MODULE 10
Pain Medicine

**Duration required:** A minimum **50 sessions** (½ days) of clinical experience is required in Pain Medicine (Modules 1 and 10) — TE10 (2003) Recommendations for Vocational Training Programs.

This Module must be completed during **Advanced Training**, preferably during ATY1 and ATY2. It may be completed as a single-block clinical rotation in pain management if the training institution can offer it, but may otherwise be completed in the normal course of clinical duties.

**Trainee’s Aims**

This Module builds on clinical experience in pain management learned during Basic Training.

The **aim of Module 10** is for Trainees to acquire clinical abilities and skills in managing peri-operative post-traumatic, acute medical and persistent pain as an anaesthetist (but not to the level of a FFPMANZCA specialist). This includes learning to integrate and apply knowledge and skills in clinical management, such as in:

- Assessing pain
- Taking a “pain history” and examination
- Providing perioperative and other acute pain relief
- Identifying and managing patients with persistent pain, including referral when appropriate, to pain medicine specialists
- Working in an interdisciplinary management paradigm

**Learning Objectives**

These are what the Trainee needs to learn. They are presented as:

- Knowledge
- Clinical management (“knows how”) that applies knowledge and clinical skills to manage the patient
- Skills (clinical and technical)
- Attitudes and behaviours

**Knowledge — Basic Sciences**

Trainees are required to revise the relevant subjects in the Basic Sciences as set out in the ANZCA document Syllabus for the Basic Sciences in Anaesthesia and Intensive Care (1st edition 1995), and as updated on the ANZCA website. Trainees are expected to apply Basic Science principles in clinical practice.

Basic science subjects relevant to this Module include the following.

**Neurobiology of Pain**

- Overview of “Pain Pathways”
- Multi dimensional aspects of pain; role of physiological, psychological and environmental factors
Pharmacology of Analgesic Agents

This includes pharmacokinetic and pharmacodynamic principles, drug interactions, and side effects.

- Knowledge of the pharmacology of:
  - Opioids
  - Paracetamol
  - Non-steroidal anti-inflammatory agents (NSAIDs)
  - Antidepressants (TCAs and SSRIs)
  - Anticonvulsants
  - Membrane-stabilising agents
  - alpha-2 agonists
  - NMDA-receptor antagonists
  - Local anaesthetics
  - Anti-emetics
  - Agents used to treat hypotension associated with neuraxial blockade

- Awareness of the role of the following in pain management
  - Anti-migraine agents
  - Steroidal anti-inflammatory agents
  - Topical agents (NSAIDS, Capsaicin)
  - Neurolytic agents
  - Experimental agents for analgesia

Knowledge of different routes of analgesic drug delivery, including factors governing choice of route, side effects relevant to particular route, principles of additive and synergistic effects when agents are combined

- Oral
- Intramuscular
- Subcutaneous (including continuous infusion)
- Intravenous (including continuous infusion)
- Patient-controlled analgesia (PCA) via different routes (ie intravenous, subcutaneous, intranasal, epidural, intrathecal)
- Neuraxial
- Other; topical, transdermal, rectal, transmucosal (intranasal, inhalational and sublingual / buccal), intra-cerebroventricular, intra-articular, incisional

Knowledge — Principles of Pain Medicine

History, Philosophy and Medicolegal Aspects

- Concepts of pain and suffering
- Relevance of the subjective nature of pain report to pain assessment
- Relevant ethical principles including professional responsibility (professional power, vulnerable groups), autonomy and dignity, national and regional legislative and ethical issues regarding death, particularly with respect to euthanasia
- National and regional issues relevant to the prescription of controlled substances including the Poisons Act and Regulations
- Informed consent with focus on issues relevant to the patient with pain
- Confidentiality principles, including relevant national and regional legislation
- Principles of evidence-based medicine as they apply to the assessment of pain interventions
- Epidemiological aspects of persistent pain, including social cost
Psychological and Sociocultural Issues

