and pharmacodynamics of drugs

b. Clinical skills

- Assess intensity of pain in non-communicative patient (e.g. Behavioural Pain Scale / Critical Care Pain Observation Tool) **E**
- Integrate various modalities of pain treatment into a comprehensive multimodal pain treatment program for the critically ill patient **E**

- Be able to prevent/treat pain related to commonly performed invasive procedures in critically ill patients using pharmacologic /interventional (regional analgesia) and non-pharmacologic methods **E**
- Understand the role and be able to use appropriate image guidance modalities, in particular ultrasound imagining, in performing invasive procedures in ICU setting **E**
- Effectively communicate and obtain consent from family member/legal guardian for invasive procedures in patients unable to communicate **E**

c. Specific attitudes

- Establish effective and empathic relation with patients, including patients with impaired mental capacity and their relatives/legal guardians
- Awareness of how the workload and working environment in a dynamic and demanding ICU (e.g. advanced monitoring techniques producing large amounts of data to be processed) can be a distractor to empathetic patient care – treat the patient not just the disease
- Be aware of and recognise early signs of burn-out and exhaustion in self and co-workers and provide empathic support to colleagues

3. Domains of General Core Competencies in Pain Medicine

3.1 Communication in Pain Medicine

a. Knowledge

- Understand the principles of effective communication, including clarity, empathy, respect, confidentiality, and professionalism in interactions with patients, families, and healthcare team members
- Recognize the importance of closed-loop communication methods to ensure accurate information exchange in clinical settings
- Knowledge of rights and responsibilities of patients, doctors, and other medical staff, including informed consent, patient confidentiality, and error disclosure
- Awareness of the impact of language barriers and cognitive impairments on communication and strategies to overcome these challenges

b. Skills

- Demonstrate effective communication skills with patients and families, particularly in sensitive situations such as delivering difficult news, discussing pain management plans, and obtaining informed consent
- Employ closed-loop communication techniques to ensure that information is clearly received and understood by all parties
- Assess and document a patient’s understanding of their pain condition, treatment options, and the management plan
- Facilitate discussions with other healthcare providers to coordinate patient care effectively and ensure consistent communication across the care team

c. Specific Attitudes

- Show empathy and respect in all interactions, maintaining professionalism even in challenging or emotionally charged situations
- Commit to open and honest communication, including the disclosure of medical errors or unexpected outcomes

- Foster a collaborative environment where communication with colleagues and other healthcare professionals is clear, respectful, and aimed at enhancing patient care

3.2 Behavioral and Psychological Aspects of Pain Medicine

a. Knowledge

- Understand how mood states, such as depression and anxiety, influence the experience of pain, pain behaviors, and treatment outcomes
- Recognize the role of psychological factors, including fear, stress, and coping styles, in the perception and management of pain
- Knowledge of common psychological conditions associated with chronic pain, such as somatoform disorders, catastrophizing, and post-traumatic stress disorder (PTSD)
- Identify risk factors for suicide in patients with chronic pain and understand methods for suicide risk assessment
- Familiarity with psychosomatic medicine, including how psychological and social factors affect the development and persistence of pain conditions

b. Skills

- Assess patients' mental states, including screening for mood disorders (e.g., depression and anxiety) and evaluating their impact on pain experience and treatment adherence
- Identify patients at higher risk for suicide and implement appropriate referral protocols for mental health support
- Conduct a psychosocial assessment to identify psychological and social contributors to pain, and integrate findings into a comprehensive pain management plan
- Apply basic principles of cognitive-behavioral strategies to support pain management, such as relaxation techniques, stress management, and coping strategies

c. Specific Attitudes

- Maintain a compassionate and non-judgmental approach when discussing psychological and behavioral factors affecting pain
- Promote the integration of mental health assessment into routine pain management practices.
- Encourage collaboration with mental health professionals and recognize the value of interdisciplinary approaches in pain management

3.3 Pain Research and Evidence-Based Practice

a. Knowledge

- Understand research methodologies relevant to pain medicine, including clinical trials, observational studies, and systematic reviews
- Knowledge of recent advances and evidence-based practices in pain management, including pharmacological and non-pharmacological treatments
- Familiarity with guidelines on evaluating scientific literature and identifying signs of scientific fraud or data fabrication

b. Skills

- Critically appraise and apply research evidence to clinical practice in pain management
- Design and conduct a basic research project in pain medicine, contributing to the body of evidence in the field
- Incorporate new evidence into clinical decision-making and develop protocols that reflect current best practices

c. Specific Attitudes

- Commit to ongoing professional development through regular engagement with scientific literature and research activities
- Advocate for evidence-based practices in clinical settings and contribute to the advancement of pain medicine through active research participation

