

Syllabus for Special Interest Training in Cleft Lip and Palate Surgery

Revised January 2007

Introduction

Cleft Lip and Palate Surgery deals with the soft and hard tissue deformities of the commonest oro-facial congenital disorder. In collaboration with other medical and dental disciplines, and non-medical health professionals, the surgeon contributes to the correction of respiratory, hearing, feeding, speech and facial growth disorders and facial deformity. The diagnosis of some forms of clefting may be made by pre-natal ultrasound; thus the surgical care of cleft patients and their families may start before birth. It continues in many cases throughout childhood and adolescence and concludes only at the cessation of growth, and when the patient is satisfied with the result; or when further care is required only from a different discipline.

Special interest training in cleft lip and palate may commence only after the trainees have passed the inter-collegiate board examinations in the home specialty (see paragraph "Entry to training" below). Trainees will thus have proved abilities in the generality of their own specialty, including operative skills. They will also have acquired skills in diagnosis, investigation, non-operative management, and in communication with patients and colleagues. Specific skills involved in the multi-disciplinary delivery of health care to children will also have been developed.

Cleft Lip and Palate – Service Need

Nationwide there are 11 Cleft centres, although the majority of them work on more than one hub site, and all of them work in collaboration with district hospital and community health services.

There are 1000 to 1200 new patients with clefts born each year. Because of the effects on facial growth, dentition, hearing and speech, psychological effects and the associations with other congenital anomalies and genetic disorders, the great majority of the patients need follow-up at least until the facial skeleton has ceased growing (age 16 roughly), and many need continuing care in the first few years of adulthood. This equates to follow-up lists totalling 12,000 children or more, and a number of adults. Surgeons of three different disciplines are involved at any or all stages of care (Plastic, Oral & Maxillofacial, Otorhinolaryngology).

The current staffing arrangements in the Cleft centres vary according to how much the surgeons contribute to the generality of their "home" specialty. There are a very few exclusively "cleft" surgeons but they are the minority, and it does not look as if this will be the pattern in the near future. There are around 30 surgeons nationally operating on infant patients, and some more (OMFS) surgeons operating on older children and adults. There will therefore only be opportunities for a maximum of one or two trainees per year to develop the special interest.

Entry to training

Trainees wishing to pursue a special interest in Cleft Lip and Palate Surgery will be drawn from the following four specialties: Oral and Maxillo-Facial Surgery, Oto-rhino-laryngology (ENT), Paediatric Surgery and Plastic Surgery. Entry to Cleft Lip and Palate special interest training is by competitive interview. Candidates should either have passed the inter-collegiate board examination in their "home-specialty" or be within 6 months of taking it.

Length of training

The training is competency based but it is anticipated that the period of training will take more than one year but not exceed two years.

It is expected that trainees will have acquired some exposure to the management of cleft patients in a training setting in their home specialty, or in allowed periods “out of programme”. Experience obtained in non-training settings (e.g. “Cleft camps”) cannot be counted in a trainee’s log-book. However, it is clear that skills acquired in this manner can be assessed subsequently in the training setting.

All training in Cleft Lip and Palate Surgery is acknowledged by the four contributing specialties as counting towards the acquisition of the Certificate of Completion of Training (CCT).

The purpose of the syllabus is to guide trainees as to the skills they will need to develop, in a multi-disciplinary setting, to treat cleft children and assist their families.

The Curriculum for Cleft Lip and Palate Surgery

This is presented in two sections. The first outlines the key objectives and competencies to be achieved in the first six months of training and the second outlines the complete syllabus for the special interest training programme.

Section 1: Key objectives and competencies to be achieved in the first 6 months

A – Basic Science as applied to Cleft Surgery

	Category	Knowledge
1	Oro-facial embryology	Process and timing of facial, branchial arch and otological development Teratogenic effects
2	Genetics of cleft lip and palate and common cranio-facial syndromes	Genetics of cleft lip and palate, cleft syndromes, common cranio-facial syndromes, cleft syndromes with risk of disability in other systems
3	Pathogenesis of cleft lip and palate	Risk factors (medication and illness in pregnancy, family history, syndromes)
4	Basic knowledge of dental development	Out-line of normal development of deciduous dentition, mixed dentition phase, permanent dentition Common dental anomalies in clefts
5	Surgical anatomy	Skeleton and soft tissues of cleft and non-cleft patients, face, jaws, oral cavity, pharynx, upper airway
6	Normal physiology of infants and children	Cardio-respiratory physiology of newborn, energy requirements, growth, development milestones in the first year of life, IV fluid management, principles of resuscitation (APLS/PALS)
7	Normal oro-facial physiology	Feeding mechanisms, swallowing, relation of infant feeding and later speech mechanisms, nasal and Eustachian tube and middle ear physiology

