

National Board of Examinations
**REVISED CURRICULUM FOR COMPETENCY
BASED TRAINING OF DNB CANDIDATES**

OTORHYNOLARYNGOLOGY (ENT)

2006



National Board of Examinations
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Preface

The National Board of Examination was established in 1975 with the primary objective of improving the quality of the Medical Education by elevating the level and establishing standards of post graduate examinations in modern medicine on all India basis. There are more than 450 N.B.E accredited institutions/ Hospitals , imparting DNB training programmes in 28 Broad specialties and 16 super specialties. Besides, there are Post-doctoral fellowship programmes in 14 specialties and Post-graduate dental programmes in 9 specialties. In order to have standardized and quality training in all the accredited hospitals, National Board of Examinations has a well structured curriculum. The curriculum is being revised periodically to incorporate newer topics and introduce more innovative training methods. The present curriculum has been revised by National Board of Examinations' experts and has details of the training objectives, schedule, methods, technical contents. There are lists of skills in various procedures/ surgical techniques which a DNB candidate must acquire during the training, reference and text books as well as the journals in the speciality. The curriculum also gives sample theory questions and common cases for practical skill assessment during training every six months in the form of concurrent assessment. The guidelines for thesis and maintenance of log book to record day to day activities carried out by the candidates are also given.

It is expected that the revised curriculum will be useful to the DNB consultants in organizing the DNB training programmes in their respective hospitals. The DNB candidates will also benefit from this document.

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Goal- The candidate after 3 years of DNB training should acquire the competencies so that he/she is able to carry out the job functions of a Senior Candidates with Junior Consultant in the specialty of ENT.

Objectives to be achieved by an individual at the end of 3 years of DNB training

A candidate at the end of 3 years training should acquire the following:

1. **Cognitive abilities:** Describe embryology, physiology, pathology, clinical features, diagnostic procedures and the therapeutics including preventive methods, (medical/surgical) pertaining to Otorhinolaryngology- Head & Neck Surgery.
2. **Clinical decision making ability & management expertise:** Diagnose conditions from history taking clinical evaluation and investigations and develop expertise to manage medically as well as surgically the commonly encountered disorders and diseases in different areas as follows:

i Otology, Neurotology & Skull-base Surgery : External, middle and internal ear diseases, deafness, facial nerve palsy, tinnitus, vertigo and tumours of the region.

ii. Rhinology : Nose and paranasal sinus conditions such as infection, polyps and allergy. Acquire surgical skills to do septorhinoplasty, septoplasty, functional endoscopic sinus surgery (FESS). Develop capability to do oncologic diagnosis and therapy planning for proper management of such patients in collaboration with radiotherapists and medical oncologists.

iii. Head and Neck conditions / diseases

a. Laryngology : Able to diagnose and manage benign lesions of the larynx including voice-disorders, pharyngeal and nasopharyngeal diseases, viz-adenoids and angiofibroma. Capable to do diagnosis of oncologic conditions such as laryngeal carcinoma and plan its therapy strategies.

b. Oral cavity and salivary glands : Learn about head and neck diseases including Parotid gland and thyroid diseases, neurogenic tumours and neckspace infections and their management.

c. Head/Neck conditions/diseases : Learn about head and neck tumours, diseases of salivary and thyroid gland, neurogenic tumours neck space infections and their management.

d. Broncho-esophageal region: Learn about broncho-esophageal diseases/disorders such as congenital disorders, diagnosis of Foreign bodies in wind/food pipes with their management policies. Capable to

perform Panendoscopies for oncologic evaluation in the head-neck region, including esophageal malignancy.

e. Plastic reconstruction following major head neck surgery & trauma : Acquire general principles of reconstructive surgery and its referral needs.

f. Advanced Surgical methods : Acquire about phonosurgery like microlaryngoscopic surgery, palatopharyngoplasty for Velopharyngeal incompetence Cleft palate, and thyroplasty for voice-disorders.

g. General principles of newer therapy/Surgery : Newer knowledge about ENT diseases in general, including technological (Laser) and pharmacological advances (medicines) and newer method of therapy for certain conditions such as Obstructive sleep apnoea syndrome and asthma.

h. Traumatology & Facio-maxillary Injury : Acquire knowledge in the management of Traumatology in general and faciomaxillary injury in particular, including nasal fractures. Be capable of audiological & speech related disabilities, and also to do early identification of malignancies and create its awareness in the community/society to eventually get better cooperation from people in health management.

i. Psychological and social aspect : Some elementary knowledge in clinical Psychology and social, work management is to be acquired for management of patients, especially those terminally ill and disabled persons and interacting with their relatives.

IV. Radiology in ENT : Acquire knowledge about radiology/imaging and to interpret different radiological procedures and imaging in Otolaryngology- Head and Neck and skull base regions. There should be collaboration with Radiology department for such activities.

V. Audiology & Rehabilitation : Perform different audiological and neurootological tests for diagnosis of audiologic/vestibular disorders/diseases and become capable to interpret these findings and to incorporate their implication in diagnosis and their treatment including the rehabilitative methods in audiology and speech pathology including hearing aids and other assistive and implantable devices

VI. Pediatric Otorhinolaryngology

Diseases of Ear, Nose, Throat in children , including subglottic stenosis, cochlear implant, foreign body, surgery of for hearing.

3. **Teaching** : Acquire ability to teach a student in a simple and straight forward language using multimedia about the common ENT

ailment/disorders especially about their signs/symptoms for diagnosis with their general principles of therapy.

