MODULE 7

Anaesthesia for ENT, Eye, Dental, Maxillofacial, and Head and Neck Surgery

This Module includes anaesthesia for ear-nose-throat (ENT), eye, dental and maxillofacial surgery. Clinical experience may be undertaken at times appropriate to the rostering duties of the training institution. As the subspecialties are different, this Module need not be undertaken as a continuous block.

Trainee’s Aims

In Module 7 clinical experience is gained from anaesthesia for ENT, eye, dental and maxillofacial surgery.

The aim of Module 7 is for Trainees to acquire a series of clinical abilities and skills in the perioperative care of patients undergoing such surgery. The subspecialties in this Module have a number of common considerations in anaesthesia care, such as comorbidities and an increased need for preoperative airway assessment, an airway shared with the surgeon, high risks for airway obstruction, mix of adult and paediatric patients, requirements for induced hypotension in certain procedures, and acute post-operative care problems. It may not be possible to obtain experience in all the above subspecialties, but the Trainee needs to understand the pathophysiology of the condition and the requirements of anaesthesia for surgery on the head and neck.

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**

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, clinical measurement and other subjects relevant to this module include the following.

- Professional documents and guidelines for practice such as ANZCA documents (see Appendix)
- Relevant aspects of cardiovascular, respiratory and neurological physiology
- Physiology of gases in closed body cavities
- Pharmacology of local anaesthetic agents
- Pharmacology of local vasoconstrictors
- Anatomy of the head and neck and abnormal facies
- Anatomy of the airway, nasal passages, larynx, pharynx and middle ear
- Effects of surgery and radiation on the airway
- Monitoring in anaesthesia
- Neurological monitoring
- Lasers; types, uses in surgery, complications and precautions
- Airway devices and types of tracheal tubes, eg, Pollard, Rae
- Equipment for difficult tracheal intubation
- Equipment for jet ventilation

**Clinical Management**

**Anaesthesia for ENT Surgery**

Trainees are expected to understand relevant principles, apply knowledge in practice, and to demonstrate abilities in the anaesthesia management of ENT surgery. These include the following.

- Pre-operative airway assessment
- Examination under anaesthesia
- Tonsillectomy and adenoidectomy, including quinsy and postoperative bleeding
- Microlaryngoscopy
- Radical head and neck surgery
  - Laryngectomy
  - Pharyngolaryngectomy
- Laser surgery
- Nasal and sinus operations
- Parotid tumour surgery
- Myringoplasty
- Middle ear surgery
- Elective and emergency tracheostomy
- Paediatric problems, eg, relating to disease, airway, larynx and craniofacial disorders
- Post-operative care
- Microsurgery of the ear
- Managing partial airway obstruction including:
  - Epiglottitis
  - Foreign bodies
  - Laryngeal tumours
  - Oropharyngeal cysts and abscesses
- Post-operative care
Anaesthesia for Dental Surgery
Trainees are expected to understand relevant principles, apply knowledge in practice, and to demonstrate abilities in the anaesthesia management of dental surgery. These include the following.

- Outpatient dental procedures; sedation and general anaesthesia
- Inpatient dental surgery
- Dental procedures on the mentally handicapped
- Dental procedures on patients with bleeding disorders

Anaesthesia for Eye Surgery
Trainees are expected to understand relevant principles, apply knowledge in practice, and to demonstrate abilities in the anaesthesia management of eye surgery. These include the following.

- Understanding:
  - Anatomy and physiology of extremes of age
  - Anatomy of orbit and contents
  - Physiology of intraocular pressure
  - Ocular perfusion
  - Eye reflexes (oculocardiac, oculorespiratory, oculoemetic)
  - Anatomy of orbit, extraocular muscles, blood vessels, lacrimal apparatus
  - Local anaesthetic agents for eye surgery
  - Other drugs for eye surgery, eg, topical agents, vasoconstrictors, mydriatics, miotics, and agents to reduce intraocular pressure

- General anaesthesia for eye surgery including:
  - Examination under anaesthesia
  - Oral surgery
    - Fractured jaw
    - Maxillary fractures according to the Le Fort classification
    - Dental sepsis
  - General anaesthesia for eye surgery including:
    - Laser eye surgery
    - Intraocular surgery
    - Extraocular surgery
    - Retinal detachment
    - Plastic and orbital surgery
    - Emergency eye surgery and use of suxamethonium in penetrating eye injury
    - Monitoring
    - Postoperative care, management of nausea and vomiting
    - Principles of regional retrobulbar and peribulbar block and choosing between general and regional anaesthesia techniques
    - Sedation for eye procedures
    - Principles of anaesthesia for day-case or office-based eye surgery
    - Paediatric considerations
Anaesthesia for Maxillofacial, Thyroid, and Head and Neck Surgery

Trainees are expected to understand relevant principles, apply knowledge in practice, and to demonstrate abilities in the anaesthesia management of maxillofacial and head and neck surgery. These include the following.

- Pre-operative airway assessment
- Management of anaesthesia for major maxillofacial surgery, which may involve prolonged anaesthesia, major blood loss, hypothermia and multiple procedures
- Management of anaesthesia for facial trauma: emergency and semi-elective, including fractured jaw and maxilla (see Module 3 and Anaesthesia for Dental Surgery above)
- Management of anaesthesia for cancer, plastic and cosmetic surgery on the face, head and neck, including surgery for cleft palate
- Management of thyroid surgery, including:
  - Anaesthesia for thyroid and parathyroid surgery
  - Stabilisation of thyroid and parathyroid disorders preoperatively
  - Drill for managing post thyroidectomy bleeding
  - Drill for managing a “thyroid storm”
- Sedation for head and neck procedures
- Post-operative care

Skills — Clinical Skills

In this Module, Trainees will provide safe anaesthesia for varied surgery and procedures on the head and neck.

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 common to all procedures that Trainees are required to be competent in include the following.

- Skills learned in Modules 1 and 2
- Tracheal intubation
  - Nasal intubation
  - Use of special tubes
  - Placement and removal of packs
  - Applying topical local anaesthesia to the airway
- Securing the difficult airway
  - Recognising the high-risk airway
  - Use of stylets and bougies
  - Awake intubation
  - Retrograde catheter technique
  - Fibreoptic intubation
  - Laryngeal mask airway intubation
  - Failed intubation or ventilation drill
- Cricothyroidotomy and percutaneous tracheostomy
- Transtracheal ventilation
- Managing the airway in trauma and burns
- Cricothyroidotomy and percutaneous tracheostomy
- Transtracheal ventilation
- Managing the airway in trauma and burns
- Upper airway obstruction drill
- Post extubation of difficult airway drill
- Spontaneous gaseous induction for airway obstruction
- Regional and local anaesthesia of the head and neck
- Management of postoperative nausea and vomiting in head and neck surgery
- Management of postoperative facial and airway swelling
Skills — Educational Skills

Trainees are expected to build on the educational skills in Modules 1 to 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 (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
- 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
- Conducting and appraising literature searches
- 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 medicolegal 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 7 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 gained experience in anaesthesia for head and neck surgery deemed to be adequate. It may not be possible for the Trainee to gain experience in all subspecialties of ENT, dental, eye, maxillofacial and head and neck surgery. The Module 7 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, clinical measurement, and monitoring in Module 7 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.