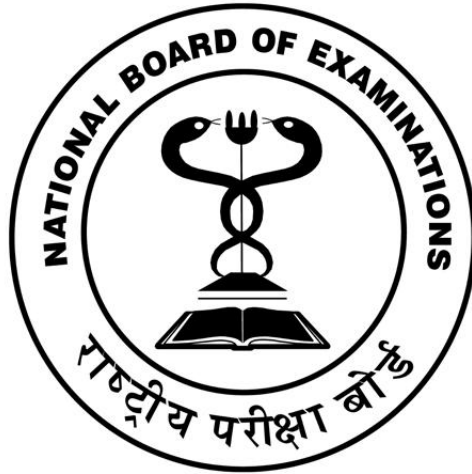


Guidelines  
for  
Competency Based Training Programme  
in  
**DNB- SURGICAL GASTROENTROLOGY**



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## **INTRODUCTION**

Surgical Gastroenterology is a sub-speciality dealing with the management of diseases related to the human gastrointestinal tract involving the organs namely oesophagus, stomach, pancreas, liver, gall bladder and biliary tract, small and large intestine, rectum and anus.

It is a well recognized specialty today. Diseases of the GI system are among the most common disorders in India. The National Board of Examinations, recognizing the need and the importance of GI surgery, has established a DNB examination in Surgical Gastroenterology.

This DNB programme will fulfill the 3 objectives of good surgical training, namely, patient care, teaching and research.

## **PROGRAMME GOAL**

The goal of the training program in the Surgical Gastroenterology is to produce a surgeon who can provide tertiary care for patients with complicated problems related to the gastrointestinal tract and related organs. At the end of the training, the trainee should be:

- A competent and caring surgeon who follows high standards of ethical practice.
- A thinking surgeon who applies his knowledge based on best current evidence, to the problems of gastrointestinal surgery.
- A competent surgeon who performs complicated major surgery
- A good teacher who shares his skills and knowledge with his colleagues
- One who constantly updates his knowledge and skill

## **PROGRAMME OBJECTIVES**

In order to achieve the above goals, the following objectives are laid down

- i. Knowledge (cognitive)
- ii. Skills (psychomotor)
- ii. Ethical principles, Communication and Rational thought (affective)

At the end of the training programme the trainee should be able to:

### **Knowledge**

- Understand etiology, pathophysiology and diagnose gastrointestinal surgical problems on the basis of history and clinical examination.
- Interpret laboratory investigations, endoscopic and radiological findings in a logical manner and arrive at a reasonable diagnosis.
- Advise the patient appropriate treatment on the basis of (a) and (b) above
- Be proficient in the proper selection of patients for surgery, the timing of surgery and preoperative work up and post-operative care.
- Manage emergency situations related to the gastrointestinal system, such as gastrointestinal bleeding, acute abdomen, abdominal trauma, etc.
- Be proficient in monitoring and management of the critically ill patient.
- Continuously update knowledge and skills, and keep abreast of the latest advances
- Teach undergraduate and postgraduate students.
- Carryout medical research i.e. plans clinical trials and laboratory research.

## **Skills**

- Perform endoscopic procedures.
- Perform elective complex gastrointestinal surgery such as porta-systemic shunts, pancreato-duodenectomies, esophageal resections, etc., and have exposure to laparoscopic and minimally invasive surgery
- Proficient and preoperative work up and post-operative care of the surgical patient, including invasive monitoring

## **Ethical Principles**

- Follow-up high standards of ethical practice
- Respect patient's right and privileges, his/her right to information and right to seek second opinion
- Be able to work as member of a team and also provide leadership where necessary

## **ELIGIBILITY CRITERIA FOR ADMISSIONS TO THE PROGRAMME**

### **DNB Surgical Gastroenterology Course:**

1. Any medical graduate with **MS/DNB in General Surgery** qualification, who has qualified the **Entrance Examination** conducted by NBE and fulfill the eligibility criteria for admission to DNB **Super Specialty** courses at various NBE accredited Medical Colleges/ institutions/Hospitals in India is eligible to participate in the Centralized counseling for allocation of DNB **Surgical Gastroenterology** seats purely on merit cum choice basis.
2. Admission to 3 years post MBBS DNB **Surgical Gastroenterology** course is only through **Entrance Examination** conducted by NBE and Centralized Merit Based Counseling conducted by National Board of Examination as per prescribed guidelines.

## **Duration of Course: 3 Years**

Every candidate admitted to the training programme shall pursue a regular course of study (on whole time basis) in the concerned recognized institution under the guidance of recognized post graduate teacher for assigned period of the course.