3.4 Ethics and Health Economics in Pain Medicine

a. Knowledge

- Understand ethical principles in pain management, including patient autonomy, beneficence, non-maleficence, and justice
- Knowledge of health economics, including the cost-effectiveness of pain management interventions and resource allocation within healthcare systems

b. Skills

- Apply ethical decision-making frameworks to clinical scenarios, ensuring patient-centered care that respects individual rights and cultural differences
- Evaluate the economic impact of pain management strategies and advocate for cost-effective, evidence-based practices

c. Specific Attitudes

- Demonstrate integrity, honesty, and accountability in all professional activities
- Show respect for patient autonomy and advocate for equitable access to pain management services

3.5 Gender Medicine

a. Knowledge

- Understand the principles of gender medicine, including the impact of sex and gender differences on pain perception, experience, and treatment outcomes.
- Recognize the influence of biological, social, and cultural factors on pain management, including the prevalence and manifestation of pain disorders among different genders.
- Awareness of gender biases in pain diagnosis, management, and treatment, and the implications for clinical practice.

b. Skills

- Assess pain using gender-sensitive approaches, taking into account the patient's sex, gender identity, and cultural background
- Adapt pain management strategies to address sex- and gender-related differences, including differences in pharmacodynamics, pharmacokinetics, and psychological responses to pain
- Communicate effectively with patients regarding how gender-related factors may impact their pain experience and management

c. Specific Attitudes

- Demonstrate respect and sensitivity to gender diversity and inclusivity in clinical practice.
- Commit to minimizing gender bias in the assessment and treatment of pain
- Advocate for equitable pain management practices that consider gender differences and promote personalized care

3.6 Sustainability and Health Care Economics

a. Knowledge

- Understand the principles of health care economics, including cost-effectiveness analysis, resource allocation, and the financial implications of different pain management strategies.

- Knowledge of sustainability in healthcare, including strategies to minimize environmental impact (e.g., reducing waste and energy use) while delivering high-quality care
- Awareness of the economic burden of pain on individuals and healthcare systems, including the costs associated with chronic pain management, rehabilitation, and lost productivity

b. Skills

- Evaluate and select pain management strategies based on their cost-effectiveness and sustainability, while ensuring optimal patient outcomes
- Implement practices to reduce waste and resource use in clinical settings (e.g., using reusable equipment, minimizing the use of single-use items)
- Engage in discussions with patients, families, and colleagues regarding the economic aspects of pain management, ensuring transparency and shared decision-making

c. Specific Attitudes

- Show commitment to sustainable healthcare practices and responsible resource use
- Advocate for cost-effective pain management interventions that do not compromise patient care
- Support initiatives and policies aimed at reducing the environmental footprint of healthcare delivery

3.7 Resilience in Pain Medicine

a. Knowledge

- Understand the concept of resilience in healthcare, including the factors that contribute to resilience among healthcare professionals, such as stress management, work-life balance, and coping strategies
- Recognize the impact of chronic stress, burnout, and compassion fatigue on pain management practitioners and patient care
- Awareness of the resources and support systems available to help healthcare professionals build and maintain resilience

b. Skills

- Apply resilience strategies in clinical practice, such as mindfulness, relaxation techniques, time management, and setting boundaries
- Identify signs of burnout, fatigue, and mental health challenges in oneself and colleagues and take appropriate steps to seek or provide support
- Promote a healthy work environment that fosters resilience, teamwork, and mutual support among colleagues

c. Specific Attitudes

- Demonstrate self-awareness regarding personal stress levels and resilience
- Show empathy and support for colleagues who may be experiencing stress or burnout
- Commit to creating a positive and resilient workplace culture that prioritizes well-being and professional growth

3.8 Manual Medicine and Osteopathy

a. Knowledge

- Understand the principles of manual medicine and osteopathy, including their theoretical bases, techniques, and purported mechanisms of action
- Recognize the current evidence regarding the efficacy and limitations of manual medicine and osteopathy in pain management

- Awareness of the guidelines and recommendations for the use of manual medicine and osteopathy as complementary therapies in pain management

b. Skills

- Assess the appropriateness of manual medicine and osteopathy as part of an integrated pain management plan, considering the patient's preferences and the current evidence base
- Communicate with patients about the potential benefits, risks, and limitations of manual medicine and osteopathy, ensuring informed decision-making
- Collaborate with manual medicine and osteopathy practitioners when deemed beneficial and appropriate, respecting the patient's beliefs and preferences

c. Specific Attitudes

- Maintain a critical and evidence-based approach when considering manual medicine and osteopathy
- Show respect for patient autonomy and cultural beliefs regarding complementary therapies
- Advocate for transparency and patient education regarding the evidence base and limitations of all treatment modalities