Section 1: Key objectives and competencies to be achieved in the first 6 months

B – Patient/parent management

	Subject	Knowledge	Skills	Attitudes
1	History taking	Symptom patterns, pregnancy and family history	Elicit relevant history, elicit pregnancy history, elicit family history, take history in difficult circumstances (English not first language, parents with psychological or social problems, confrontational parents)	Consider the impact of cleft problems on family dynamics, parental apprehension, cultural problems
2	Clinical Examination	Patterns of clinical signs in clefting Signs of appropriate development	Appropriate explanation of procedure to parents, ability to examine without causing undue discomfort, elicit signs and use appropriate equipment	Be aware of patient dignity and comfort, be aware of needs of parents, be aware of the need for assistance in certain cases
3	Peri-operative management	Appropriate health for undergoing anaesthesia and operation, basic knowledge of anaesthesia for cleft infants, post-operative management, including introduction of feeding	Appropriate pre-operative examination, communication with anaesthetists, post-operative fluid management (intravenous and oral), use of prophylactic antibiotics	Address parents' concerns, reporting immediate outcome of operation, explaining normal range of post-operative condition
4	Surgical technique	Principles and techniques of primary cleft surgery of lip and palate, principles and techniques of secondary cleft surgery, including unilateral alveolar bone graft	Demonstrate appropriate knowledge of surgical anatomy, demonstrate appropriate knowledge of operation rationale, appropriate tissue handling, appropriate selection of instruments, appropriate selection of suture material	Attention to detail, interest in surgical economy and elegance
5	Speech investigations	Indications for speech investigations, methods and limitations, radiation protection	Assessing appropriateness of referral for speech investigations, assessing likely co-operation of patient, basic interpretation of results	Positive approach for parents, willingness to interpret results in simple terms for parents and older patients

Section 1: Key objectives and competencies to be achieved in the first 6 months

C – Multi-disciplinary management

	Subject	Knowledge	Skills	Attitudes
1	Team working ability	Understanding the expertise and role of other disciplines in cleft management	Effective communication with other disciplines, presentation of clinical cases	Concern to seek appropriate expertise and opinion from others, respect for other professionals' viewpoints
2	Communication	Methods and timing of involvement of other disciplines in cleft care	Appropriate involvement of other professionals	Awareness of needs of other disciplines to know patients' clinical course and concern to seek appropriate expertise and opinion from others
3	Empathy and sensitivity, ethics, consent	Range of patient and parent reaction to cleft deformity and its consequences, knowledge of ethical issues in cleft management	Identifying patients and parents concerns, take consent effectively for primary cleft operations, ability to discuss ethical issues and potential complications	Respect for parents' view, awareness of cultural differences
4	Antenatal diagnosis	Possibilities and limitations of antenatal diagnosis, likelihood of undiagnosed coexistent abnormalities	Ability to ascertain details of antenatal diagnosis, ability to prioritise information, ability to use simple language in discussing diagnoses	Awareness of Fetal Medicine views, awareness of parents concerns and attitudes, awareness of interaction of parents and professionals at counselling
5	Organisation and planning	Systematic approach to patient management	Starting with important tasks, improvement of efficiency, discussing prioritisation with colleagues in the team	Realistic expectation of tasks to be completed by self and by other team members, willingness to consult other opinions
6	Data and record management	Understand how data are recorded by different specialties in cleft management	Contribute accurate records, understand significance of data recorded by others	Attention to details, awareness of other professionals' written priorities
7	Audit/Evidence based medicine	Principles of EBM, important clinical trials in cleft management, ongoing audit in cleft management	Critically appraise evidence, competent use of paper and electronic data sources, ability to discuss evidence with parents and patients at appropriate level, ability to carry out audit project	Willing to use evidence to support patient care
8	Research	Place of research in aiding patient management, different methods of research and application of these	Involvement in departmental research project, using critical analysis skills to determine research questions	Awareness of the relevance of research, awareness of ethical aspects of research on children

Section 2: The Full Curriculum is outlined for the whole (2 year maximum) training; including key objectives and surgical competencies

The training interface group recognises that training in Cleft Lip and Palate Surgery should take place with the full facilities of a Paediatric environment. A trainee with a special interest in Cleft Lip and Palate Surgery must be able to demonstrate that he/she can function as part of a multi-disciplinary team. He/she must also demonstrate an appropriate relationship, directly or by correspondence, with all other relevant Paediatric Departments and Specialists, including: Fetal Medicine, Clinical Genetics, Nutrition and Dietetics, Anaesthetics, General Paediatrics, Community Paediatrics.

