

# 1. Fellowship in Minimal Access Surgery (Basic)



## 1. Information Related to Course Content

### **Introduction**

The practice patterns of General and GI Surgery has changed significantly in the last two decades as a result of the increasing use of rigid and flexible Endoscopes for both diagnostic and therapeutic techniques. These changes are occurring from time to time and continue rapidly with increasing the performance of Advanced Laparoscopic procedures. Residents and General Surgeons who have completed their training in conventional open surgeries and are entering the practice of general surgery must be familiar with and must be well trained and educated in these areas of surgery. Laparoscopy should be significant part of their practice and with time will become more important and more widely used.

Dr. D.Y. Patil Medical College , Hospital and Research Centre Pimpri,Chinchwad Pune 411018 is one of the Prime teaching and Health care center in India affiliated to Dr. D Y Patil Deemed to Be University In Pune 411018. Dr.D Y PatilVidyapeeth, also ranked as one of the best universities in India. Under this University, Medical college is running Undergraduate ( M.B.B.S 250 students ) Post Graduate and Superspeciality courses in all major Medical Subjects. College is Catering state of art facilities for health care not only for the Local people but also from nearby states. College has got Department of General Surgery and a specialized unit of Laparoscopic Surgery. The concerned faculty undertakes all sorts of routine and advanced laparoscopic procedures since almost 8-10 years. The department also has got excellent teaching faculty & aids for teaching purposes including state of art Central Library, departmental library and audiovisual . The volume of clinical and operative work is very good. With all this available facility Department of Surgery would intend ( With Kind Permission from Higher Authority ) to start the Fellowship in Minimal Access Surgery.

Organization:-Dr. D. Y. Patil Medical College, Hospital & Research Centre.

Dr. D. Y. Patil Vidyapeeth, Pimpri Pune - 411018

Operation Theater Facilities: - State of Art OTs, (18 - Modular OTs )

Faculty:-

Excellent Medical Technologies: -

**Selection Criteria:-** Written Test& Personal Interview by appointed panel of specialty faculty.

**Maintenance of Logbook:-** The log books are to be submitted for monthly evaluation of the progress and to evaluate the learning curve

**Evaluation of Trainees:-** Each student is evaluated every month by Programme coordinator.

**Aim Of The Training:-**

Due to lack of adequate educational programs in MAS , this Programme is to adequately prepare general surgeons in the art of Minimal Access Surgery which will benefit the patients.

### **COURSE OBJECTIVES :**

Gaining laparoscopic skills is very important. Skill in conventional surgical procedure does not necessarily confer skills in Laparoscopic surgery. The course is aimed at bridging this gap and is formulated with the following objectives in mind.

1. To master the tactile sensation, altered hand and eye co-ordination due to the length and design of instruments and the absence of three dimensional depth perception due to two dimensional representation of the three dimensional abdominal cavity.
2. To learn about specialized Laparoscopic equipments and instrumentation.
3. To learn the principles of Laparoscopic surgery.
4. To learn the indications, contra-indications and limitations of MIAS and various procedures.
5. To perform abdominal insufflation using Veress needle
6. To perform laparoscopic procedures on live animal models in the purposeful, wet laboratory in association with J&J Ethicon Lab.
7. Learn to perform on human patients.
8. Sterilization and maintenance of instruments and video equipments.

9. Documentation, storage data and presentation.
10. Anesthesia in laparoscopic surgery.
11. Trouble shooting in MIAS.
12. Electro surgery and other newer energy sources.
13. Learning about prosthetic meshes and fixation devices.

**TRAINING PROGRAMME- SYLLABUS MINIMAL INVASIVE ABDOMINAL SURGERY: (Laparoscopic Surgery)**

1. Equipment set up and trouble shooting.
2. Patient preparation
3. Anesthesia and Monitoring
4. Access to abdomen
5. Creating pneumoperitoneum
6. Abdominal wall lift devices
7. Principles of laparoscopic hemostasis & Principles of Electrosurgery.

**Syllabus**

Course Director/Programme Director is required to fill up the requirements according to guidelines presented below and submit it to University

A) SOFT SKILL DEVELOPMENT MODULE/ Laboratory Module (25 Credits)

(Please specify the subjects in chronological order required for the course and breakup of the credits allotted according to importance of the subject)

Maintain high standards of ethical behavior.

Demonstrate sensitivity to age, race, gender, and culture of patients and other health care professionals

Practice high-quality, cost-effective patient care.

Demonstrate knowledge of risk-benefit analysis.

