

Curriculum



Diploma in Laryngology and Otology (DLO)

**Bangabandhu Sheikh Mujib Medical University
Shahbag, Dhaka.**

CONTENTS

1.	Name of the course	3
2.	Duration	3
3.	Date of commencement	3
4.	Aims and objectives	3
5.	Eligibility for admission	7
6.	Course Content	7
7.	Training Rotations	17
8.	Summative Examination	17
9.	Formative assessment	19
10.	Core clinical Syllabus	19
11.	Procedural skill-detailed in log book	23
12.	Writing case-note/Operation note	23
13.	Eligibility for appearing in the final examination	24
14.	Diploma trainee's Block progress report	26

1. Name of the course : **Diploma in Laryngology and Otology (DLO)**

2. Duration : 02 (Two) years

3. Date of commencement : July of each year.

4. Aims and objective :

The goals of this course in ENT are to produce a competent Otolaryngologist who:

- Recognizes the health needs of ENT patients and carries out professional obligations in keeping with principles of National Health Policy and professional ethics.
- Has the acquired competencies pertaining to ENT that are required to be practiced in the community and that all levels of health care system.
- Has acquired skills in effectively communicating with the patient, family and community.
- Is aware of the contemporary advances and developments in medical science as related to Otolaryngology.

- Is oriented to principles of research methodology.
- Has acquired skills in educating medical and paramedical professionals.

Objectives

At the end of this course in ENT, the student will be able to:

- Practice the specialty of Otolaryngology in keeping with the principles of professional ethics.
- Recognize the key importance of deafness control programme in the context of health priority of the country.
- Take detailed history; perform physical and local ENT examination including Indirect Laryngoscopy, Anterior, Posterior rhinoscopy, otoscopy, audiometric assessment and interpretation.
- Perform relevant investigative and therapeutic procedures for the ENT patient.

- Interpret important imaging and laboratory results.
- Diagnose ENT problems based on the analysis of history, physical examination and investigative work up.
- Plan and deliver comprehensive treatment for ENT pathologies.
- Plan and advice measures for the prevention of deafness, allergies, head neck cancers and to plan rehabilitation accordingly.
- Manage ENT emergencies efficiently.
- Demonstrate skills in documentations of case details and of morbidity and mortality data relevant to the assigned situation.
- Demonstrate empathy and human approach towards patients and their families and respect their emotions.
- Demonstrate communicate skills in explaining management and prognosis, providing counseling and giving health education messages to patients and their families.

- Develop skills as self directed learner, recognize continuing educational needs, use appropriate resources and critically analyze relevant published literature in order to practice, evidence, based otolaryngology.
- Demonstrate competence in basic concepts of research methodology and epidemiology.
- Facilitate learning of medical/nursing students, practicing physicians, para-medical health workers and other providers as a teacher trainer.
- Play the assigned role in the implementation of national deafness programmes, effectively and responsibly.
- Organize and supervise the desired managerial and leadership skills.
- Function as a productive member of a team engaged in health care, research and education.

5. Eligibility for admission

MBBS or its equivalent degree recognized by B.M.D.C.

No need for pre- requisite training

Completion of a period of 2 (Two) years after graduation (MBBS / equivalent degree).

Maximum 45 years of age.

6. Course content:

Paper I: Basic Science

Group-A

Ear

- * Anatomy, embryology and ultrastructure of the human ear.
- * Physiology of hearing.
- * Assessment of hearing.
- * Hearing loss.
- * Physiology of equilibrium and its application to the dizzy patient.
- * Assessment of vestibular function
- * Eustachian tube anatomy and physiology
- * Facial nerve

Audiology

- * Audiometry and masking.
- * Tympanometry
- * BERA, OAE, ASSR, VNG

Skull base

- * Surgical anatomy
- * Clinical neuroanatomy

Group-B

Nose and Paranasal Sinuses

- * Anatomy and Embryology.
- * Physiology.
- * Pathophysiology of the ears and nasal sinuses in flight and diving.
- * Nasal Septum.
- * Evaluation of the nasal airway (Rhinomanometry)

Oral cavity

- * The embryology /anatomy of mouth and related faciomaxillary structure
- * Embryology/anatomy and physiology of salivary glands

Pharynx and oesophagus

- * Anatomy, embryogenesis and physiology of pharynx
- * Anatomy and embryogenesis of oesophagus and its relations
- * Physiology of deglutition.