The training will cover the full range of primary and secondary cleft surgical procedures. Some of the related procedures that the advanced trainee (and later the consultant) will undertake will depend on their parent speciality (e.g. insertion of grommets, aspects of dental surgical management).

This outline of the full curriculum assumes the completion of the objectives and competencies of the first 6 months (Section 1).

A- Core Knowledge

	Subject	Knowledge	Skills	Attitudes
1	Embryology	Process and timing of facial, branchial arch and otological development Teratogenic effects	Ability to relate deformity/anomaly to embryology	Sensitivity to pregnancy events
2	Genetics, syndromes	Genetics of cleft lip and palate, cleft syndromes, common cranio-facial syndromes, cleft syndromes with risk of disability in other systems	Sensitive discussion of new findings, use of clinical genetics inputs	Sensitivity to parents of patients with genetic disorder, awareness of own limitations in genetics counselling
3	Growth and development in infant/child nutrition	Cardio-respiratory physiology of newborn, energy requirements, growth, development milestones in the first year of life, IV fluid management, principles of resuscitation (APLS/PALS) Feeding mechanisms, swallowing, relation of infant feeding and later speech mechanisms, nasal and Eustachian tube and middle ear physiology	Use of growth charts, recognising growth/development exceptions in syndromic patients, appropriate referral of developmental delay, learning difficulties, childhood disability	Willingness to liaise with other professionals for childhood feeding, nutrition and developmental difficulties

		Feeding pathology and solutions, cleft related feeding and diet management, development milestones after age 1		
4	Speech development	Feeding mechanisms, swallowing, relation of infant feeding and later speech mechanisms, nasal and Eustachian tube and middle ear physiology Range of normal speech development mechanisms at risk in cleft, effect of otitis media with effusion, speech skills at school entry	Effective liaison with Speech Therapists, effective liaison with ENT, appropriate interventions in pre-school child and school child	Awareness of parents' concerns, awareness of school requirements, contributions of other medical professionals, Community Paediatrics
5	Peri-operative management	Range of normal pre-operative parameters in children, significant dangers for anaesthetics and operation, principles of post-operative fluid management, antibiotic policy	Appropriate examination, liaison with Anaesthetics and Ward Staff, counselling of parents, post-operative fluids and feeding management, thresholds for Intensive Care interventions	Primacy of patient safety, understanding of parents' anxieties, willingness to communicate and to seek advice of other professionals

B- Antenatal management

	Knowledge	Skills	Attitudes
1	Possibilities and limitations of antenatal diagnosis, likelihood of undiagnosed coexistent abnormalities	Ability to ascertain details of antenatal diagnosis, ability to prioritise information, ability to use simple language in discussing diagnoses Ability to conduct ante-natal counselling, demonstrate appropriate liaison with Fetal Medicine Department	Awareness of Fetal Medicine views, awareness of parents concerns and attitudes, awareness of interaction of parents and professionals at counselling

C- Post natal management

	Subject	Knowledge	Skills	Attitudes
1	Airway	Airway in Pierre Robin, choanal and laryngeal anomalies	Airway management in collaboration with other professionals	Awareness of potential complications, willing to address parents' concerns
2	Feeding	Energy requirements and preferred methods of feeding in clefts, feeding problems in syndromic and premature babies	Liaise with other professionals on optimisation of cleft patients' feeding	Respect parents' options on feeding, respect parents' skills
3	Counselling	Understanding of techniques and priorities of informing parents of new patients	Counselling parents of new patients, ability to use simple language, ability to demonstrate priorities to parents	Respect parents' difficulties, awareness of cultural problems
4	Principles of pre-surgical orthodontics	Awareness of orthodontic preferences, awareness of situations indicating pre-surgical orthodontics	Appropriate discussion with Orthodontic colleagues	Awareness of other professionals' views

D- Primary surgery

	Subject	Knowledge	Skills	Attitudes
1	Primary lip repair	Surgical anatomy, pathological anatomy, techniques and timing, rationale of different sequences	Operative skill to repair the lip and appropriate other structures according to Unit protocol	Attention to detail, interest in surgical economy and elegance
2	Primary palate repair	Surgical anatomy, pathological anatomy, techniques and timing, rationale of different sequences	Operative skill to repair the palate and appropriate other structures according to Unit protocol	Attention to detail, interest in surgical economy and elegance