4. **Research** : Develop ability to conduct a research enquiry on clinical materials available in Hospital and in the community.
5. **Patient doctor relation** : Develop ability to communicate with the patient and his/her relatives pertaining to the disease condition, its severity and options available for the treatment/therapy.
6. **Preventive Aspect** : Acquire knowledge about prevention of some conditions especially in children such as middle ear and sinus infection, hereditary deafness and early diagnosis of head-neck malignancy. Hence, he/she should know about the preventive Otorhinolaryngology (ENT).
7. **Presentation of Seminar/paper:** Should develop public speaking ability and should be able to make presentation on disease-conditions/research topics to fellow colleagues in a Seminar/meeting/conference using audiovisual aids.
8. **Research paper writing** : should be capable to write case-reports and research papers for publication in scientific journals.
9. **Team work** : Team spirit in patient management, working together in OPD, OT, ward and sharing responsibility with colleagues such as doctor, nurses and other staff are essential.

Tentative Schedule for three years of DNB Training

First six months

- Spends 6 (six) months in orientation programme including exposure to Audiology Section and Vestibular Laboratory as follows
- First 2 months in ENT
- Next 4 months in General Surgery/Neurosurgery/Reconstructive Plastic Surgery/ Surgical I.C.U.
- Care of indoor (Pre and postoperative) patients.
- Attends operation theatre and emergency operations for acclimatization.
- Assists ward rounds and visit other wards with senior colleagues to attend call/consultations from other deptt.
- Participates in the teaching sessions in ward for bedside clinical aspect, Afternoon Seminar/Journal Club.

After 6 months the posting may be as follows:

- Attends ENT OPD 3 days a week including special clinics.
- Discusses problematic cases with the consultant(s) in OPD/ward
- Attends Operation Room/theatre 2 days a week
- Attends 2 morning rounds/week
- Looks after minor O.T. Once a week by rotation in the OPD area for minor procedures.
- Care of the indoor patients on beds allotted to him/her.
- Attends the weekly Journal Club and seminar and presents the same by rotation.
- Attends speciality clinics like Vertigo, Otolaryngology, Rhinology and Tumour, presents cases, participates in discussions including therapy planning .
- During the 2 ½ years the Candidates must attend the combined Teaching Programme of the Department of Surgery, Neurosurgery and Medicine i.e. Clinical meetings, Clinicopathological Conferences of students and staff of the whole hospital. Surgicopathological conference in Pathology Department.
- All kinds of specially prepared lectures by deptt. faculty or from Radio Therapy / Plastic or Neurosurgery deptts.
- Visits by rotation to the Rural Clinic for community exposures/work experience (desirable).
- Does 12 hours emergency duty twice a week/as per Roster of the deptt.
- Attends lectures by Visiting Faculty to the deptt./college from India/abroad,
- Attends/participate/present papers in State/Zonal/National conferences.
- Actively participate/helping organization of Departmental Workshop, Courses in specialized areas like Functional Endoscopic Sinus Scopy/ Surgery/Otolaryngology, Rhinoplasty, Neurotology and Head-Neck Oncology from time to time.

Research methodology/Reporting on research

- Learns the basics in research methodology, and makes the thesis protocol
- within 6 months of admission.
- Problem oriented record keeping including use of computer
- Use of Medical literature search including through Internet use in the Library.
- Attends bio-statistics classes by arrangement.

Research Report

- writing including preparation of Protocol for Research/Thesis.
- Writing an abstract/short paper/presentation style (Slide-making audiovisual aids).
- Preparation of a report on a research project, Thesis.

Humanity/Ethics:

- • Lectures on humanity including personality development, team spirit and ethical issues in patient care and human relationship including, public relations, by Psychologist and public relation officers are to be arranged by the deptt./college

Six monthly progress of the thesis will be assessed to know the outcomes/or difficulties faced by the candidate. Candidate will be asked to submit the thesis 6 months before the final exams.

TEACHING METHODS

The following learning methods may be used for the teaching of the DNB trainees :

1. Journal clubs : 2 hrs duration – Paper presentation/discussion-once per week (Afternoon).
2. Seminars : One seminar every week of one hour duration (morning).
3. Lecture/discussions : Lectures on newer topics by Faculty, in place of seminar/as per need.
4. Case presentation in the ward and the afternoon Special clinics (such as vertigo / otology and Tumour clinics)-Candidates will present a clinical case for discussion before a faculty and discussion made pertaining to its management and decision to be recorded in case files.

5. Surgicopathological Concerence: Special emphasis is made on the surgical pathology and the radiological aspect of the case in the pathology deptt. Such exercises help the ENT/Pathology/Radiology Candidatess.
6. Combined Round/Grand Round: These exercises are to be done for the hospital once/wk. or twice/month involving presentation of unusual or difficult patients. Presentations of cases in clinical combined Round and a clinical series/research data on clinical materials for benefit of all clinicians/Pathologists/other related disciplines once in week or fortnightly in Grand round.
7. Community camps : For rural exposure and also for experience in preventive aspect in Rural situation/hospital and school. Patient care camps are to be arranged during 2-3 years, involving Candidatess/junior faculty.
8. Emergency situation : Casualty duty to be arranged by rotation among the PGs with a Faculty cover daily by rotation.
9. Afternoon Clinics :
 - (i) Vertigo Clinic :
Once a week. All the patients of vertigo attending ENT OPD/referred cases are worked up in details by the Junior Candidatess and are discussed with one/two Faculty and treatment, decided upon.
 - (ii) Tumour clinic/head-neck Cancer Clinic : Once or twice a week. In collaboration with the Radiotherapy Department. The patients with head and neck cancer in the field of ENT and Head and Neck are worked up by the Junior Candidatess and discussed about for their management by the ENT as well as Radiotherapy Consultants and treatment decision, made.
 - (iii) Rhinology Clinic : Once/week for patients with sinus diseases and nasal deformity for rhinoplasty presented and discussed. Decision for FESS/Rhinoplasty or any other treatment taken.
 - (iv) Otology Clinic : Once a week. The ear cases are thoroughly investigated and are discussed by the Junior Candidates with the faculty for their management/ discussions are made after each case is presented. Audiologist also participates in this clinic.
10. Bedside clinical training for patient care management and for bedside manners : Daily for ½ to one hour's duration during ward round with faculty and 1-2 hour in the evening by senior Candidates/Faculty on emergency duty, bedside patient care discussions are to be made.