Larynx and tracheobronchial tree

- * Anatomy and embryology
- * Physiology of respiration
- * Physiology of phonation

Neck

- * Facial spaces of head and neck
- * Lymph nodes of head and neck
- * Thyroid gland

Imaging and radiology

Image taking and interpretation of ultrasound, angiography, X-rays, CT, MRI, barium studies, contrast studies etc with respect to ENT.

Paper II : Ear & Nose

Group-A

EAR

Etiology and management of inflammatory condition of external and middle ear

- * Pathology of cochlea
- * Pathology of vestibular system
- * Diseases of external ear
- * Diseases of Eustachian tube
- * Ear trauma
- * Management of CSOM and cholesteatoma.
- * Complications of CSOM and their management
- * Otosclerosis etiopathogenesis and management
- * Meniere's disease etiopathogenesis and management
- * Sensorineural hearing loss causes and management
- * Vertigo
- * Otolgia causes and management
- * Tinnitus causes and management

- * Ototoxicity
- * Acoustic neuroma
- * Epithelial tumours of EAC and middle ear
- * Glomous tumour of ear
- * Facial nerve disorder, etiopathogenesis and management
- * Cochlear implants
- * Rehabilitation of hearing impaired
- * Reconstruction of ear

Group-B

NOSE AND PNS

- * Conditions of external nose
- * Abnormalities of smell
- * Mechanism and treatment of allergic rhinitis
- * Food allergy and rhinitis
- * Infective rhinitis and sinusitis
- * Complications of sinusitis
- * Intrinsic rhinitis
- * Nasal polyps
- * CSF rhinorrhoea

- * Fracture of facial skeleton
- * Rhinoplasty
- * Epistaxis
- * Snoring and sleep apnea
- * Non healing granulomas of nose
- * Facial pain and headache
- * Aspects of dental surgery for ENT
- * Trans sphenoidal hypophysectomy
- * The orbit with relation with nose
- * Cysts, granulomas and tumours of jaws, nose and sinuses
- * Deviated septum and septoplasty
- * Neoplasm of nasal cavity
- * Neoplasm of PNS

Principles of General Surgery

Microbiology as related to ENT

Intensive care in ENT patients

Anesthesia in ENT

Wound healing

Biomaterials used in ENT

Medical negligence in otolaryngology

Principle of chemotherapy

Principle of radiotherapy

Principle and use of nuclear medicine

Principle of laser surgery

Paper-III : THROAT & HEAD-NECK

Group-A

ORAL CAVITY AND SALIVARY GLAND

- * Common disorders of oral cavity
- * Tumors of oral cavity
- * Non neoplastic disorder of oral cavity
- * Neoplasm of salivary gland –
 1. benign
 2. malignant

PHARYNX AND ESOPHAGUS

- * Acute and chronic infection of pharynx
- * Neurological affective of pharynx
- * Pharyngeal pouches
- * Abscesses in relation to the pharynx
- * Angiofibroma

- * Nasopharyngeal malignancy
- * Tumours of oropharynx and lymphomas of head and neck
- * Tumours of hypopharynx
- * The oesophagus in otolaryngology.
- * Dysphagia
- * Foreign bodies of food passage

LARYNX

- * Acute and chronic laryngitis
- * Disorders of voice
- * Management of obstructive airway and tracheostomy
- * Trauma and stenosis of larynx
- * Neurological affections of larynx
- * Tumours of larynx (benign & malignant)
- * Congenital lesion of larynx and stridor

Group-B

NECK/FACE

- * Benign disease of neck
- * Metastatic neck disease
- * The thyroid gland benign / malignant disorders
- * Tumours of infratemporal fossa and parapharyngeal space
- * Facial plastic surgery
- * Plastic and reconstructive surgery of head and neck

