

MODULAR CURRICULUM
For
‘+2’ CRANIOMAXILLOFACIAL TRAINING

**The Australian & New Zealand Society of Craniomaxillofacial
Surgeons**

(ANZSCMFS)

PREAMBLE

It is recognised that the various training centres offering posts for +2 CMFA trainees will have somewhat differing exposure to the following required areas of knowledge and expertise. For example, not every trainee will, within the 2 years, necessarily have sufficient exposure and training in craniofacial surgery to be considered fully trained in that area during the 2 years and may need further experience to be fully competent. Others will, depending on the centres in which they trained.

Generally, the ANZSCMFS and the BPRS will, in determining suitable posts for each +2 trainee, endeavour to offer over the 2 years, a full training in MFS and a thorough exposure to CFS, at least.

COURSE 1: THE SCIENCE OF CMFS

Module 1.1 Basic Science

- (a) Normal and abnormal embryology and foetal development of the head and neck with special emphasis on the development of the cranium, the maxillary and mandibular complex, the mechanisms of clefting, and the development of the temporomandibular joint and surrounding musculature
- (b) Normal growth and development of the cranium and face with special attention to dental development and occlusion and to the consequences of congenital anomalies, trauma, surgery and radiation
- (c) Standards of beauty and variability as they relate to the face and an understanding of the relationship of cephalometric values to soft-tissue features
- (d) Bone healing, including primary healing, malunion, non-union, osteomyelitis and the physiology and methods of bone grafting
- (e) Congenital, developmental and secondary deformities of the head and face, including the embryology, pathogenesis, anatomy, natural history, and of course of the disease following treatment

Module 1.2 Scientific knowledge is required of the aetiology, pathology and natural history of the following conditions:

- (a) Craniomaxillofacial concepts in the exposure and/or reconstruction in cranial base oncological surgery
- (b) The craniosynostoses
- (c) Congenital and developmental deformities of the face that may be related to craniosynostosis including midface hypoplasia and facial asymmetries
- (d) Syndromal malformations of the face such as Treacher Collins, hemifacial microsomia, etc
- (e) Congenital orbital dysmorphologies including orbitofacial clefts and hypertelorism
- (f) Craniomaxillofacial manifestations of systemic disorders such as neurofibromatosis and vascular malformations and lymphatic disorders
- (g) Post traumatic complex skull and facial deformities (late secondary corrections)

COURSE 2: PRACTICAL EXPERIENCE

Module 2.1 Congenital anomalies and acquired disorders

The foundation of the subspecialty is the treatment of congenital craniomaxillofacial anomalies. Because such treatment can be applied to a variety of acquired deformities, the programme must include in-depth training, education, and participation in the diagnosis, planning, operative treatment and postoperative care of craniomaxillofacial problems including but not necessarily limited to:

- (a) Cleft lip and palate deformities
- (b) Hemifacial microsomia
- (c) Atrophic and hypertrophic disorders such as Romberg's disease, bone dysplasia
- (d) Acute trauma of the face and skull region, early and late
- (e) Congenital and acquired disorders of the facial skeleton and occlusal relationships. Associated airway problems.
- (f) Elective orthognathic surgery for facial disharmony and orthodontic problems
- (g) Surgical correction of congenital clefts of the lip and palate with emphasis on both primary and late repairs and revisions
- (h) Reconstructive management of defects after ablative surgery for malignancy about the craniomaxillofacial region, including pedicle and free flap surgery and bone grafting techniques
- (i) Craniomaxillofacial concepts in the exposure and/or reconstruction in cranial base oncological surgery
- (j) Congenital and developmental deformities of the face that may be related to craniosynostosis including midface hypoplasia and facial asymmetries
- (k) Syndromal malformations of the face such as Treacher Collins, hemifacial microsomia, etc

Exposure to management of:

- (l) The craniosynostoses
- (m) Congenital orbital dysmorphologies including orbitofacial clefts and hypertelorism
- (n) Craniomaxillofacial manifestations of systemic disorders such as neurofibromatosis and vascular malformations and lymphatic disorders

but not necessarily a full training in operative treatment, depending on training centres encountered. (See Preamble above and Items 4 and 8.1.2C2 in the Background/Position Paper)

Module 2.2 Clinical activities

The clinical education should include active participation in an integrated craniomaxillofacial team with sufficient patient volume to provide an exposure to diverse craniomaxillofacial problems. In addition to plastic surgery, the craniomaxillofacial team should include neurological surgery, ophthalmology, otolaryngology, dentistry and orthodontics. Clinical activities should include:

- (a) Education, training and participation in the surgical methods of craniomaxillofacial surgery, including rigid fixation of skull and facial bones and training in the fabrication of dental splints
- (b) Management of craniomaxillofacial patients from the preoperative through to the postoperative stages
- (c) Preoperative assessment and decision making regarding methods and timing of intervention in craniomaxillofacial disorders
- (d) Short and long term postoperative assessment and management in the critical care of craniomaxillofacial patients
- (e) Education, training and participation in the function and dynamics of the multidisciplinary team approaches
- (f) Education, training and participation in the ethical issues in craniomaxillofacial surgery

Module 2.3 Operative experience

- (a) A programme of graduate education in craniomaxillofacial surgery must provide a sufficient number and variety of surgical experiences to ensure that trainees receive exposure to a wide range of diseases and injuries to the soft and hard tissues of the craniomaxillofacial region. Minimally, these will include the congenital anomalies and acquired disorders as presented in 8.1.2A in the Background/Position Paper
- (b) The trainee must be allowed senior responsibility as the operating surgeon while performing critical portions of the surgery in the operative management of a range of common craniomaxillofacial surgery procedures.
- (c) The craniomaxillofacial surgery trainee is not a substitute for faculty and should not act on a regular basis as a teaching assistant to the chief trainee in plastic surgery. If the craniomaxillofacial surgery trainee and the plastic surgery trainee share operative experience, only one surgeon may receive credit as surgeon for the experience.

Module 2.4 Education and experience in the following areas are desirable

- (a) Diagnostic methods and treatment techniques of temporomandibular joint disorders
- (b) Aesthetic contour deformities such as masseteric hypertrophy and fronto-cranial remodelling.

COURSE 3: TECHNOLOGY

Module 3.1 Dental radiographs, cephalometric analysis and study models, construction of splints and their use in craniomaxillofacial surgery

Modules 3.2 Interpretation of sophisticated diagnostic imaging modalities used in craniomaxillofacial surgery, including computed tomography, magnetic resonance imaging and arteriography

Module 3.3 Use of Alloplastic materials in reconstruction

COURSE 4: DUTY OF CARE, ETHICS AND LAW

Module 4.1 CMFS trainees will receive education, training and practical experience in the duty of care toward

- (a) Patients
- (b) Administrative support staff
- (c) Allied health services staff
- (d) Multidisciplinary team members

Module 4.2 CMFS trainees will receive education, training and practical experience in the protocols associated with CMFS

Module 4.3 CMFS trainees will receive education, training and practical experience in ethical issues involving long term care of patients, including

- (a) Criteria for treatment decision making
- (b) Patient confidentiality
- (c) Ownership of patient records
- (d) Multidisciplinary team follow up protocols

Module 4.4 CMFS trainees will receive education, training and practical experience in their personal legal responsibilities and the team's legal responsibilities

Module 4.5 Administration

- (a) CMFS trainees will become familiar with all aspects of patient administration including those associated with appointments and record keeping within the multidisciplinary team framework.
- (b) CMFS trainees will become familiar with the forms required by hospital, insurance, state and federal agencies.

COURSE 5: INTERDISCIPLINARY APPROACHES TO CMFS

To achieve the goal to educate surgeons who establish and lead nationally and internationally in the interdisciplinary approaches to patient diagnosis, treatment, follow-up care and research, trainees will:

- (a) Be fully integrated into new and existing CMFS teams so that the full process of diagnosis through to various stages of longitudinal care can be experienced
- (b) Actively study and participate in team dynamics and decision making processes
- (c) Participate in analysis and discussion of models for interdisciplinary teams with the Programme Director of each institution
- (d) Prepare and submit one formal written analysis per year of the interdisciplinary process in one team of which the trainee has been a member

COURSE 6: RESEARCH AND SCHOLARLY ACTIVITY

Graduate medical education must take place in an environment of enquiry and scholarship in which trainees participate in the development of new knowledge, learn to evaluate research findings, and develop habits of enquiry as a continuing professional responsibility.

Directors and faculty should include an environment for CMFS trainees that includes the following types of activities:

- (a) Participation in clinical discussion, rounds and conferences in a manner that promotes a spirit of enquiry and scholarship. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge to practice
- (b) Participation in journal clubs and conferences
- (c) Participation in regional and national professional and scientific societies, particularly through presentations at the organisations' meetings and publications in peer-reviewed journals
- (d) Observation of the research process, particularly in projects funded following peer review and/or that result in publications or presentations at regional and national scientific meetings

In addition, CMFS trainees are required to:

- (a) Be involved in one major research project within the two years of training
- (b) Prepare and submit one formal, written analysis of the project and the trainee's contribution to the research
- (c) Submit one article on the research for publication
- (d) Deliver one presentation or poster on the research