CURRICULUM FOR LARYNGOLOGY
Anatomy

LARYNX

- Skeletal Framework
- Cartilages
  - Thyroid
  - Cricoid
  - Epiglottis
  - Arytenoids
  - Cuneiform
  - Corniculate
  - Ossification of laryngeal cartilages
- Cricothyroid & Crico arytenoid joints
- Ligaments – Intrinsic and Extrinsic
- Muscles
  - Posterior crico arytenoid
  - Lateral crico arytenoid
  - Thyro arytenoid
  - Vocalis
  - Inter arytenoid
- Blood Supply
- Lymphatics
- Nerve Supply
  - Recurrent Laryngeal Nerve
  - Superior Laryngeal Nerve
  - Pre Epiglottic space
  - Paraglottic space
  - Epithelial Lining
- Micro Anatomy of Vocal Folds
  - Reinke’s space
  - Vocal Ligament
- Development of Larynx
- Comparative Anatomy of Larynx

TRACHEA & BRONCHI

- Cartilagenous rings
- Dimensions
- Trachealis muscle
- Epithelial lining
- Blood supply
- Lymphatic drainage
- Nerve supply
- Bronchi
- Broncho pulmonary segments
- Mediastinum
  - Divisions of mediastinum
  - Superior mediasinum
- Pharynx
  - Divisions
- Nasopharynx
  - Adenoids
  - Superior constrictor
- Oropharynx
  - Palatine tonsils
  - Lingual tonsils
  - Soft Palate
  - Muscles of Soft Palate
  - Blood supply & Lymphatics
  - Nerve supply
  - Middle constrictor
- Laryngopharynx
  - Pyriform fossae
  - Post cricoid region
  - Cricopharynx
  - Inferior constrictor – Thyropharyngeus & Cricopharyngeus
- Oesophagus
  - Structure
  - Dimensions
  - Epithelium
  - Muscles
  - Blood supply & Lymphatic drainage
  - Nerve supply
- Oral Cavity
  - Subsites
■ Tongue
  • Muscles
  • Blood supply
  • Lymphatics
  • Nerve supply

■ Muscles of Mastication
  • Temporalis
  • Masseter
  • Lateral Pterygoid
  • Medial Pterygoid
  • Nerve supply
  • Orbicularis oris
  • Buccinator

■ Salivary glands
  • Parotid
  • Submandibular salivary gland
  • Sublingual Salivary gland
  • Minor Salivary Glands

■ Neck
  • Thyroid & Parathyroid glands
  • Triangles of Neck
  • Mandible
  • Hyoid
  • Cervical spine

Physiology

e ■ Physiology of Voice Production
  Inhalation and Exhalation
  • Different Types of Breathing

■ Phonation
  • Mucosal waves
  • Fundamental and overtones
  • Control of pitch
  • Pitch range
  • Vocal registers
  • Control of loudness

■ Resonance
  • Vocal tract

■ Articulation
  • Vowels
  • Consonants

■ Physiology of Deglutition
  • Oral Preparatory Phase
  • Oral Phase
  • Pharyngeal Phase
  • Oesophageal phase

■ Physiology of Breathing
  • Air flow through respiratory tract

Biochemistry

■ Acid Base Balance
■ Respiratory Acidosis & Alkalosis
■ Hyper and Hypo calcemia
Pharmacology

- Proton Pump Inhibitors
- Prokinetics
- Antacids
- H2 Receptor Antagonists
- Botulinum Toxin
- Interferons
- Cidofovir
- Muscle Relaxants

Microbiology

- Streptococci
- Staphylococci
- Diphtheria bacillus
- Gram negative bacilli
- Hepatitis B
- Hepatitis C
- HIV
- Sterilisation of Endoscopes

Pathology

- Inflammation & Repair
- Dysplasia
- Leukoplakia/Erythroplakia
- Flexible Laryngoscopy
- Rigid Laryngoscopy
- Stroboscopy
- Videokymography
- High Speed Photography
- Electro Glotto Graphy (EGG)
- Optical Coherence Tomography (OCG)
- Trans Nasal Esophagoscopy (TNE)
- Flexible Endoscopic Evaluation of Swallowing (FEES)
- Laryngeal Sensory Testing (LST)
- Oesophageal Manometry
- Oesophageal pH metry
- Video Fluoro Scopy (VFS)
- CT/MRI/PET scan
- Voice Analysis
- Voice Disorders – Aetiolgy, Symptoms & Signs and Management
  - Vocal Nodules, Polyp, Cyst
  - Vocal process Granuloma
  - Sulcus, Web
  - Recurrent Respiratory Papillomatosis
  - Microlaryngeal Surgery
  - Chemotherapy
  - Endoscopic Laser Cordectomy
  - Total Laryngectomy
  - Near Total Laryngectomy
• Supra glottic Partial Laryngectomy
• Vertical Partial Laryngectomy
• Supra Cricoid Partial Laryngectomy

■ Neurolaryngology
• RLN Palsy – Unilateral/Bilateral
• SLN Palsy – Unilateral/Bilateral
• Spasmodic Dysphonia - Adductor & Abductor
• Laryngeal Tremor
• Laryngeal EMG
• Botulinum Toxin Injection to Laryngeal Muscles

■ Muscle Tension Dysphonia
• Classification
• Diagnosis

• Management

■ Laryngeal Framework Surgery
• Classification
• Indications
• Technique
• Complications