## **TEACHING AND TRAINING ACTIVITIES**

The fundamental components of the teaching programme should include:

1. Case presentations & discussion- once a week
2. Seminar – Once a week
3. Journal club- Once a week
4. Grand round presentation (by rotation departments and subspecialties)- once a week
5. Faculty lecture teaching- once a month
6. Clinical Audit-Once a Month
7. A poster and have one oral presentation at least once during their training period in a recognized conference.

The rounds should include bedside sessions, file rounds & documentation of case history and examination, progress notes, round discussions, investigations and management plan) interesting and difficult case unit discussions.

The training program would focus on knowledge, skills and attitudes (behavior), all essential components of education. It is being divided into theoretical, clinical and practical in all aspects of the delivery of the rehabilitative care, including methodology of research and teaching.

**Theoretical:** The theoretical knowledge would be imparted to the candidates through discussions, journal clubs, symposia and seminars. The students are exposed to recent advances through discussions in journal clubs. These are considered necessary in view of an inadequate exposure to the subject in the undergraduate curriculum.

**Symposia:** Trainees would be required to present a minimum of 20 topics based on the curriculum in a period of three years to the combined class of teachers and students. A free discussion would be encouraged in these symposia. The topics of the symposia would be given to the trainees with the dates for presentation.

**Clinical:** The trainee would be attached to a faculty member to be able to pick up methods of history taking, examination, prescription writing and management in rehabilitation practice.

**Bedside:** The trainee would work up cases, learn management of cases by discussion with faculty of the department.

**Journal Clubs:** This would be a weekly academic exercise. A list of suggested Journals is given towards the end of this document. The candidate would summarize and discuss the scientific article critically. A faculty member will suggest the article and moderate the discussion, with participation by other faculty members and resident doctors. The contributions made by the article in furtherance of the scientific knowledge and limitations, if any, will be highlighted.

**Research:** The student would carry out the research project and write a thesis/ dissertation in accordance with NBE guidelines. He/ she would also be given exposure to partake in the research projects going on in the departments to learn their planning, methodology and execution so as to learn various aspects of research.

## **SYLLABUS**

Each candidate is expected to acquire a thorough knowledge of the organs of the GI tract as regards anatomy, physiology, pathology of various diseases congenital/acquired/traumatic vascular/ neoplastic and their detailed principles of management both medical and surgical. For the management of malignant diseases, the candidates are supposed to be acquainted with general oncological principles, various investigative approaches and different modalities of adjuvant treatment employed (e.g. chemotherapy, radiotherapy, immunotherapy etc.).

1. Approach to a Patient of Digestive Disease
2. Gastrointestinal Imaging
3. Infections and Antibiotics in Gastrointestinal Surgery
4. Nuclear Medicine Imaging in Gastrointestinal Diseases
5. Radiation Therapy
6. Chemotherapy Principles and Techniques for Gastrointestinal Cancers
7. Nutritional Support to Hospitalized Patients
8. Statistics for Surgeons
9. Interventional Radiology of the Gastrointestinal Tract and Hepatobiliary System

### **BASIC SCIENCES AND PRINCIPLES OF SURGICAL GASTROENTEROLOGY**

- Anatomy - Gross and histological anatomy of the abdomen .and its contents including entire GI tract, Liver (including segmental anatomy), Biliary tract, Pancreas, spleen, portal and Hepatic venous system.
- Physiology - Normal function of GI tract and related organs including endocrine functions of gut and pancreas. Physiological basis of various tests to study these functions



- Pharmacology of drugs used in GI surgical disorders e.g. to control acid secretion in the management of ulcerative colitis and immunosuppressive drugs.
- Fluid -electrolyte and acid base disturbance- general aspects, imbalance in GI surgical patient's physiological responses to volume and osmolality abnormalities, interpretation of blood gas analysis, maintenance and replacement therapy.
- Nutritional considerations in GI surgical patients.- nutrient stores and body compositions, nutrient requirements, malnutrition, evaluation of nutritional status., nutritional therapy, enteral and parenteral therapy and complications of these.
- Wound healing- Principles, Phases, types of healing, influencing factors on wound healing, wound dehiscence and management. • Principles and disorders of hemostasis.
- Immunology in GI surgery. Especially in relation to organ transplantation

## **Oesophagus**

- Anatomical detail, physiology of swallowing, esophageal manometry, pilmonitoring, endoscopic ultrasound and other diagnostic techniques, brush cytology, vital staining, contrast imaging and CT scan,
- Congenital lesions (TOF), Zenker's diverticulum, epiphrenic diverticulum, esophageal trauma, rupture-spontaneous or introgenic, corrosive burns-detection, evaluation and management, esophageal motility disorders
- Gastroesophageal reflux disease, achalasia. Barrett's esophagus, esophageal cancer- adeno & suarmous, various esophageal operations-diverticulotomy, excision of leimyoma, oesophagostomy, myotomy, fundoplication, oesophageal resection (lyor Lewsi, Mc Keown, Transhiastal)
- Cervical exploration, oesophagogastrostomy, gastric pull-up, gastric and colonic bypass, complications of oesophagectomy, management of chylothorax.