- The importance of psychological (emotional and cognitive), social, and other factors in the presentation and management of pain with emphasis on:
  - Factors involved in the wide variation in individual response to tissue injury
  - The relationship between depression and persistent pain
  - The role of anxiety and/or depression in acute pain
  - Differentiation of active and passive coping strategies
  - The role of illness behaviour
  - The role of national and regional compensation and other third party issues in the presentation of pain and response to treatment

Substance Abuse

- Concepts of tolerance, physical dependence, addiction and pseudoaddiction
- Iatrogenicity in tolerance and dependence
- Common licit and illicit drugs of abuse

Clinical Management

Professional Practice

- Comply with relevant policies, recommendations, and guidelines for practice as contained in ANZCA and Faculty of Pain Medicine professional documents (see Appendix)
- Understand the organisation of a Multidisciplinary Pain Clinic and an Acute Pain Service, including the role of such services in education (of patients and staff), collaboration, documentation and administration, and the role of protocols and audit

Pain Assessment and Measurement

- Assess pain and outcome of pain treatment using history, clinical examination and pain measurement tools
- Recognise the limitations of pain measurement techniques, particularly in some patient groups (e.g., persistent pain, children, those with cognitive impairment)
Acute Pain

- Have an understanding of:
  - Neuroendocrine and metabolic responses to surgery and other acute stressors and impact of analgesic techniques
  - Consequences of poorly controlled pain
  - Current evidence for and against pre-emptive analgesia and clinical implications
  - Current evidence for the effect of analgesic technique on morbidity and mortality
  - Importance of aggressive multimodal postoperative rehabilitation
  - Relationship between acute and persistent pain including factors involved in progression from one to the other, and potential interventions to prevent such progression

- Choose the most appropriate technique of acute pain management:
  - Pharmacological techniques (opioid and non-opioid) via a variety of routes
  - Regional techniques including central neuraxial, plexus and peripheral nerve blockade
  - Non-pharmacological techniques

- Formulate a pain management plan based upon:
  - Patient preference, physical and mental status, and available expertise and technology
  - Special requirements in specific patient groups (e.g., the elderly, children, pregnant and postpartum patients; obstructive sleep apnoea, concurrent hepatic or renal disease; non-English speaking, cognitive impairment)
  - Special requirements in patients with opioid-tolerance and/or a substance abuse disorder including an understanding of guidelines and regimens for analgesic drug use (equi-analgesic dosing for opioids; tolerance and dependence)
  - Special requirements under specific clinical situations (e.g., spinal injuries, burns, acute back pain, musculoskeletal pain, acute medical pain, acute cancer pain and patients in Intensive Care and the Emergency Department)

- Include in a pain management plan:
  - Appropriate evaluation of the patient’s pain
  - Informed consent, including disclosure of risk and appropriate documentation
  - Patient education about the selected technique and alternatives
  - Recognise common presentations of acute musculoskeletal pain (e.g., rib fracture, acute back pain) and other non-surgical acute pain syndromes (migraine, renal colic) including in the Emergency Department and Intensive Care Unit

- Identify when to seek advice from, or refer to, a Pain Medicine Specialist
Cancer Pain

- Undertake assessment of pain in patients with cancer based upon:
  - Understanding of the multiple potential aetiologies of pain associated with cancer
  - Differentiation between somatic, visceral, and neuropathic pain
  - Evaluation of psychological, social, cultural and spiritual issues

- Undertake treatment of cancer-related pain syndromes based on therapies available (including chemotherapy, radiotherapy, surgery, invasive and non-invasive analgesic techniques, and psychological approaches)

- Understand guidelines and regimens for analgesic drug use including equianalgesic dosing for opioids; tolerance and dependence and their management in the patient with cancer

- Identify when to seek advice from, or refer to, a Pain Medicine Specialist

Neuropathic Pain

- Understand diagnostic criteria, clinical features and management of specific neuropathic pain syndromes including:
  - Central pain (pain after stroke, thalamic pain, spinal cord injury pain, deafferentation pain, phantom limb pain)
  - Neuralgias (trigeminal neuralgia, postherpetic neuralgia, occipital neuralgia)
  - Painful peripheral neuropathy (eg, metabolic, toxic, ischaemic)
  - Pain after nerve injury (eg, neuroma)
  - Post-surgical pain syndromes (eg, post-thoracotomy, post-CABG pain, post-mastectomy, post-amputation)
  - Complex regional pain syndrome types I and 2 (including the differentiation of sympathetically-maintained from sympathetically-independent pain)

