

PAEDIATRIC OTORHINOLARYNGOLOGY HEAD & NECK SURGERY

Francis Lannigan

TOPICS COVERED IN THIS MODULE

- Embryology; developmental anatomy; paediatric infections of the head and neck
- Paediatric otology; rhinology; neck; oral cavity and pharynx; laryngology and bronchoesphagology

RATIONALE AND COMPETENCIES

It is expected that Trainees will acquire knowledge and clinical experience of all aspects and methods of clinical management of a child in relation to disorders encountered in Paediatric Otorhinolaryngology Head and Neck Surgery. An Otolaryngology, Head and Neck surgeon is required to have a thorough understanding of normal anatomy and physiology, as well as pathophysiology, investigations, differential diagnosis and surgical and non-surgical management of such disorders. It is important that trainees and surgeons maintain a current understanding of the most appropriate time and manner of intervention.

The graduating trainee will be able to:

- Perform a focused and relevant examination in a manner which is appropriate to the age, development and needs of the paediatric patient
- Arrive at a well-reasoned diagnosis(es) based on clinical findings
- Competently manage all common head and neck conditions in paediatric patients
- Identify and comply with ethical and consent issues in Paediatric otorhinolaryngology
- Communicate clearly to paediatric patients and their family (or carers) about procedures, potentialities, and risks associated with the patient's presenting condition and treatment options
- Provide information in a way that enables informed consent
- Appropriately adjust the way they communicate with patients (and their family or carers) to accommodate cultural and linguistic differences including those of the deaf and signing communities
- Deal with parents' concerns in a timely and professional manner
- Employ a consultative approach with colleagues and other professionals to optimise the care of children with multiple disabilities
- Employ a critically reflective approach to their own professional performance
- Act as an advocate for the sick child

MODULE CONTENT AND OBJECTIVES

There are two components in this module:

1. Basic Sciences
2. Clinical Knowledge, Skills and Judgement

1. Basic Sciences

Embryology

- Describe human embryology as it relates to developmental/congenital anomalies encountered in clinical practice including:
 - Inner, middle, and external ear
 - Nose, paranasal sinuses and face
 - Oral cavity, pharynx, and upper aerodigestive tract,
 - Trachea, bronchi and oesophagus
 - Skull base and facial skeleton
 - Neck and related structures

General Considerations and Developmental Anatomy

- Identify clinical importance of anatomical differences between neonates, infants, children, and adolescents. Including but not exclusive to;
 - Facial nerve and skull base,
 - Nose and paranasal sinuses (including aesthetics)
 - Mid-face and oral cavity (including dentition)
 - Upper aero-digestive tract
 - Discuss the interaction between growth and local and/or systemic factors and their impact on development.

Clinical Genetics

- Describe role of genetics as it relates to syndromes in Otorhinolaryngology Head and Neck Surgery and the more common cranio-facial anomalies, malformations and syndromes

Paediatric Otology – including congenital anomalies of the External and Middle Ears

- Describe in detail the histology, physiology and pathology of:
 - Disorders of the external ear
 - Otagia, otorrhoea and hearing loss
 - Eustachian tube dysfunction; otitis media with effusion; acute otitis media; atelectasis; mastoiditis; chronic suppurative otitis media.
 - Intratemporal complications of otitis media; intra-cranial complications of otitis media and mastoiditis
 - Diseases of the inner ear and sensorineural hearing loss
 - Trauma of the ear and temporal bone
 - Tinnitus and vertigo in children
 - Tumours of the ear and temporal bone
- Discuss the principles of rehabilitation of sensorineural hearing loss including hearing aids, cochlear implants, bone anchored hearing aids.

- Describe and interpret radiology of the ear and temporal bone
- Draft a management approach to the different pathologic processes

Paediatric Rhinology

- Describe in detail the histology, physiology and pathology of:
 - Congenital malformations of the nose and paranasal sinuses
 - Paediatric acute and chronic rhinitis
 - Nasal obstruction and rhinorrhoea
 - Epistaxis
 - Orbital complications
 - Paediatric sinusitis
 - Nasal and facial trauma
 - Tumours of the nose, paranasal sinuses and nasopharynx.