Once a week one Faculty should take a one hour Teaching Round by Rotation of Faculty (4/5 such rounds per semester of 6 months).

11. Death Cases : Once a month/ once in 3 months the records of such cases are presented by the Senior Candidatess. The Junior Candidatess are encouraged to participate actively in the discussion in the presence of Faculty of ENT and hospital administration. This programme helps to take corrective measures as well as to maintain accountability in patient management.
12. Clinical teaching : In OPD, Ward rounds, Emergency, ICU and the Operation Theatres : Candidatess/Senior Candidatess and Faculty on duty in respective places – make discussion on clinical diagnosis/surgical procedures/treatment modalities, including post operative care and preparation discharge slip.
13. Clinical interaction with audiologists/speech therapist : Clinical interaction with audiologist/speech therapist pertaining to management of the patients with audiological/speech problems are to be made/discussion arranged. Audiologic methods and therapy strategies are to be made known to Candidates doctors.
14. Research Methodology : Courses and Lecturers are to be arranged for the Candidatess on biostatic and clinical issues.
15. Writing Thesis : Thesis progress is presented once in 3-6 months and discussion made in the deptt. Guides/co-guides are to listen the problems of the candidates and provide assistance to the student. Progress made or any failure of the candidate may be brought to the notice of college Dean/Principal.
16. Cadveric dissection Lab: Hospital running DNB should have MOU with medical college preferably in same city. Cadaveric temporal bone, Nose & Paranasal Sinuses and head & neck dissections must be arranged in the Departmental Lab and/or in the anatomy department for learning surgical anatomy by dissection as well as for learning different operative procedures under faculty supervision and independently (for middle ear operations using operating microscope procedures including endoscopic (FESS) sinus surgery using endoscopes during 2nd & 3rd year of Residency on a regular basis before/during exposure of particular batch of students to real operative procedures in patients.

Assessments/ Examinations

Concurrent examination/assessment

The purpose of the concurrent assessment is to give regular feed back to the DNB candidates about their performance and to prepare them for the final terminal examination by giving them exposure to the examination pattern. As a part of the concurrent evaluation the DNB candidates will be assessed every six months by an independent local appraiser selected by National Board of Examinations. This would include theory examination (100 marks of three hours duration) containing 10 short structured question related to the topics covered during the preceding six months by the accredited hospital/institution.

The practical examination (300 marks) will include long case, short case, spots, ward round, viva voce on the topics covered during the period by the hospital/institution.

Final Examination

| | |
|-----------|---|
| PAPER I | Otorhinolaryngology as applied to General Medicine, General Surgery & Other related subjects |
| PAPER II | Principles and Practices of Otorhinolaryngology including Audiology |
| PAPER III | Pathology and Operative Otorhinolaryngology |
| PAPER IV | Basic Sciences as applied to Otorhinolaryngology |

10 Short Answer questions (10 marks each)

Practical Examination:

Long & short cases and OSCE should be given to the students for history taking and examination. Spot case should be given to the candidate in the presence of the examiner/s, to be examined (including history taking by the candidate) and assessed by the examiners Viva Voce on-Instruments, Pathology specimens, Drugs & X-rays, Sonography etc.

ANNEXURE- I, THEORY SYLLABUS

Physiology – Mechanism of perception of smell and taste, mechanism of breathing and voice production, deglutition and salivation. Functions of the nose and Para sinuses, Mechanism of cough and sneezing.

Physics of sound, theories of hearing, mechanism of perception of sound, speech Production, Physiology of equilibrium . Physiology of brain in connection with hearing, speech smell and phonation. Audiologic tests like audiometry, impedance, evoked potentials, Oto Accustic Emissions, Speech audiometry Physiology of larynx, tracheobronchial tree & oesophagus – Histology of mucous membranes, internal ear and other associated organs and structures, nose Par Nasal Sinuses, Nasopharynx, Tracheo Bronchial tree, Lymphoepithelial system. Mechanism of immune system/immunology and genetics.

Anatomy – Embryogenesis of ear, nose and throat including palate larynx, Oesophagus, trachea, lungs, tongue, salivary gland, Head, Neck & Skull base etc.

Parapharyngeal spaces in the neck including connective tissue barriers of larynx.

Applied anatomy of the skull bones, accessory sinus, external, middle and inner ears, nose, PNS, nasopharynx, meninges, brain, pharynx, larynx, trachea and bronchi, lungs, pleurae, esophagus, and the mediastinum.

Anatomy of all cranial nerves with their functions.

Clinical

- Clinical methodology as applied to Otorhino laryngology and Head & Neck disease in adult & children and the accessory sinuses, diagnosis and surgical treatment of diseases of nose, throat and ear in adult and children. Prevention and treatment, infectious diseases of Otolaryngology and Head Neck region. Circulatory and nervous disturbances of the nose, throat and ear and their effects on other organs of the body. Deformities, injuries sinus infections, polyps and the tumours of the nose, and paranasal sinuses. Examination of the ear, deafness and allied diseases, complications of diseases of the ear. Injuries, tumours, circulatory & neurotological disturbances of the ear. Diagnosis and treatment of tinnitus and vertigo. Diagnosis and rehabilitation of the Hearing handicapped including, dispensing of hearing aid other vibrotactile aids.
- Surgical pathology of Otolaryngology and Head Neck region.
- Basic knowledge of the anesthesia as related to ENT.