- Identify when to seek advice from, or refer to, a Pain Medicine Specialist

Pain in Children

- Recognise and understand the ways in which acute and persistent pain in children differ from pain in adults, including:
  - The effect of developmental stage on assessment and management of pain in children
  - The selection of pain assessment tools for children of different developmental stages
  - Principles of managing acute, procedural and persistent pain in children
Pain in the Elderly

- Understand pain management in the elderly, taking into account:
  - The epidemiology of pain syndromes in the elderly
  - Physiological changes associated with ageing and effects of these on pain and pain management (including changes in pharmacokinetics, pharmacodynamics, and pain biology)
  - Effects of concurrent disease, and psychological, social and cognitive changes on assessment and management of pain
  - Risks associated with polypharmacy in the elderly

Skills — Clinical Skills

In this Module, Trainees will provide, or assist with, appropriate pain management in both inpatient and outpatient settings.

Clinical Evaluation

Trainees will demonstrate skills in the clinical evaluation of patients with acute and persistent pain by:

- Obtaining a specific pain history
  - Onset, location, nature, duration, intensity, aggravating and relieving factors
  - Physical, psychological and social consequences of the patient’s pain
  - Current and past pain treatments and outcome
  - Other relevant history (past patterns of drug use or misuse, family history, medical and surgical history)
  - Pain beliefs
  - Treatment expectations
  - Interpreting relevant investigations
  - Formulating a management plan and evaluating outcome

Technical Skills

Trainees are required to obtain competency in:

- Central neuraxial blocks (initiated in Modules 1 and 2)
- Regional techniques (including knowledge of anatomy, technique, indications, contraindications, complications and their management) including:
  - Peripheral and plexus blocks of the upper and lower limb
  - Head and neck blocks
  - Truncal blocks including intercostal and paravertebral block

Trainees need to understand the anatomy, technique, indications, contraindications, complications and management of (but not necessarily be able to perform):

- Stellate ganglion blockade
- Coeliac plexus blockade
- Lumbar sympathetic blockade
- Intrathecal drug delivery for cancer and persistent pain
Communication Skills

- Demonstrate communication skills in dealing with patients in pain, including:
  - Dealing with issues of grief and loss
  - Undertaking conflict management (e.g., in dealing with angry patients, in dealing with other staff)
  - Appropriate use of (non-medical) language in communicating with patients and their families, including with specific patient groups such as children

- Demonstrate communication skills with other health professionals by
  - Presenting results of patient assessment at multidisciplinary meetings where appropriate
  - Undertaking consultation (verbal and/or written) with other medical and paramedical specialists, as indicated by the clinical situation

Skills — Educational Skills

Trainees are expected to build on the educational skills in Modules 1 through 3 and develop the following:

- A review of their personal learning plan as specified in their Learning Portfolio
- Identification of the factors which lead to deviation from the original learning plan
- A learning plan in the Learning Portfolio in which basic science teaching is linked to clinical practice

The Trainee should acquire the following core skills.

**During Basic Training**

- Maintaining a Learning Portfolio
- Developing a study plan for the rest of the training period
- Reviewing study plans and correcting for deviations (e.g., catching up on deficient knowledge or experience)
- Reflecting on previous learning experiences with the aid of the Learning Portfolio
- Linking basic science teaching with clinical practice
- Studying effectively
- Participating in small-group learning and educational activities
- Being aware of decision-making processes

**During Advanced Training**

- Reviewing study plans and correcting for deviations (e.g., catching up on deficient knowledge or experience)
- Reflecting on previous learning experiences with the aid of the Learning Portfolio
- Comprehending how decisions are made
- Determining what information should be accepted or rejected in decision-making
- Determining the value of information from various sources and the importance of cross validation
- Assessing professional performance
- Conducting and appraising literature searches