## **Stomach and Duodenum**

- Anatomical details, physiology of gastric secretions, gastroduodenal motility, diaphragmatic hernia (congenital and acquired), volvulus, pyloric stenosis in children and adults, foreign bodies (bezoars), stomach trauma,
- H.pylori in gastric diseases, peptic ulcer, Zollinger-Ellison syndrome, NUD
- Gastric tumours, gastric surgery-vagotomy pyloric drainage gastrojejunostomy
- Bariatric gastric tube creation, R-en-Y oesophagojejunal anastomosis, postgastrectomy syndromes and complications

## **Biliary System**

- Detailed anatomy, bile physiology, enterohepatic circulation, acute cholecystitis, chronic cholecystitis, acalculus cholecystitis, gallstones-pathogenesis and presentation
- CBD stones CBD stricture, cholangitis, sphincter of Oddi (SOD) dysfunction and biliary dyskinesia, cholecystopathies, postcholecystectomy syndromes, choledochal cyst, polyps of GB, carcinoma of gall bladder, cholangiocarcinoma, parasitic infestations of biliary tree, cholecystectomy-open and laparoscopic
- CBD exploration and drainage, biliary bypass radical cholecystectomy, choledochal cyst excision, primary sclerosing cholangitis endoscopic biliary interventions and stenting hemobilia.

## **Liver Segmental**

- Anatomy in detail, liver function and tests, liver regeneration, liver failure-diagnosis and management, liver abscess cysts, benign and malignant tumours (HOC, intrahepatic cholangiocarcinoma, hemangioma, FNH adenoma), cirrhosis, PBC, viral hepatitis, radiological imaging modalities (US, CECT, Lipiodol CT, Dynamic CT, MR imaging and radionuclide scanning), percutaneous transhepatic biliary drainage and cholangiography.
- Liver biopsy, portal hypertension (cirrhotic and non-cirrhotic causes), hepatic venous outflow obstruction, Shunt surgery (Proximal lienorenal shunt, cavoatrial, mesocaval, portocaval-side to side), splenectomy and devascularisation, liver resecting-anatomic and non-anatomic, liver

trauma, hepaticojejunostomy, seg III bypass, Orthotopic liver transplantation, liver related transplantation, Caroli's disease, hemobilia.

### **Liver Transplantation**

- History of Liver Transplantation
- Liver Transplantation in India
- Indications and Contraindications for Liver Transplantation
- Organ Preservation in Liver Transplant
- Anesthetic Management in Liver Transplantation
- Immunology of Liver Transplantation
- Pediatric Liver Transplant
- Liver Transplantation in Acute Liver Failure
- Deceased Donor Liver Transplantation
- Living Related Liver Transplantation
- Complications in Living Donor Liver Transplantation

### **Pancreas**

- Anatomy, physiology, pancreatic ductal anomalies, acute pancreatitis, chronic pancreatitis, tropical and alcoholic; endocrine tumours, exocrine tumours of pancreas, cystic neoplasms; pseudocysts of pancreas, haemosuccus pancreaticus;
- Pancreatic operations : pancreatic resection, pseudocystogastrostomy/jejunostomy, pylorus preserving pancreatoduodenectomy, duodenum preserving pancreatic head resections (Frey's, Beger's), distal pancreatectomy, regional pancreatectomy, total pancreatectomy, lateral pancreaticojejunostomy, Whipple's, pancreatic transplantation.

### **Peritoneum**

- Omentum, Retroperitoneum Recesses, reflections, subdiaphragmatic spaces, peritonitis
- Primary secondary and tertiary, tuberculosis, mesenteric cyst, pseudomyxoma peritonei, ascites (diagnosis, investigation and management), retroperitoneal tumors, inguinal hernia, ventral hernias, peritoneoscopy

## **Spleen**

- Anatomy, splenic function, haemolytic anaemias, splenomegaly, hypersplenism, splenic trauma, cysts and granulomas, physiological effects of splenectomy, OPSI, splenic vein thrombosis, splenic artery aneurysms, splenectomy, splenic preservation.

## **Small Intestine**

- Mesenteric vascular anatomy, intestinal physiology, Ladd's band, malrotation, volvulus, hernia, intestinal obstruction, ileocaecal TB, lymphoma, tumors of small intestine,
- Meckel's diverticulum, intussusception, small bowel gangrene, intestinal resections, lengthening and transplantation, mesenteric ischaemia, short gut syndrome, small bowel fistulae,
- Crohn's and other inflammatory bowel diseases, enteral feeding, home/parenteral nutrition.