- Examination of diseases of children (Pediatrics ORL) in connection with throat and larynx. Neurological and vascular disturbances. Congenital and neonatal stridor.
- Pathology of various diseases of the larynx and throat, tracheobronchial tree and their causative organisms.
- Indications and various techniques of direct laryngoscopy, nasal endoscopy, bronchoscopy and oesophagoscopy. (including microlaryngoscopic procedures).
- Reading of radiograms, scans, audiograms, nystagmograms and tympanograms in connection with ENT diseases/disorders.
- Special apparatus for the diagnosis and treatment of the diseases of ear, nose and throat including audiometer, Brainstem Evoked Response Audiometry, Electro Nystagmo Graphy, Speech analyzer etc.
- The recent developments in the diagnosis, pathogenesis and treatments of the ENT diseases.
- The knowledge of the frontiers of the oto-laryngology and lateral skull base surgery.
- Rhinoplasties, endoscopic sinus surgery, and anterior cranial fossa surgery.
- Knowledge of LASERS and fibre optics.
- Other methods of managing Hearing loss.
- Implantable hearing aids. Cochlear implants.
- Phonosurgery
- Etiology and Managements of sleep apnoea/snoring.
- Hypophysectomies and optic nerve decompressions.
- Immunotherapy and modalities of the gene therapy.
- Newer technique for Radiotherapy including, use of gamma knife for treatment of intracranial tumours and other malignancy.
- Chemotherapy of Head & Neck cancer.

- Preventive otolaryngology

- General surgery, Head & Neck oncology, and Medicine as applicable to the ENT disorders/diseases. Surgery of congenital deformities of nose, ear (Pinna) & trachea/oesophagus etc.

- Radiology, Imaging – computed tomography and magnetic resonance imaging, (MRI) and interventional radiology and angiography as related to E.N.T.

- General pathologic aspects as wound healing, Pathology and Pathogenesis of ENT diseases, Pharmacology, molecular biology, genetics, cytology, hematology, and immunology as applicable to otolaryngology.

- General principles of faciomaxillary traumatology and also neck injury, plastic surgery as applicable to Otolaryngology.

- Basic computers, computer averaging of the biological signals and its applications in Otolaryngology & Otolaryngologic equipments.

- Audiologic and speech disorders and their managements strategies.

- Principles of Jurisprudence and ethical issues and applicable to ENT surgeons.

ANNEXURE-II, DETAILS OF THE SKILLS TO BE ACQUIRED DURING THE TRAINING PERIOD

Clinical procedures which the candidates must know

| Name of procedure | Number of procedure | | |
|---|---------------------|--------------------|---------------------------------|
| | As Observer | As First assistant | Independently under supervision |
| Tracheostomy | 5 | 5 | 5 |
| Tonsillectomy | 10 | 10 | 10 |
| Adenoidectomy | 10 | 10 | 10 |
| Incision Drainage Quinsy/other abscesses | 2 | 2 | 10 |
| Biopsy from neck mass & Lymph node | 2 | 2 | 10 |
| Direct Laryngoscopy | 2 | 2 | 20 |
| Submandibular duct stone removal | 1 | 1 | 1 |
| Total Laryngectomy | 2 | - | - |
| Radical Neck dissection | 2 | - | - |
| Nasopharyngeal Angiofibroma | 1 | - | - |
| Ligation External Carotid Artery | 2 | 1 | - |
| Microlaryngeal Surgery | 3 | 3 | 3 |
| Parapharyngeal space surgery | 2 | 1 | - |
| Thyroid Surgery | 2 | 1 | - |
| Pre auricular sinus excision | 2 | 2 | 2 |
| Cortical Mastoidectomy/Modified radical mastoidectomy | 5 | 5 | 5 |
| Myringotomy | 5 | - | 5 |
| Aural Polypectomy | 2 | 2 | 5 |
| Branchial Sinns/Throglossal /cyst | 2 | 2 | 2 |
| Facial N decompression | 1 | - | - |
| Stapedectomy | 5 | - | - |
| Myringoplasty/Tyompanoplasty | 5 | 5 | 10 |
| Nasal Polypectomy | 5 | 5 | 5 |
| SMR/Septoplasty | 5 | 5 | 10 |
| External Frontoethmoidectomy | 1 | - | - |
| Functional Endoscopic Sims surgery | 5 | 5 | - |
| Maxillectomy | 1 | - | - |
| Rhinoplasty | 10 | 10 | - |
| Lobuloplasty | 5 | 5 | 10 |
| Fracture Nasal bone | 5 | 5 | 5 |

Investigations/tests which the candidates must know to interpret

| Name of Investigations/tests |
|--|
| Pure tone audiometry |
| Impedance audiometry |
| Caloric lest |
| BERA |
| ENG |
| TEDAE |
| ECG |
| Haematological Investigations including Haemogram, LFT, KFT, |
| Radiological – Xrays mastoid, PNS, neck CT Scans – Temporal bone, neck, DNS, MRI – Head of Neck |
| Polysomnogram |

ANNEXURE –III, SAMPLE CASES FOR PRESENTATION AND DISCUSSION

Practical Long cases

- Chronic Suppurative media – unsafe/safe
- Carcinoma Larynx/Laryngopharynx
- Carcinoma Nasopharynx
- Naso pharyngeal angiofibroma
- Carcinoma Maxilla/nasal cavity

Short cases

- Vocal nodules/polyp
- Nasal polyp
- Fibrous dysplasia
- Branchial Cyst/Thyroglossal Cyst & Sinus
- Vocal Cord palsy
- Thyroid neoplasm
- Parotid neoplasm
- Neck Mass
- Aural polyp
- Sensorineural Hearing Loss
- Otosclerosis