3.9 Acupuncture

a. Knowledge

- Understand the principles of acupuncture, including its historical and cultural context, proposed mechanisms, and techniques
- Recognize the current evidence base for acupuncture in pain management, including its efficacy, potential benefits, and limitations
- Awareness of patient populations that may prefer or seek acupuncture as a complementary therapy

b. Skills

- Discuss the potential role of acupuncture in pain management with patients, acknowledging its cultural significance and evidence-based limitations
- Identify patients who may benefit from acupuncture as part of a comprehensive pain management plan, respecting their preferences and beliefs
- Coordinate care with certified acupuncture practitioners to ensure a safe and integrated approach when appropriate

c. Specific Attitudes

- Maintain an open and respectful attitude toward patients who express interest in acupuncture
- Promote patient autonomy and informed decision-making by providing clear information about the evidence base for acupuncture
- Encourage a balanced approach that respects cultural values while adhering to evidence-based medicine principles

3.10 Non-Evidence-Based Interventions

a. Knowledge

- Understand the range of non-evidence-based interventions that patients may seek, such as magnetic field therapy, herbal medicine, and other alternative practices
- Recognize the importance of cultural, social, and personal beliefs in shaping patient preferences for non-evidence-based interventions
- Awareness of the risks associated with non-evidence-based interventions, including the potential for harm or interference with standard treatments

b. Skills

- Communicate effectively with patients who use or inquire about non-evidence-based interventions, providing balanced information on their potential benefits, risks, and the current evidence base
- Respectfully address patient beliefs and preferences, ensuring they feel heard and supported in their pain management choices
- Guide patients towards evidence-based practices while respecting their autonomy and cultural values

c. Specific Attitudes

- Demonstrate respect for diverse patient beliefs and values, avoiding judgment or dismissiveness
- Maintain a commitment to evidence-based practice while recognizing the importance of patient-centered care
- Encourage open dialogue about all treatment options, ensuring that patients are well-informed and supported in their healthcare decisions

4. Teaching, Education and Organization of Training in Pain Medicine

4.1 Teaching and Education in Pain Medicine

a. Knowledge

- Understand the principles of adult learning (andragogy) and their application in medical education, including how to effectively coach and supervise learners
- Knowledge of competency-based medical education (CBME) and training, including methods for assessing and documenting trainee progress
- Familiarity with the System for Evaluation of Teaching Qualities (SETQ), including components such as creating a positive learning environment, maintaining a professional attitude towards trainees, effective communication of learning goals, resident evaluation, and providing feedback
- Awareness of the educational needs of physicians from other medical disciplines involved in pain medicine, such as radiology, surgery, neurology, psychiatry, and primary health care

b. Skills

- Apply principles of adult learning to coach and supervise trainees effectively, fostering an environment conducive to learning
- Design and deliver competency-based medical education (CBME) for trainees in anaesthesiology, including the development of teaching scenarios, simulation exercises, and multiple-choice questions tailored to the national board certification exams or European Diploma in Anaesthesiology and Intensive Care (EDAIC) standards
- Implement quality management of teaching practices using the SETQ framework to create a positive learning climate, set clear learning objectives, evaluate trainee performance, and provide constructive feedback
- Teach, assess, and provide feedback effectively in a simulation center, including the development of simulation scenarios to enhance learning outcomes in pain medicine
- Educate physicians from other medical disciplines involved in pain management, ensuring they understand the role of anaesthesiology in pain medicine and can apply relevant principles in their practice
- Communicate complex medical concepts to patients and the public in an understandable manner, enhancing public awareness of pain management and the role of anaesthesiologists

- Educate undergraduate medical students on pain medicine principles, techniques, and the role of anaesthesiology in patient care, fostering interest and understanding in this specialty

c. Specific Attitudes

- Demonstrate a commitment to continuous improvement in teaching practices, seeking feedback and engaging in professional development to enhance educational skills
- Show respect and empathy towards learners, promoting a positive and supportive learning environment
- Foster interdisciplinary collaboration by recognizing the value of educating other healthcare professionals about pain medicine
- Encourage a culture of lifelong learning among trainees, emphasizing the importance of evidence-based practice and critical thinking

4.2. Organization of Training

This section outlines the various learning methods and educational activities to support the development of competencies in pain medicine:

1. **Mentoring and Teaching by Specialists:** Include structured mentorship by experienced practitioners in pain medicine, psychiatry, psychology, physical medicine, neurology and other relevant interdisciplinary fields. Ensure supervision by andragogists or adult learning specialists to apply effective teaching and education techniques
2. **Participation in Interdisciplinary Teams:** Trainees will engage in multidisciplinary team meetings to discuss patient cases and develop integrated pain management plans. Provide opportunities for trainees to teach and educate physicians from other medical disciplines, undergraduate medical students, patients, and the public about pain management
3. **Simulation-Based Training:** Use of medical simulation centers to practice and refine technical and non-technical skills in pain assessment and management. Incorporate simulation-based training sessions to practice teaching, assessing, and providing feedback to peers or junior trainees
4. **Participation in Balint Groups:** Optional group discussions focused on exploring the emotional and psychological dynamics between patients and healthcare providers
5. **Research Activities:** Encourage participation in clinical research, literature reviews, and presentations at scientific conferences
6. **Coursework and Workshops:** Provide opportunities for trainees to attend accredited courses on relevant topics, including health economics, gender medicine, and resilience strategies
7. **E-learning and Distance Education:** Access to online modules and webinars covering various aspects of pain medicine
8. **Feedback and Reflection:** Trainees will receive feedback on their teaching methods and engage in reflective practice to improve their educational strategies
9. **Curriculum Development:** Trainees will participate in the development of multiple-choice questions and simulation scenarios for teaching purposes, aligning with national and European standards

Appendix I. Entrustable Professional Activities (EPAs)

Definition and Implementation of EPAs in the Training of Medical Specialists

Definition:

Entrustable Professional Activity (EPA) is a unit of professional practice that can be fully entrusted to a trainee once they have demonstrated the necessary competence to perform the activity unsupervised. EPAs are tasks or responsibilities that a medical specialist must be able to perform proficiently and are used to assess and guide further training of medical specialists.

EPAs constitute both an expression **competency** (abilities possessed by trainees/applicants) and are also **units of professional work**.

Thus, the EPA is an integral part of the Logbook and is a comprehensive and holistic tool for Competence Based Assessment.

The purpose:

- It serves as a bridge between the Syllabus/Curriculum and the Eligibility Assessment
- to help fill the gap between competencies and clinical practice.

Key Characteristics of EPAs:

1. **Integration of Competencies:** EPAs require the integration of multiple competencies (knowledge, skills, attitudes) across different domains.
2. **Observable and Measurable:** EPAs are specific activities that can be directly observed and measured.
3. **Context-Specific:** EPAs are tailored to the specific context and requirements of the medical specialty.
4. **Entrustability:** The ultimate goal is to determine whether the trainee can be trusted to perform the activity independently.

Implementation in the Training of Medical Specialists:

1. Identification of EPAs:

- **Collaboration:** Develop EPAs through collaboration among educational leaders, clinicians, and stakeholders in the specialty.
- **Alignment:** Ensure EPAs align with the core competencies required by accreditation bodies and professional organizations.
- **Relevance:** Select EPAs that are essential to the practice of the specialty and reflect real-world clinical tasks.

2. Structuring Training Programs around EPAs:

- **Curriculum Design:** Integrate EPAs into the curriculum, ensuring that training experiences provide opportunities to perform these activities.
- **Learning Objectives:** Define clear learning objectives and milestones for each EPA.
- **Educational Activities:** Design educational activities, such as simulations, clinical rotations, and workshops, to support the development of skills required for EPAs.

3. Assessment of EPAs:

- **Direct Observation:** Utilize direct observation of clinical practice by supervisors to assess performance.
- **Feedback:** Provide formative feedback based on performance, highlighting areas of strength and areas needing improvement.
- **Multi-Source Feedback:** Incorporate feedback from peers, patients, and other healthcare professionals.
- **Simulation-Based Assessment:** Use simulation-based assessments for complex or high-risk EPAs.
- **Milestone Tracking:** Track progress through defined milestones, documenting the trainee's development and readiness for unsupervised practice.

4. Entrustment Decisions:

- **Mentors and Competency Committees:** A mentor following the trainee advancing through an educational module covering a specific domain uses the aforementioned assessment tools to make entrustment decisions upon completion of the module. Alternatively, competency committees can be established within the department/institution to review trainee performance data and make entrustment decisions.
- **Entrustment Scales:** wherever possible use standardized entrustment scales to evaluate readiness for independent practice.
- **Documentation:** Document entrustment decisions, ensuring transparency and accountability.

5. Continuous Improvement:

- **Quality Improvement:** Regularly review and update EPAs based on feedback from trainees, supervisors, and evolving clinical practice standards.
- **Research and Evaluation:** Conduct research to evaluate the effectiveness of EPA-based training and assessment in improving clinical competence and patient care outcomes.