## **Colon, Rectum and Anal Canal**

- Anatomy, physiology, colonic motility, physiology of defaecation and anal continence; Hirschsprung's disease, anorectal malformations, rectal prolapse, SRUS, pseudoobstruction (Ogilvie syndrome), descending perineum syndrome, anismus and constipation, anal incontinence;
- Haemorrhoids, fissure, fistulae and anal stricture; polyps and other benign tumors, hereditary and familial polyposis syndrome, ulcerative colitis and Crohn's, amoebic colitis, ischaemic colitis, diverticulitis, lower GI haemorrhage, carcinoma of the colon, rectum, anal canal
- Operations- APR, anterior resections, segmental colectomies, pelvic exenterations, colostomy, ureterosigmoidostomy, hemicolectomies, urinary diversions, surgery for anal incontinence, rectal prolapse and complex fistulae, restorative proctocolectomy and ileoanal pouch anastomosis

## **General Topics**

- Tumour genetics- oncogenes, tumor markers, Systemic Inflammatory

- Response Syndrome (SIRS), multiple organ dysfunction syndrome (MODS), immunology in relation to transplantation and rejection, intensive care and respiratory support,
- Surgical nutrition- parenteral and enteral, iatrogenic complications of surgery like enterocutaneous fistulae, biliary strictures, intrabdominal sepsis/collections, AIDS, hepatitis and surgeons, renal failure, shock, disorders of coagulation, Surgery for morbid obesity

### **Miscellaneous**

- Variceal Upper Gastrointestinal Bleeding Management of Nonvariceal Hemorrhage
- Approach to the Management of Lower Gastrointestinal Hemorrhage
- Bariatric and Metabolic Surgery
- Robotics in Gastrointestinal Surgery
- Tumor Markers in Gastrointestinal Malignancy Chylous Ascites
- Acute Postoperative Pain and its Management in Major Abdominal Surgeries
- Telemedicine: Principles and the Surgery for Portal Hypertension

### **Liver Transplant Programme**

Each resident is expected to be conversant with the Departmental protocols (viz. recipient selection and workup, pre-transplant evaluation, Indian brain death law, brain dead donor management - before and during retrieval, donor harvesting procedure, recipient management - operative and post transplant care and follow up).

### **Biostatistics, Research Methodology and Clinical Epidemiology**

### **Ethics**

### **Medico legal aspects relevant to the discipline**

### **Health Policy issues as may be applicable to the discipline**

## **Competencies**

1. Perform endoscopic procedures
2. Perform elective complex gastrointestinal surgery such as porta-systemic shunts, pancreato-duodenectomies, esophageal resections, etc., and have exposure to laparoscopic and minimally invasive surgery
3. Proficient and preoperative work up and post-operative care of the surgical patient, including invasive monitoring

## **Ethical Principles**

1. Follow-up high standards of ethical practice
2. Respect patient's right and privileges, his/her right to information and right to seek second opinion.
3. Be able to work as member of a team and also provide leadership where necessary

## **TEACHING & LEARNING METHODS**

Teaching method and learning methods will include

- Ward and out patient management.
- Learning correct surgical technique
- Assisting and performing operations.
- Gastrointestinal surgery teaching rounds
- Combined surgical gastroenterology and medical gastroenterology teaching rounds
- Formal case presentations and discussions
- Topic discussion in which a topic relating to a problem in management is discussed
- Journal club (weekly)
- Research Review (monthly)
- Guest and in-house lectures
- Participation in conferences, workshops, CMEs (conducted by NBE, other institutions etc.), seminars
- Surgical Audit ( weekly morbidity and mortality meeting)

## **CLINICAL PROCEDURES**

Surgical procedures, candidates are expected to perform or assist:

- Esophagus • Heller's Operation • Fundoplication • THE + GPU • TTE + GPU • Colonic pull up
- Stomach and Duodenum • TV + G.I./Pyloroplasty • Billroth I & II gastrectomy • Radical gastrectomy
- Small Intestine • Resection and anastomosis • Ileostomy closure • Feeding jejunostomy
- Large Intestine • Rt hemicolectomy • Lt hemicolectomy • APR • Ant.Resection • Restorative Proctocoledctomy • Ileal J Pouch and anastomosis
- Pancreas • Pancreatic Necrosectomy • Cyto-gastrostomy/jejunostomy • Lateral pancreatico-jejunostomy • Whipple's procedure
- Biliary surgery • Open cholecstectomy • Radical cholecystectomy • CBD Exploration/CDD • Hepatico-jejunostomy R-en-y • Segment III HJ
- Portal Hypertension • Splenectomy+ Devascularisation • Proximal Ilenorenal shunt • Portocaval/Mesocaval shunt
- Liver Surgery • Major hepatic resection • Wedge resections • Hydatid cyst excision
- Others • Diagnostic Laparoscopy • Perianal ProceduresRecommended



## THESIS PROTOCOL & THESIS

The candidates are required to submit a thesis at the end of three years of training as per the rules and regulations of NBE.