ANNEXURE-IV, SAMPLE QUESTIONS FOR SIX MONTHLY ASSESSMENTS

- Anatomy of medial wall of middle Ear.
- Anatomy of Posterior Tympanum.
- Spaces of middle Ear.
- Anatomy of Tonsil.
- Mechanism of Olfaction.
- Anatomy of Nasal Septum.
- Anatomy of Osteomeatal complex.
- Cartilages of Larynx
- Muscles of Larynx
- Parapharyngeal spaces
- Eustachian Tube Anatomy
- Anatomy of Internal Auditory meatus
- Quincke
- Parapharyngeal & Retropharyngeal abscess
- Acute Otitis Media
- Allergic Rhinitis
- Acute otitis media
- Glue Ear, its management & Ear
- Management of septal perforation
- Nasal Polyps
- Rhinophyma
- Rhinosporidiosis
- Describe Hypotensive anaesthesia & its application in ENT.
- Glottic Carcinoma
- Vocal paralysis
- Complications of CSOM
- Management of Labyrinthitis
- Tracheal Stenosis
- Laryngocoele
- Hypopharyngeal
- Plummer Vinson syndrome
- Management of Nasopharyngeal fibroma
- Allergic fungal sinusitis
- Principle of FESS
- Extransal application of FESS
- Describe the Type I Thyroplasty
- Principle of chemotherapy in Head & Neck Cancer
- Application of Laser in ENT
- Biomaterials used in ENT
- Cochlear Implant
- BAHA (Bone Anchored Hearing Aid)
- Discuss MRI vs CT in sinusitis
- Manifestations of AIDS in ENT
- Collect – Siccard syndrome

- Waardenberg's syndrome
- Ponder syndrome & congenital defects
- Mechanism of wound healing
- Mediators in allergic Rhinitis
- Coagulation Mechanism
- Complications of Blood Transfusion
- Describe Polysomnogram
- History of Rhinoplasty
- History of Stapedectomy
- Development of Cochlear Implant
- Complications of Stapedectomy
- Noise induced Hearing loss
- Epley's Manoeuvre
- Digital subtraction Angiography in E.N.T.
- Classification of Subglottic Stenosis
- Adhesive otitis media
- Glomus Jugular
- Oto- acoustic Emissions
- Reflux Oesophagitis

ANNEXURE- V, BOOKS AND JOURNALS WHICH THE CANDIDATE MUST READ

List of books

Must read

1. Logan Turner Diseases of Ear Nose Throat
2. Scott Brown's Diseases of Ear Nose and Throat
3. Otolaryngology & Head Neck Surgery - Cummings

List of books

Must refer

1. Shambaugh – Surgery of Ear
2. Gray's Anatomy

List of Journals

Indian

1. Indian Journal of Otolaryngology and Head Neck Surgery
2. Asian Journal of Ear Nose and Throat
3. Indian Journal of Otology

Foreign

1. Journal of Laryngology and Otology
2. Otolaryngologic clinics of North America
3. Int. J. of Paediatric Otolaryngology
4. Laryngoscope
5. Otolaryngology Head Neck Surgery

ANNEXURE-VI, GUIDELINES FOR WRITING THESIS/DISSERTATION

Research shall form an integral part of the education programme of all candidates registered for Diploma of NB degrees of the Board. The Basic aim of requiring the candidates to write a thesis/dissertation is to familiarize him/her with research methodology. The members of the faculty guiding the thesis/dissertation work for the candidate shall ensure that the subject matter selected for the thesis/dissertation is **feasible, economical and original**.

Guidelines

- I. The thesis may be normally restricted to the size to 100 pages. To achieve this, following points may be kept in view;
 - (i) Only contemporary and relevant literature may be reviewed.
 - (ii) The techniques may not be described in detail unless any modification/innovations of the standard techniques are used and reference may be given.
 - (iii) Illustrative material may be restricted.
 - (iv) Since most of the difficulties faced by the residents relate to the work in clinical subject or clinically oriented laboratory subjects the following steps are suggested:
 - For prospective study, as far as possible, the number of cases should be such that adequate material, judged from the hospital attendance, will be available and the candidate will be able to collect the case material within a period of 6-12 months so that he/she is in a position to complete the work within the stipulated time.
 - The objectives of the study should be well defined.
 - As far as possible, only clinical or laboratory data of investigations of patients or such other material easily accessible in the existing facilities should be used for the study.
 - Technical assistance, wherever necessary, may be provided by the department concerned. The resident of one speciality taking up some problem related to some other speciality should have some basic knowledge about the subject and he/she should be able to perform the investigations independently, wherever some specialised laboratory investigations are required a co-guide may be co-opted from the concerned investigative department, the quantum of laboratory work to be carried out by the candidate should be decided by the guide and co-guide by mutual consultation.
 - The Clinical residents may not ordinarily be expected to undertake experimental work or clinical work involving new techniques, not hitherto perfected or the use of chemicals or radio isotopes not readily available. They should however, be free to enlarge the scope of their studies or undertake experimental work on their own initiative but all such studies should be feasible within the existing facilities.

- The residents should be able to use freely the surgical pathology/autopsy data if it is restricted to diagnosis only, if however, detailed historic data are required the resident will have to study the cases himself with the help of the guide/co-guide. The same will apply in case of clinical data.
- Statistical methods used for analysis should be described in detail.