Suggestions for Implementation:

In the advanced training program in Pain Medicine for anaesthesiologists, the following steps might be taken:

- **Define EPAs:** Identify key activities such as comprehensive pain assessment, interventional pain procedures, acute pain management, coordination of multidisciplinary care, and management of neuropathic pain.
- **Integrate into Curriculum:** Ensure that rotations, workshops, and other educational activities provide opportunities to practice and develop these skills.
- **Assessment:** Utilize direct observation, case discussions, simulation, and multi-source feedback to assess trainee performance in each EPA.
- **Entrustment:** Mentors and/or competency committees review assessment data and make decisions about the trainee's readiness to perform activities independently.
- **Ongoing Review:** Continuously review and refine EPAs and assessment methods to ensure they remain relevant and effective.

By implementing EPAs in the training of medical specialists, programs can provide a structured and transparent pathway for trainees to achieve the competencies necessary for independent practice, ensuring high standards of patient care and professional development.

Proposed Entrustable Professional Activities (EPAs) for Anaesthesiologists Training in Pain Medicine

These EPAs provide a comprehensive framework for anaesthesiologists training in Pain Medicine, covering key aspects of patient care, procedural skills, interdisciplinary collaboration, and specialized pain management.

After completing a training program based on the PDM in Pain Medicine for Anaesthesiologists, specialists are expected to have reached milestones 4 and 5 of each EPA, depending on the setting of their practice (e.g. individual private practice vs teaching hospital).

EPA 1: Comprehensive Pain Assessment

Description:

This EPA involves the ability to perform a comprehensive assessment of patients presenting with both acute and chronic pain. This includes taking a detailed history, conducting a physical examination, and utilizing appropriate diagnostic tests to formulate a diagnosis. The focus is on accurately identifying the underlying aetiology and contributing factors of pain, whether it is acute or chronic.

Domains of Competence:

- **Medical Knowledge:** Demonstrates comprehensive knowledge of pain mechanisms, acute and chronic pain syndromes, and differential diagnoses.

- **Patient Care:** Provides high-quality, patient-centred care by conducting thorough pain assessments and accurately interpreting clinical findings.
- **Interpersonal and Communication Skills:** Communicates effectively with patients and families to gather comprehensive pain histories and explain assessment processes.
- **Professionalism:** Maintains professionalism in all interactions, showing empathy, respect, and ensuring patient confidentiality.
- **Systems-Based Practice:** Utilizes healthcare resources efficiently, ensuring appropriate use of diagnostic tests and referral to other healthcare professionals as needed.
- **Practice-Based Learning and Improvement:** Engages in continuous learning and improvement by reflecting on assessment practices and outcomes.

Specific Tasks:

1. Conduct a detailed patient history focused on pain characteristics, onset, duration, intensity, and impact on daily activities for both acute and chronic pain.
2. Perform a thorough physical examination tailored to the patient's pain presentation, considering both acute and chronic pain contexts.
3. Utilize validated assessment tools/questionnaires and appropriate diagnostic tests (e.g., imaging, laboratory tests) and interpret the results to identify the underlying aetiology of both acute and chronic pain.
4. Assess psychological, social, and functional aspects of pain to gain a holistic understanding of the patient's condition.
5. Differentiate between acute and chronic pain syndromes, understanding their unique characteristics and implications for management.
6. Document clinical findings accurately and comprehensively.

Milestones:

1. **Novice:** Observes and assists in pain assessments under close supervision.
2. **Advanced Beginner:** Conducts pain assessments with supervision, requiring guidance in interpreting complex cases.
3. **Competent:** Independently performs comprehensive pain assessments, with occasional consultation for complex cases.
4. **Proficient:** Consistently conducts thorough and accurate pain assessments independently.
5. **Expert:** Leads pain assessment practices, mentors junior trainees, and contributes to developing assessment protocols.

Assessment Methods:

- **Direct Observation:** Supervisors observe pain assessments and history-taking.

- **Case Discussions:** Presentation and discussion of complex pain assessment cases.
- **Multi-Source Feedback:** Input from patients, peers, and other healthcare team members.
- **Portfolio:** Documentation of clinical experiences and reflective practice.

Expected Outcome:

By the end of their training, anaesthesiologists specializing in Pain Medicine will be able to independently and comprehensively assess patients with both acute and chronic pain, accurately identifying underlying causes and contributing factors to inform effective management plans.