### **Guidelines for Submission of Thesis Protocol & Thesis by candidates**

Research shall form an integral part of the education programme of all candidates registered for DNB degrees of NBE. The Basic aim of requiring the candidates to write a thesis protocol & 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 for Thesis Protocol**

The protocol for a research proposal (including thesis) is a study plan, designed to describe the background, research question, aim and objectives, and detailed methodology of the study. In other words, the protocol is the 'operating manual' to refer to while conducting a particular study.

The candidate should refer to the NBE Guidelines for preparation and submission of Thesis Protocol before the writing phase commences. The minimum writing requirements are that the language should be clear, concise, precise and consistent without excessive adjectives or adverbs and long sentences. There should not be any redundancy in the presentation.

The development or preparation of the Thesis Protocol by the candidate will help her/him in understanding the ongoing activities in the proposed area of research. Further it helps in creating practical exposure to research and hence it bridges the connectivity between clinical practice and biomedical research. Such research exposure will be helpful in improving problem solving capacity, getting updated with ongoing research and implementing these findings in clinical practice.

Research Ethics: Ethical conduct during the conduct and publication of research is an essential requirement for all candidates and guides, with the primary responsibility of ensuring such conduct being on the thesis guide. Issues like Plagiarism, not maintaining the confidentiality of data, or any other distortion of the research process will be viewed seriously. The readers may refer to standard documents for the purpose.

The NBE reserves the right to check the submitted protocol for plagiarism, and will reject those having substantial duplication with published literature.

## **PROTOCOL REQUIREMENTS**

1. All of the following will have to be entered in the online template. The thesis protocol should be restricted to the following word limits.
  - Title : 120 characters (with spacing) page
  - Synopsis [structured] : 250-300
  - Introduction : 300-500
  - Review of literature : 800-1000
  - Aim and Objectives : Up to 200
  - Material and Methods : 1200-1600
  - 10-25 References [ICMJE style]
2. It is mandatory to have ethics committee approval before initiation of the research work. The researcher should submit an appropriate application to the ethics committee in the prescribed format of the ethics committee concerned.

## **Guidelines for Thesis**

1. The proposed study must be approved by the institutional ethics committee and the protocol of thesis should have been approved by NBE.
2. The thesis should be restricted to the size of 80 pages (maximum). This includes the text, figures, references, annexures, and certificates etc. It should be printed on both sides of the paper; and every page has to be numbered. Do not leave any page blank. To achieve this, following points may be kept in view:
  - a. The thesis should be typed in 1.5 space using Times New Roman/Arial/ Garamond size 12 font, 1” margins should be left on all four sides. Major sections viz., Introduction, Review of Literature, Aim & Objectives, Material and Methods, Results, Discussion, References, and Appendices should start from a new page. Study proforma (Case record form), informed consent form, and patient information sheet may be printed in single space.
  - b. Only contemporary and relevant literature may be reviewed. Restrict the introduction to 2 pages, Review of literature to 10-12 pages, and Discussion to 8-10 pages.
  - c. The techniques may not be described in detail unless any modification/innovations of the standard techniques are used and reference(s) may be given.
  - d. Illustrative material may be restricted. It should be printed on paper only. There is no need to paste photographs separately.

3. 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:
  - a. The number of cases should be such that adequate material, judged from the hospital attendance/records, will be available and the candidate will be able to collect case material within the period of data collection, i.e., around 6-12 months so that he/she is in a position to complete the work within the stipulated time.
  - b. The aim and objectives of the study should be well defined.
  - c. As far as possible, only clinical/laboratory data of investigations of patients or such other material easily accessible in the existing facilities should be used for the study.
  - d. Technical assistance, wherever necessary, may be provided by the department concerned. The resident of one specialty taking up some problem related to some other specialty should have some basic knowledge about the subject and he/she should be able to perform the investigations independently, wherever some specialized 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 & co-guide by mutual consultation.
4. The clinical residents are not ordinarily expected to undertake experimental work or clinical work involving new techniques, not hitherto perfected OR the use of chemicals or radioisotopes 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.
5. The DNB residents should be able to freely use 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.
6. Statistical methods used for analysis should be described specifically for each objective, and name of the statistical program used mentioned.

#### **General Layout of a DNB Thesis:**

- **Title-** A good title should be brief, clear, and focus on the central theme of the topic; it should avoid abbreviations. The Title should effectively summarize the proposed research and should contain the PICO elements.