Rules for Submission of Thesis/ Dissertation by candidates for DNB

- (i) The protocol of Thesis/ Dissertation should be submitted to the office of the NBE through head of the institutions within three (3) months of joining the training in Medical college/university/DNB accredited institution.
- (ii) No correspondence will be made in regard to acceptance of the protocol except only in the case of rejected protocols for which individual will be informed by office through mail/website.
- (iii) The guide will be a recognized PG teacher in Medical college or university or NBE Accredited institutions. The teacher should have the experience of 5 years in speciality after obtaining the post graduate degree. The certificate of PG teaching and being Guide recognized by University/NBE must be enclosed alongwith thesis/dissertation. The Guide can guide one MD/MS candidate and one university diploma candidate desirous of taking the DNB examination, or one direct NBE candidate. Total number of candidates should be two including all sources.
- (iv) Candidates who will be appearing in the subject under the heading Super Speciality (like Cardiology & Cardio Thoracic Surgery etc.) need not write their thesis/dissertation if they have already written their thesis during their MD/MS/NBE examinations. However they have to submit a proof in support of their having written thesis during their MD/MS examination.
- (v) If the candidates appearing in the broad specialities have already written their thesis in the MD/MS examination, they need not submit the thesis/dissertation. However they are required to submit a copy of the letter accepting the thesis by the University.
- (vi) If thesis is rejected or needs to be modified for acceptance, the Board will return it to the candidate with suggestion of assessors in writing for modification. The result of such candidate will be kept pending till the thesis is modified or rewritten, accordingly as the case may be and accepted by the assessors of the Board.
- (vi) If any unethical practice is detected in work of the Thesis, the same is liable to be rejected. Such candidates are also liable to face disciplinary action as may be decided by the Board.
- (vii) The thesis is to be submitted 6 MONTHS before the commencement of the DNB examination. Theory result of the candidates whose thesis/dissertation are accepted by the Board will be declared.

Guidelines for Writing of Thesis/Dissertation

Title - Should be brief, clear and focus on the relevance of the topic.

Introduction – Should state the purpose of study, mention lacunae in current knowledge and enunciate the Hypothesis, if any.

Objectives of the study

Review of Literature – Should be relevant, complete and current to date.

Material and Methods- Should include the type of study (prospective, retrospective, controlled double blind) details of material & experimental design procedure used for data collection & statistical methods employed; statement of limitations ethical issues involved.

Observations– Should be Organized in readily identifiable sections Having correct analysis of data be presented in appropriate charts, tables, graphs & diagram etc. These should be statistically interpreted.

Discussion- Observations of the study should be discussed and compared with other research studies. The discussion should highlight original findings and should also include suggestion for future.

Summary and Conclusion

Bibliography - Should be correctly arranged in Vancouver pattern.

Appendix—All tools used for data collection such as questionnaire, interview schedules, observation check lists etc should be put in the annexure.

ANNEXURE-VI, GUIDELINES FOR LOCAL APPRAISERS

**Ref. National Board of Examinations/ Monitoring DNB trg2006
Dated 23.6.2006**

Sir/Madam,

Thank you for agreeing to act as appraiser for the subject _____ at the

You are hereby requested to carry out the followings:

- i. Prepare one paper containing ten short questions in the areas covered by the hospital/ institution in the last six months.**
- ii. Conduct the theory examination for the candidates in the subject in the hospital.**
- iii. Review the thesis progress and log book records for each candidate.**
- iv. Conduct practical examination for the DNB candidates in the discipline.**
- v. Appraise the infrastructure and facilities in the hospital in the concerned subject as per the enclosed format.**
- vi. Send the report in the enclosed format to The Executive Director, National Board of Examinations, Ansari Nagar, Ring Road, New Delhi-110029.**
- vii. Give suggestion for improving the DNB training and appraisal.**

You are requested to contact _____ of the hospital _____ at Phone No. _____

You will be paid the honorarium for these activities by the concerned hospital as per the enclosed norm.

Thank you for your co-operation and support.

Yours sincerely

(A.K. Sood)

Copy to

Director/DNB Coordinator should make the necessary arrangements to conduct appraisal by the 31 July 2006.



National Board of Examinations Guidelines for local Appraisers

- 1. NBE is pleased to suggest your name as local appraiser. The purpose of introducing six monthly appraisals of NBE accredited hospitals/institutions is to further improve the quality of training, assess the training infrastructure for the DNB candidates and also assist the local institutions to develop in to a center of academic excellence. This would further add value to the services being rendered in these accredited hospitals/institutions. Please do not think that this assessment has negative connotation. Please plan your appraisal in such a way as to minimally affect the routine working of the department.**

- 2. The Board expects the local appraiser to be a post graduate in the speciality with teaching and research experience. He/She should have enough time and expertise to carry out the following activities in the allotted hospitals/Institutions:**
 - 2.1 He/she should participate in thesis protocol/progress presentation & discussion; assist the DNB candidates in their thesis work by giving them suggestions and monitoring their progress. He/she should give specific remarks to improve the Thesis work after reviewing the objectives, methodology (sample size, sampling technique, data collection tools etc.), data analysis plan and statistical tests, results and discussion plan etc. of thesis of each candidate. These remarks should also be communicated in writing to the supervisor and the concerned candidate by the appraiser and a copy be sent to National Board of Examinations.**

 - 2.2. He /she is expected to examine the log book maintained by the candidates and give specific remarks to improve the log book maintenance after reviewing the contents of the log book (name of procedure, details of the case, salient findings, remarks of the supervisor for the improvement of the candidate etc). These remarks should also be communicated in writing to the supervisor and the concerned candidate by the appraiser and a copy be sent to National Board of Examinations.**

 - 2.3 He/ should prepare question paper containing ten short structured questions in the speciality on the topics covered during the preceding six months and evaluate the**

answer sheets. He/she will maintain total confidentiality in these activities. The arrangements for six monthly theory and practical examination will be made by local accredited hospitals/institutions.

- 2.3. He/she will formally conduct practical examination (On the topics/areas covered in preceding six months). The practical will have long case, short cases; ward round, spots and viva voce as per the DNB format.
- 2.4. He/she will communicate the result of assessment to the concerned candidates along with detailed feed back on their performance. He/she will give detailed suggestions to each candidate in writing for improving his/her performance. He/she will act as counselor and give specific remarks for improving the overall performance level of the candidate. These remarks should also be communicated in writing to the supervisor and the concerned candidate by the appraiser and a copy be sent to National Board of Examinations.
- 2.5. He/she will prepare the Examination worksheet for each candidate and submit the same to the concerned hospital for records with a copy of the same to the National Board of Examinations.
- 2.6. He/she will submit the report to the Executive Director, NBE, on the format (enclosed herewith).
- 2.7. He/she will also send six monthly report on the infrastructure, patient load and manpower in the concerned speciality of the accredited hospital, to Executive Director, National Board of Examinations, Ring Road, Ansari Nagar, New Delhi-110029.