1) Hand skills development (7 credits points ) Basic Minimal Access Techniques:

a) Laparoscopic Stack, Pneumoperitoneum, Safe introduction of Trocars Manipulation of Angled Scopes, Accessory port placement Hand eye coordination (Basic to advanced)

b) Laparoscopic Cholecystectomy on Wetmodel

Tissue Approximation Techniques in M.A.S.

c) Laparoscopic Mechanical Wound closures d) Wetmodel tissue approximation

2) L A P MENTOR (Virtual Reality) (3 Credit Points)

a) Cholecystectomy (3 levels,) b) Ventral Hernia c) Bariatric module

3) FOLLOWING MODULES CAN BE COMPLETED ON CADAVERS, REAL SIZE MODELS (14 Credits)

Each of 7 Modules has credit point

1. Laparoscopic Hernia Repair M.A.S.

a) Ventral Hernia IPOM b) Groin Hernia TAPP /TEP

2 MAS fundoplication

a) Revision of Tissue Approximation techniques b) Wet model Fundoplication

3. MAS Solid Organ Surgery

a) Liver Biopsy b) Splenectomy

4 MAS Urological Surgery

a) Lap Nephrectomy b) Lap Adrenalectomy b) Lap Pyloplasty

5. VATS

a) VATS Oesophageal Dissection b) VATS Wedge Pulmonary Resection & Lobectomy

6 MAS Colorectal Surgery

a) Low Anterior Resection, b) Hemicolectomy

a) Laproscopic Knotting & Suturing. Laparoscopically place a suture into foam with marked points 2 cm apart and tie down 3 consecutive knots in less than 1 minute with the camera in a standard position.

b) 2 Layer anastomosis—laparoscopically perform an intact and patent handsewn 2 layer anastomosis of 1.5 cm in diameter in less than 35 minutes.

7 Bariatric Surgery

a) Vertical Sleeve Gastrectomy b) Mini Gastric Bypass c) Diversions

B) Didactic Credits :( 25 Credits )

Didactic on various topics as per syllabus spread over one Hour lecture. Total 10-20 Lectures

(Please specify the subjects in chronological order required for the course and breakup of the credits allotted according to importance of the subject)

Basic Principles & Optics used in Lap. Surgery

Basic Introduction of the Instrumentation and the Ergonomic their uses in the Laparoscopic Operations Comparison with the open instruments

Advantages & disadvantages of the open surgery vs MAS

Advantages & disadvantages and limitations/contraindications of surgery

Selection criteria of the Patient for open or Laparoscopy surgery

Caring, Cleaning, disinfecting & Sterilization of the Laparoscopic Instruments & optics

Role of the Hands eye coordination in the Laparoscopic operation, Anesthesia complications due to laparoscopic operations.

Laparoscopic complications, avoidances & troubleshooting Complications of inimally invasive surgery

Laparoscopic Cholecystectomy operation

Introduction advantages disadvantages, complications, selection of patients etc. with the help of video session Introduction & orientation for the appendectomy operation Introduction & Demonstration of the various knots by the faculty & its uses Introduction & basic principles of suturing techniques /needle selection /selection of suture as per the surgical requirements

Surgical site Infection in Laparoscopic Surgery C) Sessions in Imaging Clinics ( 15 credit points)

(Please specify the subjects in chronological order required for the course and breakup of the credits allotted according to importance of the subject)

Learning of Ultrasound, CT scan, MRI & Various Procedures required

D) OPERATIVE SESSIONS CREDITS. (TOTAL 150) Operative Credits: A Candidate is expected to maintain certified Log book indicating number of cases assisted or individually operated under the guidance of faculty for each Module.

(Please specify the subjects and surgeries/modules in importance order required for the course and breakup of the credits allotted according to importance of the subject)

Each of the modules attract certain credits

This Include

1) GI Laparoscopic surgeries (50 credits)

a) Trocar Entry and Diagnostic Laparoscopy: (5 credits) A fellow should learn safe abdominal entry and closure of trocar ports and diagnostic laparoscopy in minimum 10 cases

b) Laparoscopic Cholecystectomy: ( 10 credits) Since the first demonstration of laparoscopic surgery was for Calculus Cholecystitis in 1989, it has become Gold standard for Gall stones disease. It also has become the most important and maximally performed laparoscopic surgery throughout the world. A Fellow is expected to safely assist the completion of laparoscopic cholecystectomy as approved by faculty in a minimum of 10 cases. This includes Lap chole for Acute Cholecystitis, Calculus cholecystitis, operative demonstration for cholangiography.