- **Introduction-** It should be focused on the research question and should be directly relevant to the objectives of your study.
- **Review of Literature** - The Review should include a description of the most relevant and recent studies published on the subject.
- **Aim and Objectives** - The 'Aim' refers to what would be broadly achieved by this study or how this study would address a bigger question / issue. The 'Objectives' of the research stem from the research question formulated and should at least include participants, intervention, evaluation, design.
- **Material and Methods-** This section should include the following 10 elements: Study setting (area), Study duration; Study design (descriptive, case-control, cohort, diagnostic accuracy, experimental (randomized/non-randomized)); Study sample (inclusion/exclusion criteria, method of selection), Intervention, if any, Data collection, Outcome measures (primary and secondary), Sample size, Data management and Statistical analysis, and Ethical issues (Ethical clearance, Informed consent, trial registration).
- **Results-** Results should be organized in readily identifiable sections having correct analysis of data and presented in appropriate charts, tables, graphs and diagram etc.
- **Discussion**—It should start by summarizing the results for primary and secondary objectives in text form (without giving data). This should be followed by a comparison of your results on the outcome variables (both primary and secondary) with those of earlier research studies.
- **Summary and Conclusion-** This should be a précis of the findings of the thesis, arranged in four paragraphs: (a) background and objectives; (b) methods; (c) results; and (d) conclusions. The conclusions should strictly pertain to the findings of the thesis and not outside its domain.
- **References-** Relevant References should be cited in the text of the protocol (in superscripts).
- **Appendices** -The tools used for data collection such as questionnaire, interview schedules, observation checklists, informed consent form (ICF), and participant information sheet (PIS) should be attached as appendices. Do not attach the master chart.

## **Thesis Protocol Submission to NBE**

1. DNB candidates are required to submit their thesis protocol within 90 days of their joining DNB training.
2. Enclosures to be submitted along with protocol submission form:
  - a) Form for Thesis Protocol Submission properly filled.
  - b) Thesis Protocol duly signed.
  - c) Approval letter of institutional Ethical committee. (*Mandatory, non receivable of any one is liable for rejection*)

## **Thesis Submission to NBE**

1. As per NBE norms, writing a thesis is essential for all DNB candidates towards partial fulfillment of eligibility for award of DNB degree.
2. DNB candidates are required to submit the thesis before the cut-off date which shall be 30th June of the same year for candidates appearing for their scheduled December final theory examination. Similarly, candidates who are appearing in their scheduled June DNB final examination shall be required to submit their thesis by 31st December of preceding year.
3. Candidates who fail to submit their thesis by the prescribed cutoff date shall NOT be allowed to appear in DNB final examination.
4. Fee to be submitted for assessment (In INR): 3500/-
5. Fee can be deposited ONLY through pay-in-slip/challan at any of the Indian bank branch across India. The challan can be downloaded from NBE website [www.natboard.edu.in](http://www.natboard.edu.in)
6. Thesis should be bound and the front cover page should be printed in the standard format. A bound thesis should be accompanied with:
  - a. A Synopsis of thesis.
  - b. Form for submission of thesis, duly completed
  - c. NBE copy of challan (in original) towards payment of fee as may be applicable.
  - d. Soft copy of thesis in a CD duly labeled.
  - e. Copy of letter of registration with NBE.
7. A declaration of thesis work being bonafide in nature and done by the candidate himself/herself at the institute of DNB training need to be submitted bound with thesis. It must be signed by the candidate himself/herself, the thesis guide and head of the institution, failing which thesis shall not be considered.

## ***The detailed guidelines and forms for submission of Thesis***

***Protocol & Thesis are available at***

***[www.natboard.edu.in.thesis.php](http://www.natboard.edu.in.thesis.php)***

## **LOG BOOK**

A candidate shall maintain a log book of operations (assisted / performed) during the training period, certified by the concerned post graduate teacher / Head of the department / senior consultant.

This log book shall be made available to the board of examiners for their perusal at the time of the final examination.

The log book should show evidence that the before mentioned subjects were covered (with dates and the name of teacher(s)) The candidate will maintain the record of all academic activities undertaken by him/her in log book .

1. Personal profile of the candidate
2. Educational qualification/Professional data
3. Record of case histories
4. Procedures learnt
5. Record of case Demonstration/Presentations
6. Every candidate, at the time of practical examination, will be required to produce performance record (log book) containing details of the work done by him/her during the entire period of training as per requirements of the log book. It should be duly certified by the supervisor as work done by the candidate and countersigned by the administrative Head of the Institution.
7. In the absence of production of log book, the result will not be declared.