3. Remuneration/honorarium to the Appraisers

NBE recommends that suitable honorarium be given to the local appraisers by the concerned accredited hospital/institution, considering the activities performed and number of DNB candidates in the speciality. The recommended minimal amount be given as follows:

- 3.1. Assessment of Infrastructure and facilities in the hospital/institutions in the speciality = Rs. 500/-.**
- 3.2. Participation in thesis protocol presentation and discussion = Rs. 500/-per candidate.**
- 3.3. Development of theory paper = Rs. 500/-.**
- 3.4. Assessment of theory paper(s) = Rs. 500/-**
- 3.5. Holding of practical examination = Rs. 1000/- per candidate.**

This expenditure will be met out of the fee collected from the candidates.



National Board of Examinations
(Ministry of Health & Family Welfare, Govt. of India)
Ansari Nagar, Ring Road, New Delhi-110029.
Tel.No. 011- 26589119, 26589517, 26589656
Website : www.natboard.nic.in

**PROFORMA FOR INFRASTRUCTURE AND DNB
CANDIDATES' PERFORMANCE ASSESSMENT BY APPRAISER
(PLEASE FILL SEPARATE FORM FOR EACH DNB DISCIPLINE)**

| | | | | | |
|-----|--|-------|-----------------|--------|------------|
| 01. | Name of the Hospital, Address, Telephone number, Fax number and e-mail | | | | |
| 02. | Name of the Department offering DNB | | | | |
| 03. | No. of beds in the speciality | Total | General (Free)* | Paying | Subsidized |
| 04. | Number of indoor admission during the last six months | Total | General (Free)* | Paying | Subsidized |

* Free – which recovers the cost only and are available for training of DNB trainees.

| 05. Facilities for supportive services | |
|---|--|
| Subject | Please list the type and number of tests done in the reference period of last one month |
| Pathology | |
| Biochemistry | |

Microbiology

Radiology

Blood Bank

Any other

06. Physical facilities :-

Please list the facilities related to the specialty present in the department

| | | | |
|-----|---|------------------------------------|----------------------------------|
| 08. | Consultants | Details of PG Qualification | Total experience after PG |
| | Name of Senior Consultants | | |
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| | Name of Junior Consultants | | |
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| | | | |
| | Name of Whole time Sr. Residents | | |
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| | | | |
| | | | |

Please attach a copy of salary/ remuneration slips for the last six months.

| | | | | | |
|------------|---|-------------------|-----------------|---------------|---------------------------|
| 09. | Track record of the candidates for the last three years : (in the specialty) | | | | |
| | Year | Registered | Appeared | Passed | Left (with reason) |
| | | | | | |
| | | | | | |
| | | | | | |

10. Please attach the details(such as the topic covered, date, the resource persons etc.) of various academic activities carried out by the department like -

- i. Guest lectures**
- ii. Case presentations and discussions**
- iii. Clinical conferences**
- iv. Seminars**
- v. Teaching sessions/ lectures for candidates**
- vi. Other activity specify**

11. Any other information

NATIONAL BOARD OF EXAMINATION

WORK- SHEET FOR ASSESSMENT OF CANDIDATE BY LOCAL APPRAISER

Date: _____

Name & Address of Hospital _____

Name of the candidate and registration No. _____

Training Year of the candidate - _____

First/ second/ Final

Name of Appraiser _____

I Clinical Examination

| Case | Agreed Diagnosis | Max. Marks | Marks Awarded | | | | Total Marks | |
|----------------|------------------|------------|---------------|----------------------|-----------|------------|-------------|-----------|
| | | | History | Clinical Examination | Diagnosis | Management | In words | In Figure |
| Long case -I | | 60 | | | | | | |
| Short case -I | | 40 | | | | | | |
| Short case -II | | 40 | | | | | | |
| Short case-III | | 40 | | | | | | |
| Total | | 180 | | | | | | |

| II. Ward Round M. Marks = 40 | Marks words | in | Awarded figure | in | Sub Total I + II (Max. Marks = 220) | |
|---------------------------------|-------------|----|----------------|----|-------------------------------------|-----------|
| | | | | | In words | In figure |
| | | | | | | |
| | | | | | | |

III. Viva voce Max. Marks = 80

| Marks | Pathology | X-rays | Instrument Orthotics prosthetic | Operative surgery | Total |
|---------------------------|-----------|--------|---------------------------------|-------------------|-------|
| Maximum | | | | | |
| Marks Awarded (In words) | | | | | |
| Marks Awarded (In figure) | | | | | |

IV. Grand Total (Sum of I+II+III) Max. Marks = 300

Marks Awarded in words

Marks Awarded in figure

V. Result _____

VI. Specific description of the strong points in case of pass candidate and of weak points in case of failed candidate. Please list out the specific details which need to be communicated to the candidate to help him improve.