EPA 2: Developing and Executing a Pain Management Plan

Description:

This EPA involves the ability to develop and implement a comprehensive, individualized pain management plan based on a thorough assessment. The focus is on integrating pharmacological, interventional, physical, and psychological therapies to provide holistic care.

Domains of Competence:

- **Medical Knowledge:** Demonstrates comprehensive knowledge of pain management modalities, including pharmacological treatments, interventional procedures, and multidisciplinary approaches.
- **Patient Care:** Provides high-quality, patient-centred care by developing and executing effective pain management plans.
- **Interpersonal and Communication Skills:** Communicates effectively with patients, families, and healthcare team members to discuss management plans and coordinate care.
- **Professionalism:** Maintains professionalism in all interactions, showing respect, compassion, and a commitment to patient safety and well-being.
- **Systems-Based Practice:** Utilizes healthcare resources efficiently to implement pain management plans, ensuring coordination with other healthcare providers.
- **Practice-Based Learning and Improvement:** Engages in continuous learning and improvement by reflecting on management outcomes and incorporating new evidence-based practices.

Specific Tasks:

1. Develop a comprehensive and individualized pain management plan based on the assessment findings.
2. Implement the pain management plan, including prescribing medications, performing interventional procedures, and coordinating with physical and psychological therapies.
3. Monitor and adjust the treatment plan based on patient response, side effects, and changes in the patient’s condition.

4. Educate patients and their families about pain management strategies, expectations, and potential side effects.
5. Document management plans and patient progress accurately and efficiently.

Milestones:

1. **Novice:** Observes and assists in developing and executing pain management plans under close supervision.
2. **Advanced Beginner:** Develops and implements management plans with supervision, requiring guidance in complex cases.
3. **Competent:** Independently develops and executes comprehensive pain management plans, with occasional consultation for complex cases.
4. **Proficient:** Consistently develops and implements effective pain management plans independently, managing complex cases with minimal guidance.
5. **Expert:** Leads the development of pain management protocols, mentors junior trainees, and contributes to advancing pain management practices.

Assessment Methods:

- **Direct Observation:** Supervisors observe the development and implementation of management plans.
- **Case Discussions:** Presentation and discussion of complex pain management cases.
- **Multi-Source Feedback:** Input from patients, peers, and other healthcare team members.
- **Portfolio:** Documentation of clinical experiences, management outcomes, and reflective practice.

Expected Outcome:

By the end of their training, anaesthesiologists specializing in Pain Medicine will be able to independently develop and execute comprehensive, individualized pain management plans, integrating multidisciplinary approaches to optimize patient outcomes and quality of life.

EPA 3: Performance of Interventional Pain Procedures

Description:

This EPA involves the ability to safely and effectively perform interventional pain procedures, including nerve blocks, epidural injections, radiofrequency ablations, and spinal cord stimulator placements. The focus is on technical skills, patient safety, and appropriate use of imaging guidance.

Domains of Competence & Competence Statements:

- **Medical Knowledge:** Demonstrates knowledge of the indications, contraindications, techniques, and complications of various interventional pain procedures, as well as the relevant anatomy and imaging modalities. Know the risks of imaging guided interventions and know how to implement appropriate radiation protection measures.
- **Patient Care:** Provides high-quality, patient-centred care by performing interventional pain procedures accurately and safely, ensuring patient comfort and minimizing risk.
- **Interpersonal and Communication Skills:** Communicates effectively with patients and families to explain procedures, obtain informed consent, and provide post-procedure instructions.
- **Professionalism:** Maintains professionalism, including ethical practice, patient confidentiality, and respect for patients and colleagues, throughout the interventional process.
- **Systems-Based Practice:** Utilizes healthcare resources efficiently and effectively, ensuring appropriate use of interventional procedures within the healthcare system.
- **Practice-Based Learning and Improvement:** Engages in continuous learning and improvement, reflecting on procedural outcomes and incorporating feedback to enhance skills.

Specific Tasks:

1. Obtain informed consent and explain the procedure, risks, benefits, and alternatives to the patient.
2. Perform pre-procedure assessment, including reviewing imaging and laboratory results.
3. Prepare and maintain a sterile field to prevent infection.
4. Perform the interventional pain procedure using appropriate techniques and imaging guidance (e.g., fluoroscopy, ultrasound) as well as measures to ensure safety of patients and medical staff.
5. Monitor the patient during and after the procedure, managing any immediate complications.
6. Provide post-procedure care instructions and follow-up plans to the patient.
7. Document the procedure, including indications, technique, findings, and outcomes.