## Leave Rules

1. DNB Trainees are entitled to leave during the course of DNB training as per the Leave Rules prescribed by NBE.
2. A DNB candidate can avail a maximum of 20 days of leave in a year excluding regular duty off/ Gazetted holidays as per hospital/institute calendar/policy.
3. MATERNITYLEAVE:
  - a. A female candidate is permitted a maternity leave of 90 days once during the entire duration of DNB course.
  - b. The expected date of delivery (EDD) should fall within the duration of maternity leave.
  - c. Extension of maternity leave is permissible only for genuine medical reasons and after prior approval of NBE. The supporting medical documents have to be certified by the Head of the Institute/hospital where the candidate is undergoing DNB training. NBE reserves its rights to take a final decision in such matters.
  - d. The training of the candidate shall be extended accordingly in case of any extension of maternity leave being granted to the candidate.
  - e. Candidate shall be paid stipend during the period of maternity leave. No stipend shall be paid for the period of extension of leave.
4. Male DNB candidates are entitled for paternity leave of maximum of one week during the entire period of DNB training.
5. No kind of study leave is permissible to DNB candidates. However, candidates may be allowed an academic leave as under across the entire duration of training program to attend the conferences/CMEs/Academic programs/Examination purposes.

<b>DNB COURSE</b>	<b>NO. OF ACADEMIC LEAVE</b>
DNB 3 years Course (Broad & Super Specialty)	14 Days
DNB 2 years Course (Post Diploma)	10 Days
DNB Direct 6 years Course	28 days

6. Under normal circumstances leave of one year should not be carried forward to the next year. However, in exceptional cases such as prolonged illness the leave across the DNB training program may be clubbed together with prior approval of NBE.
7. Any other leave which is beyond the above stated leave is not permissible and shall lead to extension/cancellation of DNB course.
8. Any extension of DNB training for more than 2 months beyond the scheduled completion date of training is permissible only under extraordinary circumstances with prior approval of NBE. Such extension is neither automatic nor shall be granted as a matter of routine. NBE shall consider such requests on merit provided the seat is not carried over and compromise with training of existing trainees in the Department.
9. Unauthorized absence from DNB training for more than 7 days may lead to cancellation of registration and discontinuation of the DNB training and rejoining shall not be permitted.

#### 10. Medical Leave

- a. Leave on medical grounds is permissible only for genuine medical reasons and NBE should be informed by the concerned institute/hospital about the same immediately after the candidate proceeds on leave on medical grounds.
- b. The supporting medical documents have to be certified by the Head of the Institute/hospital where the candidate is undergoing DNB training and have to be sent to NBE.
- c. The medical treatment should be taken from the institute/ hospital where the candidate is undergoing DNB training. Any deviation from this shall be supported with valid grounds and documentation.
- d. In case of medical treatment being sought from some other institute/hospital, the medical documents have to be certified by the Head of the institute/hospital where the candidate is undergoing DNB training.



- e. NBE reserves its rights to verify the authenticity of the documents furnished by the candidate and the institute/hospital regarding Medical illness of the candidate and to take a final decision in such matters.

11.

- a. Total leave period which can be availed by DNB candidates is  $120+28 = 148$  days for 6 years course,  $60+14=74$  days for 3 years course and  $40+10 = 50$  days for 2 years course. This includes all kinds of eligible leave including academic leave. Maternity / Paternity leave can be availed separately by eligible candidates. Any kind of leave including medical leave exceeding the aforementioned limit shall lead to extension of DNB training. It is clarified that prior approval of NBE is necessary for availing any such leave.
- b. The eligibility for DNB Final Examination shall be determined strictly in accordance with the criteria prescribed in the respective information bulletin.

# EXAMINATION

## FORMATIVE ASSESSMENT

Formative assessment includes various formal and informal assessment procedures by which evaluation of student's learning, comprehension, and academic progress is done by the teachers/ faculty to improve student attainment. Formative assessment test (FAT) is called as "Formative" as it informs the in process teaching and learning modifications. FAT is an integral part of the effective teaching. The goal of the FAT is to collect information which can be used to improve the student learning process.

Formative assessment is essentially positive in intent, directed towards promoting learning; it is therefore part of teaching. Validity and usefulness are paramount in formative assessment and should take precedence over concerns for reliability. The assessment scheme consists of Three Parts which has to be essentially completed by the candidates.

The scheme includes:-

Part I:- Conduction of theory examination

Part-II :- Feedback session on the theory performance

Part-III :- Work place based clinical assessment

### Scheme of Formative assessment

<b>PART – I</b>	<b>CONDUCT OF THEORY EXAMINATION</b>	Candidate has to appear for Theory Exam and it will be held for One day.
<b>PART – II</b>	<b>FEEDBACK SESSION ON THE THEORY PERFORMANCE</b>	Candidate has to appear for his/her Theory Exam Assessment Workshop.
<b>PART – III</b>	<b>WORK PLACE BASED CLINICAL ASSESSMENT</b>	After Theory Examination, Candidate has to appear for Clinical Assessment.