■ Professional Voice Care
• Vocology
• Voice Training

■ Resonance Disorders
• Cleft Palate Voice
• Diagnosis
• Management

Swallowing Disorders

■ Aetiopathology
■ Symptoms and signs
■ Clinical Evaluation
■ Investigations
■ Swallowing Therapy
■ Botulinum Toxin Injection for Cricopharyngeal Dysfunction
■ Surgical Correction of Swallowing Disorders

■ Enteral and Parenteral Feeding
■ PEG (Percutaneous Endoscopic Gastrostomy)
■ Nutrition
■ Dietetics
■ Laryngo tracheal cleft
■ Tracheo oesophageal fistula

Airway Tract Disorders

■ Congenital Laryngeal Stridor
■ Laryngeal Cysts
■ Laryngoele
■ Laryngeal stenosis
■ Supraglottic
■ Glottic
■ Subglottic
■ Transglottic
■ Tracheal Stenosis

■ Tracheomalacia
■ Tracheostomy
■ Conventional
■ Percutaneous
■ Laryngotomy
Technology in Laryngology

- Laser
  - Carbon Dioxide
  - KTP
  - ND YAG
  - Diode

- Coblator
- Micro Debrider
- Radio Frequency
- Robotic surgery in Laryngology
- Laryngo tracheal transplantation

Training

- Duration 1 year

Outpatient Procedures

- Flexible Laryngoscopy & tracheoscopy*
- Stroboscopy*
- Endoscopic assessment of velopharyngeal Sphincter
- Flexible Endoscopic Evaluation of Swallowing (FEES)*
  Laryngeal sensory Testing
- Trans Nasal Esophagoscopy (TNE)*
- Laryngeal EMG & Botulinum Toxin Injection*
  Percutaneous Injection Laryngoplasty
- Video Fluoroscopic Assessment of Swallowing*

Surgical Procedures

- Microlaryngeal Surgery*
  - Polyp
  - Cysts
  - Papilloma
  - Carcinoma

- Laryngeal Framework Surgery*

- Injection Laryngoplasty*

- Endoscopic Laser Surgery*
  - Glottic web surgery
  - Total Laryngectomy
  - Partial Laryngectomy
  - Laryngo Pharyngo Esophagectomy /Gastric pull up
• TEP
• Laryngeal Cleft Repair
• TOF Repair
• Cricopharyngeal Myotomy/Myectomy
• Laryngeal Closure
• Epiglottic Oversew
• Epiglottopexy

■ Tracheostomy*
  • Percutaneous Tracheostomy
  • Cricothyrotomy (Laryngotomy)
  • Excision Laryngocele
  • Cleft palate repair
  • Pharyngeal Flap repair
  • Sphincter Pharyngoplasty
  • Posterior Pharyngeal Wall Augmentation
  • Hyoidopexy
  • Hypopharyngoplasty
  • Ary Epiglottoplasty

■ Suture Cordopexy*

■ Kashima’s operation *
  • Endoscopic Arytenoidectomy
  • Woodman’s operation
  • Anterior Cricoid Split
  • Posterior Cricoid Split
  • Partial Crico Tracheal Resection & Thyrotracheal Anastomosis
  • Extended PCTR
  • Tracheal Resection & Anastomosis
  • Laryngeal Reinnervation – Selective (bilateral) & Non Selective (Unilateral)

■ Thyroidectomy*
  • Endoscopic Thyroidectomy
  • Partidectomy
  • Submandibular Sialadenectomy
  • Submandibular Duct Relocation
  • Sialendoscopy
  • UVPP
  • Midline Tongue Base Resection
  • Zeta palatopharyngoplasty

■ Basics of Voice Therapy*

■ Basics of Swallowing Therapy*
  • Basics of Professional Voice Care

*Procedures Fellow will be trained to do independently
Rest Fellow will assist/observe
Laryngeal Dissection Lab

Fellow can use the Laryngeal Dissection Lab to do all external & endoscopic laryngotracheal surgical procedures on Goat Larynx

Text Books Suggested (List Incomplete)

- Larynx
  - Marvin P Fried
- Larynx
  - Robert Ossoff
- Care of Professional Voice
  - Robert Sataloff
- Clinical evaluation of Swallowing Disorders
  - Thomas Murry
- Trans Nasal Esophagoscopy
  - Gregory Postma
- Surgery of the Trachea
  - Hermis Grillo
- Phonosurgery
  - Ford & Bless
- Stroboscopy
  - Hirano & Bless
- Phonosurgery
  - Ishhikki
- Vocal Cord Paralysis
  - Lucian Sulica

Fellow can use the one of the best laryngology library
(with over 100 books in laryngology and allied specialties) in the country round the clock

Journals

- International Journal of Laryngology & Phonosurgery
- Journal of Voice & Laryngology
- Laryngoscope
- Journal of Otology and Laryngology
- European Journal of Phoniatriccs & Logopedics

Thesis

Fellow needs to do a thesis on the given topic during the course. Based on the thesis, one paper has to be published in the International Journal of Phonosurgery & Laryngology

Examination

There will be a sessional examination at the end of the first semester and a final examination at the end of the course. The final examination will have both theory and practical examinations, conducted by two internal and two external examiners. Certificate of Fellowship will be issued only after passing the examination.