E- Secondary surgery

	Subject	Knowledge	Skills	Attitudes
1	Lip revision and fistula closure	Appropriate assessment of lip/fistula disability, awareness of patient perceptions	Ability to make appropriate lip revision, ability to make appropriate fistula closure	Sensitive attitude to patients and parents, correct attitude to surgical skills
2	Investigation	Indications for speech investigations,	Assessing appropriateness of	Positive approach for parents,

	Subject	Knowledge	Skills	Attitudes
	of velo-pharyngeal function	methods and limitations, radiation protection	referral for speech investigations, assessing likely co-operation of patient, basic interpretation of results Full interpretation of the results and formation of clinical plan	willingness to interpret results in simple terms for parents and older patients
3	Secondary palatal surgery, surgical management of VPI	Anatomy and physiology of palatal function and abnormalities after cleft closure, pathophysiology of VPI	Judgement on correct operations for secondary repair and control of VPI, skilful dissection of palate after previous repair, surgical skills in speech surgery, pharyngoplasty	Ability to balance risk of operation against benefits, correct approach to parents and patients
4	Alveolar bone graft	Preparation for bone grafting, correct assessment of evolution of secondary dentition, understanding of orthodontic investigations and treatment	Surgical skills in alveolar bone grafting, correct peri-operative management	Attention to detail, interest in surgical economy and neatness
5	Rhinoplasty	Anatomy and pathological anatomy of the cleft nose, understanding of corrective procedures	Demonstrate surgical skills in cleft rhinoplasty, management of cleft airway and nasal septum	Attention to detail, interest in surgical economy and neatness
6	Cleft related orthognathic surgery	Understanding of anatomy and pathological anatomy, understanding of planning, surgical principles in orthognathic surgery, understanding of orthognathic appliances and their usage, methods of distraction osteogenesis	Ability to perform orthognathic surgery under supervision	Correct attitude to the patient, ensuring patient understanding of what is to be achieved

F- Knowledge for multi-disciplinary team working

	Subject	Knowledge	Skills	Attitudes
1	Basic otology and hearing assessment	Interpretation of audiogram and tympanometry study, understanding the principles of brain stem evoked response audiometry	Ability to refer from appropriate history and audiogram	Awareness of speech and hearing relationship, timely liaison with ENT
2	Orthodontics	Understanding of orthodontic role in cleft care, planning ABG, planning	Appropriate liaison with Orthodontists	Awareness of Orthodontic input at different stages of cleft

	Subject	Knowledge	Skills	Attitudes
		orthognathic surgery, orthodontic measurement of mid-facial growth		management
3	Speech and language therapy	Speech and language therapy input into cleft management, tools for examining speech development, surgical and orthodontic assistance to speech therapy	Appropriate liaison with Speech and Language Therapists, partaking in policy formation for patients concerning speech management	Awareness of parents' and patients' sensitivities, awareness of social and educational difficulties
4	Paediatric and restorative dentistry	Understanding of the role of Paediatric Dentists, understanding basics of oral and dental hygiene, understanding principles of restorative dentistry	Appropriate referral to Paediatric and Restorative Dentist	Awareness of cleft patients' difficulties with oral hygiene
5	Child and adolescent psychology	Awareness of the role of Psychologists in childhood and adolescence, understanding of situations requiring psychology therapy	Care in selection of appropriate patients/families for referral	Sensitivity of parents to discussion of psychology, avoidance of appearing critical
6	Children with disabilities	Understanding the role of Community Paediatrics and associated professionals, special needs teaching, awareness of communication disorders	Appropriate liaison with community agencies, ability to write relevant reports	Awareness of parental concerns and difficulties
7	Ethical issues	Understanding of consent in older children and adolescents, Gillick competence, ethics of new procedures	Ability to take consent from older children and adolescents, ability to communicate medical ethics to parents and older children	Sensitivity to family preferences and sensitivity to family fears
8	General paediatric issues	Understanding resuscitation of children Understanding issues of non-accidental injury and child protection	Maintenance of APLS/PALS skills Ability to recognise signs of NAI, risk factors, family pathology, awareness of NAI referral pathways to child protection	Willingness to maintain skills, awareness of risk factors for NAI, sensitivity to child's needs
9	Management of residual cleft deformity in adults	Understanding of situation at cessation of facial growth, basic understanding of nasal septal deformity, understanding of adult self-image problems, understanding of adult communication problems	Ability to assemble appropriate professionals to solve adults' concerns	Sensitivity to adult problems, awareness of psychological difficulties