Milestones:

1. **Novice:** Observes interventional procedures and assists under close supervision.
2. **Advanced Beginner:** Performs basic interventional procedures with supervision.
3. **Competent:** Independently performs common interventional procedures, with occasional guidance for complex cases.
4. **Proficient:** Consistently performs a wide range of interventional procedures independently and safely.
5. **Expert:** Teaches and supervises others in performing interventional procedures, contributing to procedural innovations and safety protocols.

Assessment Methods:

- **Direct Observation:** Supervisors observe procedural performance and technique.
- **Simulation:** Use of simulators to practice and assess procedural skills.
- **Procedure Log:** Documentation of procedures performed, including outcomes and complications.
- **Peer and Patient Feedback:** Input from colleagues and patients regarding procedural competence and communication.

Expected Outcome:

By the end of their training, anaesthesiologists specializing in Pain Medicine will be able to independently and competently perform a wide range of interventional pain procedures, ensuring patient safety and effective pain relief while minimizing complications.

EPA 4: Management of Acute Pain in Hospitalized Patients

Description:

This EPA involves the ability to manage acute pain in hospitalized patients, including those in post-surgical, trauma, and medical settings. The focus is on multimodal analgesia, patient safety, and coordination with other healthcare providers.

Domains of Competence & Competence Statements:

- **Medical Knowledge:** Demonstrates comprehensive knowledge of acute pain mechanisms, pharmacological and non-pharmacological pain management strategies, and the principles of multimodal analgesia.
- **Patient Care:** Provides patient-centred care by effectively assessing and managing acute pain, ensuring safe and effective pain relief while minimizing side effects.
- **Interpersonal and Communication Skills:** Communicates effectively with patients, families, and the healthcare team to ensure understanding of pain management plans and facilitate coordinated care.
- **Professionalism:** Maintains professionalism in all interactions, showing empathy, respect, and commitment to patient safety and comfort.
- **Systems-Based Practice:** Utilizes healthcare resources efficiently to manage acute pain, advocating for patients and coordinating care across different hospital departments.
- **Practice-Based Learning and Improvement:** Engages in continuous learning and quality improvement activities to enhance acute pain management practices.

Specific Tasks:

1. Assess acute pain in hospitalized patients, considering the underlying cause and patient factors.

2. Develop and implement a multimodal analgesia plan, including pharmacological and non-pharmacological interventions.
3. Monitor pain relief, side effects, and patient safety, adjusting the plan as needed.
4. Educate patients and their families about pain management strategies and expectations.
5. Collaborate with surgical, medical, and nursing teams to ensure integrated pain management.
6. Document pain assessments, management plans, and patient responses.

Milestones:

1. **Novice:** Participates in acute pain rounds and assists in pain assessments.
2. **Advanced Beginner:** Develops and implements pain management plans with supervision.
3. **Competent:** Independently manages acute pain in hospitalized patients, with occasional consultation.
4. **Proficient:** Consistently manages complex acute pain cases and collaborates effectively with multidisciplinary teams.
5. **Expert:** Leads acute pain services, develops hospital pain management protocols, and mentors junior trainees.

Assessment Methods:

- **Direct Observation:** Supervisors observe clinical interactions and pain management planning.
- **Case Discussions:** Presentation and discussion of complex acute pain cases.
- **Multi-Source Feedback:** Input from patients, peers, and healthcare team members.
- **Portfolio:** Documentation of clinical experiences and reflective practice.

Expected Outcome:

By the end of their training, anaesthesiologists specializing in Pain Medicine will be able to independently and effectively manage acute pain in all categories of hospitalized patients, regardless of age and comorbidities, utilizing a multimodal and where appropriate, multidisciplinary approach to ensure optimal pain relief and patient safety.

EPA 5: Coordination of Multidisciplinary Pain Management

Description:

This EPA involves the ability to coordinate a multidisciplinary approach to pain management, integrating input from various healthcare providers, including physiotherapists, psychologists, and occupational therapists, to optimize patient care.

Domains of Competence & Competence Statements:

- **Medical Knowledge:** Demonstrates knowledge of the roles and contributions of different healthcare disciplines in pain management and the principles of multidisciplinary care.
- **Patient Care:** Provides comprehensive, patient-centred care by coordinating multidisciplinary approaches to pain management, addressing physical, psychological, and social aspects of pain.
- **Interpersonal and Communication Skills:** Communicates effectively with patients, families, and multidisciplinary team members to facilitate integrated care and shared decision-making.
- **Professionalism:** Maintains professionalism in all interactions, showing respect for the contributions of all team members and commitment to collaborative care.
- **Systems-Based Practice:** Utilizes healthcare resources efficiently, ensuring appropriate and coordinated use of multidisciplinary pain management services.
- **Practice-Based Learning and Improvement:** Engages in continuous learning and quality improvement activities to enhance the effectiveness of multidisciplinary pain management.