PAEDIATRICS OTOLARYNGOLOGY

- * Genetic factors and deafness
- * Causes of deafness
- * Testing hearing in children
- * Screening and surveillance for hearing impairment in pre- school children
- * Otitis media with effusion
- * Acute and chronic suppurative otitis media in children
- * Surgery of congenital absence of external / middle ear

- * Management of hearing impaired child.
- * Cochlear implantation in children
- * Vestibular disorder in children
- * Speech and language development
- * Foreign body in ear and nose
- * Congenital anomalies in nose
- * Craniofacial anomalies
- * Nasal obstruction, rhinorrhoea in infants and children
- * Tonsils and adenoids
- * Dental development, orthodontics, cleft lip and palate
- * Sleep apnea
- * Acute laryngeal infections
- * Home care of tracheostomised children
- * Tumors of head and neck in children
- * Branchial cleft anomalies thyroglossal cyst and fistula.
- * The drooling child
- * Recurrent respiratory papillomatosis
- * Pediatrics anesthesia

7. Training rotations: Nil at present.

8. Summative Examination:

- 8.1. Summative or exit examination will be in June-July, the date determined by the university.
- 8.2. Three papers on written examination: In each paper there will be four questions. Two of them will be long Essay type and two will be of SAQ, five in each question.
- 8.3. Clinical –practical: There will be one long case and minimum three short cases. In long case 30 minutes will be for history taking and examination and 15 minutes for crossing by 2 examiners. Fifteen minutes will be allotted for short cases. Two examiners will assess short cases of opposite group of students. There will be 10 OSCE stations.
- 8.4. Oral: There will be two boards: In each board there will be two examiners. Fifteen minutes for each board equally divided into two examiners. There will be 4 examiners, Associate Professor

and above. 50% of the examiners will be external.

- 8.5. To pass, the candidate have to secure at least 60% marks in each of the three components of written (three paper combindly), clinical – practical and oral examination.

	Name of Examination	No. of examination papers	Course Contents/Subjects of papers	Marks allotted	Pass Marks
A.	Written	Paper-I	Basic Science	100	60% (180)
		Paper-II	Disease of Ear-Nose & Basic principles of surgery	100	
		Paper-III	Throat, Head & Neck, Pediatric Otolaryngology.	100	
B.	Oral			100	60 % (60)
C.	Clinical Practical	Clinical		100	60% (120)
		OSCE		100	
			Total Marks	600	360

9. Formative assessment:

There will formative assessment at the end of each six months of training by the supervisor/department or by the institute. Three satisfactory certificates will be pre-requesting along with others for appearing in the final exit examination. The last six month will end with summative examination.

10. Core clinical Syllabus

10.1 Anatomy

i) Ear: (a) Development of ear (b) Development of temporal bone (c)

Anatomy of ear (d) Anatomical principles of temporal bone.

ii) Nose and paranasal sinuses : (a) Development of nose (b) Development of paranasal sinuses (c) Anatomy of nose and paranasal sinuses (d) Radiographic examination of nose and paranasal sinuses (e) Anatomical principles of nose and sinus surgery.

iii) Mouth and pharynx: (a) Development of Mouth and pharynx (b)

Anatomy of Mouth and pharynx salivary glands
(c) Radiographic examination of teeth, jaws
and pharynx (d) Anatomical principles of
Pharyngeal Surgery.

iv) Oesophagus: (a) Development of
Oesophagus (b) Anatomy of Oesophagus.

v) Larynx : (a) Development of Larynx (b)
Anatomy of Larynx (c) Radiographic
examination of Larynx (d) Anatomical principles
of laryngeal Surgery.

vi) Trachea and tracheobronchial tree: (a)
Development of Trachea and bronchi (b)
Anatomy of Trachea (c) Endoscopic anatomy of
tracheobronchial tree (d) Laryngotomy and
Tracheostomy

vii) Neurology of Ear, Nose, Throat: Applied
anatomy of the nervous system-(a) The
cerebrum (b) The Brainstem and cranial nerves
(c) The Cerebellum (d) The meninges (e) The
cerebrospinal fluid (f) Arterial Blood

supply of the brain and meninges (g) The venous Drainage of the Brain and other cranial contents (h) Pituitary gland.