Oral Cavity and Pharynx

- Describe in detail the histology, physiology and pathology of:
 - Congenital malformations of the mouth and pharynx (including cleft palate)
 - Inflammatory disease of the oral cavity and pharynx
 - Adenotonsillar disease
 - Obstructive sleep disorders
 - Management of drooling
 - Paediatric dysphagia
 - Miscellaneous inflammatory disease of the mouth and pharynx
 - Paediatric salivary disease
 - Velopharyngeal insufficiency

Laryngology and Bronchoesphagology

- Describe in detail the histology, physiology and pathology of:
 - Congenital anomalies of the larynx, trachea and bronchi
 - Stridor, airway obstruction (neonatal and paediatric)
 - Dysphonia
 - Inflammatory disease of the upper airway
 - Laryngeal stenosis
 - Paediatric tracheostomy
 - Paediatric gastro-oesophageal reflux
 - Recurrent respiratory papillomatosis
 - Tumours of the larynx, trachea and bronchi
 - Laryngeal Trauma

The Neck

- Describe in detail the histology, physiology and pathology of:
 - Congenital neck masses
 - Developmental anomalies of the neck
 - Paediatric cervical lymphadenopathy
 - Recognise and describe /differentiate between benign and malignant neoplasms of the head and neck

Infections

- Describe in detail the histology, physiology & pathology of:
 - Paediatric neck space infections
 - Infectious diseases as they relate to Paediatric Otolaryngology Head and Neck Surgery

General Topics

- Discuss management of foreign bodies in Paediatric otorhinolaryngology
- Identify and analyse risks and complications in relation to Paediatric Anaesthesia & ORL-HNS
- Assess the use of laser surgery in Paediatric otorhinolaryngology.
- Discuss the incidence, and collaborative management, of communication and language disorders in relation to paediatric otorhinolaryngology
- Discuss the collaborative management of drooling and the disorders of swallowing in relation to paediatric ORL-HNS
- Discuss ORL-HNS manifestations of the more common syndromes of the paediatric setting (including but not exclusive to: airway compromise, congenital swallowing disorders, cleft palate, microtia)

2. Clinical Knowledge, Skills and Judgement

- Recognise the symptoms of most common disorders of the ear nose and throat, and related systems and differentiate those amenable to surgical treatment
- Accurately diagnose and manage all common paediatric head and neck conditions
- Efficiently and effectively take a history and perform an examination of the patient
- Order and accurately interpret diagnostic tests
- Formulate a well reasoned differential diagnosis based on investigative findings
- Communicate effectively with patients and their family (or carers) about treatment options and potential risks
- Manage patients in ways that demonstrate sensitivity to their physical and developmental as well as social, cultural, psychological and communication needs.
- Demonstrate proficiency in effectively and safely carrying out the following surgical procedures as related to the paediatric patient:
 - Rhinoplasty +/- Septoplasty

- Laryngeal Papillomatosis – removal of by any means
- Vocal Cord Lesion Resection by any means
- Flexible nasendoscopy
- Oesophagoscopy +/- foreign body removal +/- dilatation
- Bronchoscopy and foreign body removal
- Bronchoscopy +/- biopsy
- Microlaryngoscopy +/- biopsy
- Oesophagoscopy +/- biopsy
- Tonsillar/adenoid haemorrhage control
- Tonsilectomy – quinsy
- Neck Abscess draining
- Neck Cyst- Sinus – Fistula excision
- Tracheostomy
- Paediatric sinus surgery
- Nose EUA +/- nasal packing
- Nose foreign removal
- Surgery of acute/chronic ear disease
- Discuss the following procedures:
 - Submandibular duct transposition
 - Parapharyngeal tumour excision
 - Choanal Atresia – repair of
 - Complication of paediatric sinonasal disease
 - Tracheo-bronchoscopic dilatation
 - Cricoid split
 - Laryngo- tracheoplasty
 - Crico-tracheal resection
 - Tracheoplasty
 - Cochlear implant
 - Botulinum Toxin in paediatric ORL- HNS
 - Cartilage graft harvesting
 - Otoplasty
- Effectively manage complications of operative procedures and the underlying disease process
- Recognise and manage paediatric Otorhinolaryngologic manifestations of HIV infection
- Identify complications associated with the management of children with multiple disabilities and adjust treatment accordingly
- Develop a care plan, in collaboration with members of an interdisciplinary team, for a paediatric patient with multiple disabilities
- Airway management/anaesthesia as it pertains to the paediatric patient.

SUGGESTED READING

- Scott Brown's Otolaryngology, Head and Neck Surgery. (Paediatric Section)
- Cummings, C. Otolaryngology, Head and Neck Surgery. (Paediatric Section)
- Bluestone, Stool, Kenna, Paediatric Otolaryngology
- Bluestone & Klein, Otitis Media in Infants and Children.
- Clinics of North America- <http://info.med.yale.edu/library/sir/openjournals/clinicsna.html>

JOURNALS

Relevant current Journals

DELIVERY OF THIS MODULE

- 6 months paediatric attachment
- Local training sessions
- Skills Courses
- Resource Texts
- On-line
- Conferences

ASSESSMENT METHODS

- Logbooks
- Fellowship Examination
- End of Term Assessment