Specific Tasks:

1. Identify patients who would benefit from a multidisciplinary pain management approach.
2. Facilitate referrals to appropriate specialists and coordinate care plans.
3. Lead multidisciplinary team meetings to discuss patient cases and develop integrated management plans.
4. Communicate effectively with all team members, ensuring that patient care is cohesive and comprehensive.
5. Monitor and evaluate the outcomes of multidisciplinary interventions, adjusting plans as necessary.
6. Advocate for patient needs within the healthcare system to ensure access to comprehensive pain management services.

Milestones:

1. **Novice:** Participates in multidisciplinary team meetings and observes care coordination.
2. **Advanced Beginner:** Assists in coordinating care and contributes to team discussions.
3. **Competent:** Independently coordinates multidisciplinary care and leads team meetings with occasional guidance.
4. **Proficient:** Consistently coordinates complex care plans and facilitates effective team collaboration.
5. **Expert:** Leads multidisciplinary pain management programs and develops integrated care protocols.

Assessment Methods:

- **Direct Observation:** Supervisors observe multidisciplinary team interactions and care coordination.
- **Case Discussions:** Presentation and discussion of multidisciplinary cases.
- **Multi-Source Feedback:** Input from team members regarding coordination and communication skills.
- **Portfolio:** Documentation of multidisciplinary care experiences and outcomes.

Expected Outcome:

By the end of their training, anaesthesiologists specializing in Pain Medicine will be able to effectively coordinate multidisciplinary pain management, integrating diverse healthcare services to provide comprehensive, patient-centred care.

EPA 6: Evaluation and Management of Neuropathic Pain

Description:

This EPA involves the ability to evaluate and manage neuropathic pain, utilizing a comprehensive approach that includes pharmacological treatments, interventional techniques, and supportive therapies to improve patient quality of life.

Domains of Competence & Competence Statements:

- **Medical Knowledge:** Demonstrates comprehensive knowledge of neuropathic pain mechanisms, diagnostic criteria, and a range of management options, including medications, interventional procedures, and supportive therapies.
- **Patient Care:** Provides patient-centred care by effectively evaluating and managing neuropathic pain, tailoring interventions to individual patient needs and circumstances.
- **Interpersonal and Communication Skills:** Communicates effectively with patients and their families to explain neuropathic pain, treatment options, and management plans.
- **Professionalism:** Maintains professionalism in all interactions, demonstrating empathy, respect, and a commitment to ethical practice and patient confidentiality.
- **Systems-Based Practice:** Utilizes healthcare resources efficiently, coordinating care with other specialists and ensuring access to appropriate neuropathic pain management services.
- **Practice-Based Learning and Improvement:** Engages in continuous learning and improvement activities, reflecting on clinical outcomes and incorporating new evidence into practice.

Specific Tasks:

1. Perform a detailed assessment of patients with suspected neuropathic pain, including history, physical examination, and diagnostic tests.

2. Develop and implement a tailored management plan that may include medications (e.g., anticonvulsants, antidepressants), interventional procedures, and supportive therapies (e.g., physical therapy, psychological support).
3. Monitor patient response to treatment, managing side effects and adjusting the plan as needed.
4. Educate patients and their families about neuropathic pain, treatment options, and self-management strategies.
5. Collaborate with other specialists (e.g., neurologists, physiatrists) to optimize patient care.
6. Document clinical findings, management plans, and patient progress comprehensively.

Milestones:

1. **Novice:** Observes and assists in the evaluation and management of neuropathic pain.
2. **Advanced Beginner:** Develops and implements management plans for neuropathic pain with supervision.
3. **Competent:** Independently evaluates and manages neuropathic pain, with occasional guidance for complex cases.
4. **Proficient:** Consistently manages a wide range of neuropathic pain conditions independently and effectively.
5. **Expert:** Leads neuropathic pain management programs, develops treatment protocols, and mentors junior trainees.

Assessment Methods:

- **Direct Observation:** Supervisors observe patient assessments and management planning.
- **Case Discussions:** Presentation and discussion of neuropathic pain cases.
- **Multi-Source Feedback:** Input from patients, peers, and healthcare team members.
- **Portfolio:** Documentation of clinical experiences, treatment outcomes, and reflective practice.

Expected Outcome:

By the end of their training, anaesthesiologists specializing in Pain Medicine will be able to independently evaluate and manage neuropathic pain using a comprehensive, multidisciplinary approach to improve patient outcomes and quality of life.

Resources

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