10.2 Physiology

i) Ear: (a) Physical properties of sound (b) Physiology of hearing (c)

Functional examination of hearing (d) Hearing Aids (e) Physiology of the vestibular labyrinth (f) Functional examination of the labyrinth.

ii) Nose and paranasal sinuses: (a) Nasal respiration (b) Protective functions of the nose (c) Smell (d) Functions of the paranasal sinuses.

iii) Mouth and pharynx: (a) Functions of the subepithelial lymphoid tissue (b) Salivation (c) Deglutition (d) Respiration speech and taste.

iv) Oesophagus: (a) Applied Physiology of the Oesophagus.

v) Larynx: (a) Functions of the Larynx (b) Mechanics of Laryngeal movements.

vi) Trachea and tracheobronchial tree: (a) Functions of the Trachea and tracheobronchi.

vii) Neurology of Ear, Nose, Throat: Applied Physiology of the nervous system-(a) The cerebrum (b) The Brainstem and cranial nerves (c) The Cerebellum (d) The meninges (e) The cerebrospinal fluid (f) Arterial Blood supply of the brain and meninges (g) The venous Drainage of the Brain and other cranial contents (h) Pituitary gland.

10.3 Pathology

10.4 Microbiology

10.5 Pharmacology :

Pharmacology in relation to ENT practice-

i) Chemotherapy and Chemotherapeutic Agents

ii) Corticotropins, adrenal steroids and antagonists.

iii) Hypnotics, sedatives.

iv) Analgesics.

- vi) Antitussives, expectorants, antiemetics.
- vii) Hypotensive and vasodilators.
- viii) Sympathomimetics.
- ix) Histamins and antihistamins.
- x) Vit-K, anticoagulants, fibrinolysins.
- xi) Pituitary and sex hormones.
- xii) Thyroid antithyroid drugs.
- xiii) Iron, folic acid and vit-B 12.
- xiv) Vitamin A, B, C, D and calcium.
- xv) Chemotherapy of malignant diseases.
- Xvi) General anaesthetics, neuromuscular blocking agents, local anaesthetics.

10.6. Diseases

11. Procedural skill-detailed in log book

12. Writing case-note/Operation note:

Each student will write case note (History, Examination, Treatment,

Investigation and follow up)/ Operation note.

Total No. 10

13. Eligibility for appearing in the final examination:

- a) Two years in-course training
- b) 3 satisfactory 6 monthly report of formative assessment
- c) 75% attendance in lectures
- d) Satisfactorily completed log book including 10 case notes

Suggested Books & Journals

Books

- Scott Brown's Otolaryngology-Head & Neck Surgery
- A synopsis of Otolaryngology
- Head and Neck Surgery- PM Stell & AGD Maran
- A short practice of surgery -Baily's & Love
- Review of Medical Physiology-LANGE
- Pathological basis of disease-ROBBINS & COTRAN
- Review of Medical Physiology—William F. Ganong
- Text book of Medical Physiology-Guyton & Hall
- Clinical Pharmacology-P.N Bennett & M.J. Brown

Journals

Bangladesh Journal of Otorhinolaryngology

Journal of Laryngology & Otolaryngology

Archives Otolaryngology



Diploma trainee's Block progress report

Name of the trainee : Session :
Name of the course : Reg. No:
Name of the institute :
Period of block : :

Performance	Poor	Satisfactory	Good	Excellent
Written*				
Clinical- Practical*				
Oral*				
Attendance*				
Attitude				

* Poor: <50%, Satisfactory: ≥50-60%, Good: >60-75%, Excellent : >75%

Note: "Poor" grade in more than two performance during a particular block means deficient training and also cause disqualification for appearing in the final examination unless training in particular block is complete.

Signature:
Head of the Department
(Seal)