MODULE 4
Obstetric Anaesthesia and Analgesia

Duration required: A minimum 50 sessions (½ days) of clinical experience is required — TE10 (2003) Recommendations for Vocational Training Programs

Trainee’s Aims

In Module 4 clinical experience is gained from anaesthesia and analgesia for labour and procedures for pregnant patients.

The aim of Module 4 is for Trainees to acquire a series of clinical abilities and skills in obstetric anaesthesia and analgesia, such as the ability to:

- Provide safe general and regional anaesthesia and perioperative care for obstetric patients*
- Conduct pain management during labour*
- Use technical and anaesthesia skills and carry out established clinical drills and protocols relevant to obstetric anaesthesia and analgesia
- Apply knowledge of physiology, pharmacology, clinical measurement and monitoring
- Establish a professional team approach with obstetricians and midwives

* Represents core aims

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.

Physiology

- Maternal physiology
- Process of labour and delivery
- Foetal and neonatal physiology
- Placental physiology
Pharmacology

- Obstetric and postpartum pharmacology
- Endocrine pharmacology
- Pharmacological considerations for newborn resuscitation
- Pharmacology of placental drug transfer

Knowledge — Education and Self-Development

Trainees are required to understand the education and self-development principles learned during modules 1 to 3, especially those of adult learning, self-directed learning and lifelong learning.

Clinical Management

Trainees are expected to understand relevant principles, apply knowledge in practice, and to demonstrate abilities in obstetric anaesthesia and analgesia care. These include the following.

ANZCA Professional Document

- PS14 (1998) Guidelines for the Conduct of Major Regional Analgesia in Obstetrics

Principles of Obstetrics

- Anatomy — airway, spine, pelvis, birth canal, gravid uterus, and nerve and blood supply in pregnancy
- Drugs used for fertility support and IVF (not detailed)
- Ecbolics and tocolytics
- Principles of in-vitro fertilisation
- Antenatal care

High-risk Obstetrics

- Poor medical, obstetric or anaesthesia history
- Pre-existing disease in pregnancy
- Substance abuse during pregnancy
- Pre-eclampsia and eclampsia, pathophysiology and management
- Obstetric complications, e.g., breech, malpresentation, multiple pregnancy and abnormal placentation
- Obstetric interventions; indications and anticipation of anaesthesia and analgesia
- Amniotic fluid, air and pulmonary embolism, pathophysiology and management
- Obstetric haemorrhage, antepartum, peripartum and postpartum
Foetal and Neonatal Considerations

- Foetal teratogenicity, carcinogenicity, and congenital abnormalities (not detailed)
- Foetal evaluation and monitoring
- Antepartum and intrapartum foetal compromise
- Foetal death in utero; pathophysiology and psychological issues

Neonatal resuscitation
- Apgar score and neuro-adaptive scores, and their prognostic significance
- Intrauterine and neonatal surgery

Anaesthesia Management

- Pre-anaesthesia assessment of the pregnant patient and identification of high risk patients eg:
  - Risk factors in anaesthesia
  - Pre-existing diseases, eg, cardiac disease, hypertension, respiratory disease, diabetes, thyroid disease, intracranial disease, bleeding disorders, renal disease and neuromuscular disease
  - Adolescent or elderly primigravid pregnancy
  - Morbid obesity
  - Thromboembolic disease

- Anaesthesia for non-obstetric surgery in the pregnant patient
- Anaesthesia for elective obstetric procedures
- Anaesthesia for emergency obstetric procedures
- Anaesthesia for Caesarean section
- Pain management in obstetrics

- Complications of general anaesthesia
  - Difficult airway management
  - Pulmonary aspiration
  - Awareness during general anaesthesia
  - Complications of regional analgesia and anaesthesia, eg, high block, local anaesthetic toxicity, neurological sequelae
  - Management of inadequate or failed regional anaesthesia and analgesia

- Management of severe haemorrhage; surgical, antepartum and postpartum
- Maternal morbidity and mortality; incidence and legal and ethical issues
- Cultural considerations; relevance of patient, family and staff with different ethnic backgrounds
- Organisation of an obstetric anaesthesia and analgesia service
- Complementary and alternative medicine; significance in obstetric practice and anaesthesia care
- Safe radiation practice during pregnancy

Skills — Clinical Skills

In this Module, Trainees will provide safe anaesthesia for pregnant patients.

Trainees will revise pre-assessment skills, including taking an appropriate history and performing an appropriate physical examination (including airway assessment, cardiovascular, respiratory and neurological examinations) to assess the patient’s status.
Technical skills in which Trainees are required to be competent include the following.

- Airway assessment in pregnancy
- Skills learned in Modules 1 and 2
- Rapid sequence induction
- Emergency airway management
- Implementing epidural, spinal, and combined spinal/epidural anaesthesia and analgesia.

Trainees should be familiar with clinical drills for crises management. These include:

- Drills in Module 1, especially for airway emergencies
- Failure to intubate algorithm in obstetrics
- Advanced Life Support in the obstetric patient
- Resuscitation of the neonate
- Management of pulmonary aspiration during general anaesthesia
- Management of high regional block
- Management of severe obstetric haemorrhage

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 that 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 (eg, 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
- Managing time effectively for study, work and home/leisure
- Giving and receiving feedback
- Developing insight into personal limitations
- Using the Internet including email
- Conducting and appraising literature searches
- Appraising journal articles including the application of statistics
- Carrying out oral presentations and professional communication. Specific skills in communication are outlined in Modules 2, 11 and 12
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
- 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 that 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 greatest 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 4 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 4 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 4 will be assessed in the Primary Examination. Clinical Management and Clinical Skills 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), technical skills learned, topics reviewed and oral presentations delivered.