- Managing time effectively for study, work, and home/leisure
- Giving and receiving feedback
- Developing insight into personal limitations
- Using the Internet including e-mail
- Conducting and appraising literature searches
Curriculum Modules

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- Appraising journal articles including the application of statistics
- Applying the principles of evidence-based medicine to clinical practice
- Carrying out oral presentations and professional communication. Specific skills in communication are outlined in Modules 2, 11 and 12
- Presenting quality assurance exercises or projects
- Developing facilitation skills, such as tutoring in small-group learning and conducting small-group meetings

Attitudes and Behaviours

Trainees are expected to develop the attitudes and behaviours which are obligatory in specialist medical practice.

Core attitudes and behaviours that Trainees must cultivate during the whole period of FANZCA training include the following.

Specialist Practice

- To attain the attributes of a specialist as a:
  - Medical expert
  - Communicator
  - Collaborator
  - Manager
  - Health advocate
  - Scholar and teacher
  - Professional
- To practise good communication with colleagues, patients and others
- To work as a member of a team, but to assume responsibilities and/or delegate duties as a team leader when necessary
- To commit to, and believe in, a culture of safety and ethical, high quality care
- To accept that medical knowledge and skills are not the only requirements of specialist practice
- To be aware of medico-legal obligations relating to medical practice
- To have insight into one’s own limitations, abilities and areas of expertise
- To commit to lifelong continuing professional development

Professionalism and Ethics

To commit to, and believe in the ethical and professional principles of:

- Altruism: the best care for the patient must be the principal driving force of practice
- Patient autonomy: patients’ ability to determine their treatment
- Beneficence: the principle of “doing good” to patients
- Non-maleficence: the principle of not doing harm to patients
- Fidelity: faithfulness to one’s duties and obligations. This principle underlies excellence in patient care, confidentiality, telling the truth, a commitment to continuing professional development and lifelong learning, and not neglecting patient care
- Social justice: the right of all patients to be fairly treated
- Utility: the principle of doing the most good for the most number of people
- Duty to oneself in terms of personal health care and maintenance of competence to practise
- Accountability: the anaesthetist is responsible for his/her actions
- Honour and integrity in all conduct, including the generation and use of resources
• Respect for others, including a responsibility to work as a team and to practise conflict resolution
• Appropriate response to clinical error

Patient Considerations
To commit to, and believe in, the rights of patients with respect to:
• Autonomy
• Confidentiality of the doctor-patient relationship
• Appropriate, excellent clinical care, including pre-operative assessment
• Informed consent
• Comprehension of the risks of anaesthesia techniques
• Appropriate care irrespective of race, culture, gender and socio-economic status

Research Considerations
• To value rigorous educational and scientific processes
• To distinguish between practice with a sound scientific basis and that which requires further objective assessment
• To commit to the ethical principles of research

Assessment
The Module 10 Supervisor will validate the Trainee’s completion of the module in accordance with the process outlined in College Professional Document TE2. This will involve the Trainee assessing whether she/he has achieved the core aims (Trainee’s aims) of the module and fulfilled the minimum clinical experience. The Module 10 Supervisor will review the Trainee’s Learning Portfolio as part of this assessment.

The Supervisor of Training and other Consultants will evaluate the Trainee’s overall performance in the In-Training Assessment (ITA) process. Aspects of clinical performance, education skills and attitudes will be reviewed. The ITA will remain a formative assessment conducted every six months, independent of Module assessment.

The Primary and Final Examinations will be summative assessments of the Trainee. Knowledge of basic sciences in Module 10 will be assessed in the Primary Examination. Principles of pain management, clinical management and clinical skills (including regional blocks and relevant anatomy) in this Module will be assessed in the Final Examination.

The Learning Portfolio is an integral tool for self-assessment (as well as for recording clinical experience and developing study plans). The Trainee is expected to self-evaluate his/her education skills and learning experience from the Learning Portfolio. For example, the Learning Portfolio should show the Trainee’s progress through the Module, as records of clinical experience (sessions), nerve blocks learned, topics reviewed and oral presentations delivered.