1. Laparoscopic appendectomy :( 10 credits) Appendectomy is another commonly conducted surgery in the world. A fellow is expected to perform safely under faculty guidance laparoscopic appendectomy in a minimum of 10 cases. This includes acute and interval appendectomies

2. Laparoscopic Ventral Hernia Repair: (10 credits) Safely assist the completion of laparoscopic ventral hernia as approved by faculty in a minimum of 10 cases

3. Laparoscopic Inguinal Hernia Repair (10 credits) Safely assist the completion of laparoscopic inguinal hernia as approved by faculty in a minimum of 10 cases

4. Laparoscopic fundoplication(5 credits): Safely assist performance of fundoplication in minimum of 2 and maximum of 5 cases

1) Solid Organ Surgery like lap splenectomy, pancreatic surgery (Total Credits 30)

a) Laparoscopic Splenectomy. (10 credits) Safely assist performance of Laparoscopic splenectomy in minimum of 2 and maximum of 5 cases

b) Laparoscopicpancreaticsurgery(10credits)safelyassist performance of pancreatic surgeries in minimum of 2 cases and maximum of 5 cases. Surgeries like cystogstrostomy, distal pancreactomy, excision of small nodule etc.

c) Laparoscopic Nephrectomy (10 credits ). In maximum of 5 cases like total or partial nephrectomies

2) Bariatric Surgery( sleeve Gastrectomy) (15 credits): Assist the completion of laparoscopic gastric bypass as approved by faculty in a maximum of 5 cases

- 3) Urological Surgery (15credits) safely assist the faculty in performing other urological surgeries like Boari flap, Lap. Uretrolithotomy, Lap Pyelolithotomy, Pyeloplasty in minimum of 3 cases.
- 4) Colo-rectal (10 credits) Assist the completion of laparoscopic Right or Left hemicolectomy as approved by faculty in a maximum of 5 cases. Assist the completion of laparoscopic rectal surgeries like Pull through or APR in minimum of 2 cases (10 credits)
- 5) Thoracoscopy (10 credits). Assist the completion of VATS and various Thoracoscopic Surgeries as approved by and under guidance of a faculty in a maximum of 3 cases
- 6) Robotics (5 credits) . Observing 5 robotic cases in operation Theatre performed by a faculty member on a Da Vinci Robot
- 7) Laparoscopy in Malignancy (15 credits) Assist the completion of laparoscopic GI malignancy surgery (diagnosis, mapping, definitive surgeries like excision of a mass) as approved by and under guidance of a faculty in a minimum of 5 cases

Educational tools such as Video tapes /CD ROMS

- Simulators for Endo – Training
- Box trainers to master the skills
- Endo trainer rooms with adequate space and good air-conditioning facility to work long hours in the simulators so the trainee can avoid fatigue.
- Endo-cameras mounted on a special stands with the monitors
- Special hand instruments to learn the hand and eye co-ordination
- To learn depth perception
- To learn tactile sensations

**Pattern of Final Examination :-**

Soft Skill development module-

Didactic credits

Presentations, Publications, Project work.

Video Learning.

Grand Rounds.

Faculty Discussions.

Interdepartmental Interactive meeting especially – Imaging Clinics.

Operative Sessions Credits.

**Students' Logbook** :- Students shall maintain the logbook of their training practical and clinical cases from the first day of admission.

**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 during fellowship examination 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. Procedureslearnt
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.

**Exit Exams** :-Certificate of completion of Fellowship Programme, will be awarded to Successful candidates.

## Outcomes :-

Fellowship Examination ( 50 Credits)

The examination for a particular course may be conducted according to the requirement of a course. The examination should be of MCQ type for judging overall proficiency of a Fellow.

On successful completion of all modules of the Programme the Fellow will be awarded a Certificate of the Fellow in Minimal Access Surgery (Laparoscopic Surgery)

## 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-MCQ type.

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., MCQ type questions
<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.
- 2. Duration:** 1 Year
- 3. Training Facilities**
- i. Equipment set up and trouble shooting
  - ii. Patient Preparation
  - iii. Anesthesia and Monitoring
  - iv. Access to abdomen
  - v. Creating pneumoperitoneum
  - vi. Abdominal wall lift devices
  - vii. Principles of laparoscopic hemostasis & Principles of Electrosurgery.
- 4. Teaching Faculty Details**
- i. Dr. (Mrs.) D. S. Nirhale Reg. No. 77977
  - ii. Dr. Iqbal Ali, Reg No. 2016124971
  - iii. Virendra Athavale, Reg. No. 88598
  - iv. Dr. Anuradha Dnyanmote, Reg No. 81678
  - v. Dr. Amit Girme, Reg. No. 2006113591
  - vi. Dr. Pushkar Galam, Reg No. 2018010027
- 5. Infrastructure Facilities**
- i. Basic Surgical Skill to advance surgical procedures
  - ii. Mentorship
  - iii. Various educational like videos of various procedure with hands on training
  - iv. From Basic to sophisticate Laparoscopic equipments available
  - v. Latest & advance laparoscopic equipment
- 6. Fees:** 1,00,000/- (Rupees One Lakh Only )