VII. Examiner's Name & Signature _____

National Board of Examinations, Ansari Nagar, Ring Road

New Delhi-110029

**FEEDBACK FORMAT FROM DNB CANDIDATES UNDERGOING TRAINING IN THE
HOSPITAL**

Instructions to the DNB candidate-This feedback format is meant for knowing your views and suggestions for improving DNB training programme in your hospital. You may not reveal your identify on the format. The information given by you will be used for improving your training. Please send this form directly to the Executive Director, National Board of Examinations. You can also down load this form from the National Board of Examinations website www.natboard.nic.in and email the form to nbefellow@yahoo.com

I. Name of the Hospital and Address

II. Name of the department

III. Please respond to the following questions related to your DNB training in past six months

| | | |
|-----|---|--|
| 3.1 | Have you refereed to the DNB curriculum for your specialty in the last six months, if yes how many times ? | |
| 3.2 | How many times you have consulted the DNB coordinator in your hospital in the last six months? | |
| 3.3 | How many seminars you have attended in the last six months? | |
| 3.4 | How many cases you have presented to your consultant(s) in last six months? | |
| 3.5 | How many times you have attended the formal lectures covering various aspects of your speciality curriculum? | |
| 3.6 | How many guest lectures have been held in your speciality in the last six months in your hospital? | |
| 3.7 | How many times you have used internet for your studies in your hospital in the last six months? | |
| 3.8 | How many times your thesis progress has been reviewed by your thesis guides/ external appraiser in the last six months? | |

- 3.9. Please mention the names of any three standard text books in your speciality ` which are available in the library of your hospital and you have referred to them in the last six months-**
- 3.10. Please mention the names of any one National and any one International journal which you have referred to in your hospital library in the last six months-**
- 3.11. How many clinical procedures you have done under supervision in last six months
Please mention names and number of any three of them**
- 3.12. How many clinical procedures you have done independently in last six months
Please mention names and number of any three of them.**
- 3.13. Please give five suggestions to improve your training in your speciality**

ANNEXURE- VII, FORMAT FOR LOG BOOK

Instructions for the supervisor

P.G. Training Programme - The post graduate programme broadly should include lecture/demonstration on applied basic sciences, bed side clinics, case presentations. Faculty lectures, symposia/seminar journal clubs, biopsy, radiology discussions and graded clinical responsibility.

Evaluation - It is essential that the trainee maintains a detailed account of the work done by him. The record book will in addition remind the trainee of what he should observe, learn and perform in a programmed and phased manner during the course of training. It is hoped that this record will stimulate the trainee towards greater effort in areas where he is below par and also record his progress. It forms the basis for assessment and evaluation of the trainees progress. Some of the possible criteria on the basis of which a trainee could be evaluated are - soundness of knowledge, application & judgment, keenness to learn, punctuality and promptness, initiative, reliability, clinical skill, behavior with patients, attitudes towards patient's relatives, colleagues, seniors and other staff, ability to express

Depending on the qualities and the level of attainments a candidates could be considered for appraisal, on the basis, for example, of the following 5 letter grading system.

| | | | | | | | |
|---|--------------|-------|-----|---|------|-------|-----|
| A | Excellent | Above | 75% | B | Good | 60% - | 65% |
| C | Satisfactory | 50%- | 60% | D | Poor | 30% - | 50% |
| E | Bad | Below | 30% | | | | |

Besides the grading as indicated above, each student should also be given a formal feed back on his/her weak points and how to overcome his/her deficiencies.

ALL THE CANDIDATES MUST WRITE THE LOG BOOK IN DETAILS WITH REMARKS FROM THE SUPERVISORS AND THESE ENTRIES MUST BE CHECKED BY THE LOCAL APPRAISERS EVERY SIX MONTHS.

1. Name of Trainee : _____
2. Name of Hospital/Institution : _____
3. Address : _____
4. Specialty : _____
5. Name of Supervising Specialist : _____
6. Name of Medical
Director/Superintendent : _____

Date : _____

Signature of Supervising Specialist

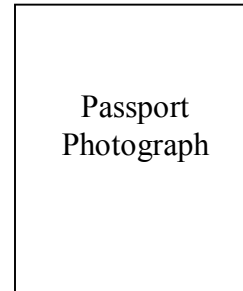
Name (Block Letters) :

Permanent Address :

Date of Birth :

Fathers Name & Address :

Education :



MBBS

Specimen Signature

| Name of the College | Date of joining | of | Date of passing | of | No. of attempts | Prizes |
|---------------------|-----------------|----|-----------------|----|-----------------|--------|
|---------------------|-----------------|----|-----------------|----|-----------------|--------|

House-job

| Subject | Date of joining | of | Date of leaving | of | Period |
|---------|-----------------|----|-----------------|----|--------|
|---------|-----------------|----|-----------------|----|--------|

Primary Diplomat of N.B.

| Subject | Date of Passing | No. of Attempts |
|---------|-----------------|-----------------|
|---------|-----------------|-----------------|

Final Diplomat of N.B.

| Subject | Date of joining |
|---------|-----------------|
|---------|-----------------|

Posting schedule

| S. No. | Specialty | From | To | Period |
|--------|-----------|------|----|--------|
|--------|-----------|------|----|--------|

Lectures

| S. No. | Date | Topic and name of the resource person |
|--------|------|---------------------------------------|
|--------|------|---------------------------------------|

Seminars

| S. No. | Date | Topic and name of the facilitators | Evaluation |
|--------|------|------------------------------------|------------|
|--------|------|------------------------------------|------------|

Journal Clubs

| S. No. | Date | Topic and name of the facilitators | Evaluation |
|--------|------|------------------------------------|------------|
|--------|------|------------------------------------|------------|

Clinical Procedures/Operations Performed

| S. No. | Date | Details of the patients and the procedures/Operations performed; names of the supervisors |
|--------|------|---|
|--------|------|---|

Clinical Procedures/Operations Assisted

| S. No. | Date | Details of the patients and of the procedures/Operations performed along with the names of the supervisors |
|--------|------|--|
|--------|------|--|

Presentations

| S. No. | Date | Details of the Case | Names of the consultants/resource persons | Evaluation |
|--------|------|---------------------|---|------------|
|--------|------|---------------------|---|------------|

Emergencies

| S. No. | Date | Details of the patients and management of emergency cases |
|--------|------|---|
|--------|------|---|

Panel Discussions

| S. No. | Date | Details of the case discussed | Names of panelists |
|--------|------|-------------------------------|--------------------|
|--------|------|-------------------------------|--------------------|