The performance of the resident during the training period should be monitored throughout the course and duly recorded in the log books as evidence of the ability and daily work of the student

#### 1. Personal attributes:

- **Behavior and Emotional Stability:** Dependable, disciplined, dedicated, stable in emergency situations, shows positive approach.
- **Motivation and Initiative:** Takes on responsibility, innovative, enterprising, does not shirk duties or leave any work pending.

- **Honesty and Integrity:** Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.
- **Interpersonal Skills and Leadership Quality:** Has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to seniors, has good communication skills.

## 2. Clinical Work:

- **Availability:** Punctual, available continuously on duty, responds promptly on calls and takes proper permission for leave.
- **Diligence:** Dedicated, hardworking, does not shirk duties, leaves no work pending, does not sit idle, competent in clinical case work up and management.
- **Academic ability:** Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.
- **Clinical Performance:** Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

**3. Academic Activity:** Performance during presentation at Journal club/ Seminar/ Case discussion/Stat meeting and other academic sessions. Proficiency in skills as mentioned in job responsibilities.

## FINAL EXAMINATION

The summative assessment of competence will be done in the form of DNB Final Examination leading to the award of the degree of Diplomate of National Board in Surgical Gastroenterology. The DNB final is a two-stage examination comprising the theory and practical part. An eligible candidate who has qualified the theory exam is permitted to appear in the practical examination.

### Theory Examination

1. The theory examination comprises of **Three/ Four** papers, maximum marks 100 each.
2. There are 10 short notes of 10 marks each, in each of the papers. The number of short notes and their respective marks weightage may vary in some subjects/some papers.
3. Maximum time permitted is 3 hours.

4. Candidate must score at least 50% in the aggregate of **Three/ Four** papers to qualify the theory examination.
5. Candidates who have qualified the theory examination are permitted to take up the practical examination.
6. The paper wise distribution of the Theory Examination shall be as follows:

#### **Paper I**

- Basic sciences applied to the specialty
- The Esophagus
- The stomach and duodenum

#### **Paper II**

- The Biliary system
- The Liver
- The Pancreas

#### **Paper III**

- Research methodology
- Critical Care
- The Small Intestine
- Colon, Rectum and Anus
- Recent advances and Investigations

#### **a) Practical Examination:**

1. Maximum Marks: 300.
2. Comprises of Clinical Examination and Viva.
3. Candidate must obtain a minimum of 50% marks in the Clinical Examination (including Viva) to qualify for the Practical Examination.
4. There are a maximum of three attempts that can be availed by a candidate for Practical Examination.

5. First attempt is the practical examination following immediately after the declaration of theory results.
6. Second and Third attempt in practical examination shall be permitted out of the next three sessions of practical examinations placed alongwith the next three successive theory examination sessions; after payment of full examination fees as may be prescribed by NBE.
7. Absentation from Practical Examination is counted as an attempt.
8. Appearance in first practical examination is compulsory;
9. Requests for Change in center of examination are not entertained, as the same is not permissible.
10. Candidates are required not to canvass with NBE for above.

#### **Declaration of DNB Final Results**

1. DNB final is a qualifying examination.
2. Results of DNB final examinations (theory & practical) are declared as PASS/FAIL.
3. DNB degree is awarded to a DNB trainee in the convocation of NBE.

## RECOMMENDED TEXT BOOKS AND JOURNALS

### BOOKS

- Blumgart L.H. : Surgery of the Liver, Pancreas and Biliary Tract
- Bockus H.L. : Gastroenterology
- Cotton and Williams : Practical Gastroenterological Endoscopy
- Cuschieri and Berci : Laparoscopic Biliary Surgery
- DeVita, Lawrence, and Rosenberg's Cancer: Principles and Practices of Oncology
- Goligher J.C.: Surgery of the Anus, Rectum and Colon
- Keighley M.R.B.:Surgery of the Anus, Rectum and Colon
- Maingot's Abdominal Operations
- Michael Trede : Surgery of the Pancreas
- Nyhus, Baker and Fischer : Mastery of Surgery
- Rob and Smith's Operative Surgery
- Sabiston Textbook of Surgery- The Biological Basis of Modern Surgical Practice
- Sherlock and Dooley: Diseases of the Liver and Biliary System
- Zuidema and Shackelford :Shackelford's Surgery of the Alimentary Tract

### JOURNALS

- American Journal of Gastroenterology
- British Journal of Surgery
- Current Problems in Surgery
- Digestive Surgery
- Disease of Colon and Rectum
- Gastroenterology

- GI Surgery Annual
- Gut
- Hepatology
- Journal of Endoscopy
- Lancet
- Liver Transplantation in Surgery
- New England Journal of Medicine
- Recent Advances in Surgery: UK and Indian Editions
- Surgery Today
- Transplantation
- Tropical Gastroenterology
- World Journal of Surgery

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