

Maharashtra University of Health Sciences,

Nashik

SYLLABUS

**“Fellowship Course in Hepato
Pancreatico Biliary (HPB) Surgery”**

Objective:

This is a one year fellowship program that is available for candidates desiring additional training in Hepato-Pancreatico-Biliary (HPB) Surgery

The goal of this Fellowship Programme is to provide Surgeons/ Gynaecologists/ Anaesthetists with comprehensive academic, research and clinical training in Hepato-Pancreatico-Biliary (HPB) Surgery

This will include learning on the pathophysiology, evaluation, diagnosis and current Standard Management in all pathologies that lead them to _Fellowship in Hepato-Pancreatico-Biliary (HPB) Surgery . There will be a very strong emphasis on research, scholarly activity and teaching experience. This Fellowship will enable candidates to have a strong foundation to receive the Post-Doctoral Fellowship Award from the MUHS and consequently have a successful career in clinical practice

The program is designed for one year with alternating clinical and research rotations of specified duration. In general, clinical experience will include exposure in the following areas:

- Surgical management of benign and malignant HPB diseases
- Laparoscopic HPB surgery
- Exposure to multidisciplinary management of non-HPB malignancies involving the HPB tract
- Liver transplantation
- HPB intraoperative ultrasonography
- Endoscopic ultrasonography
- Operative ablative therapy
- Intraoperative Radiation therapy relevant to HPB malignancies

Programme:

The Fellowship seeks MS/ DNB (Republic of India and MCI accredited) qualified General Surgeons/Gynaecologists/Anaesthetists with a very strong commitment to academic evidence based medicine and research. It provides both didactic and self-directed teaching at both clinical and research skills.

Name of the Course**Fellowship in Hepato-Pancreatico-Biliary (HPB) Surgery**

Course Duration. 1 year.

Course fee.

As per University rules

Eligibility for Candidate for the Award of Fellowship

MS. /DNB (Republic of India and MCI accredited) in Surgery. For Foreigners, Post graduate degrees equivalent to and recognised by Medical Council of India.

Selection Criteria for candidates:

Fellows should be selected in a fair and non-discriminatory manner in accordance with the Equal Opportunities. The selection process will be according to MUHS guidelines.

The candidate is expected to appear for the multichoice(MCQ) written examination of 100 marks. Selected candidates will be called for the interview. Ultimately, selection of a candidate for a fellowship will be done by an interview with panel of faculties constituted by the MUHS.

Examination paper for selection of candidates for Fellowship:

Three sets of MCQ paper will be set by the committee of the faculties approved by MUHS & only one paper will be selected by random process on the day of examination.

Evaluation of the examination conducted will be done by a committee of faculties

Merit list & Successful candidates name will appear on the WEB site of MUHS

Candidate will be evaluated by credit points system: Most Fellows confuse credit based system with a different evaluation system in medical education. The credit based system is rather a scientifically accepted system which allows different weightage to different courses in a program based on its utility in the overall program structure. Over a period of time it has been identified that every program must have some learning objective defined to it. It is also accepted fact that only a flexible credit based structure can provide the best training and learning where the student can learn at his own pace and can learn what he perceives that would help him in his professional career.

The Advantages of credit based evaluation system are 1) Skilled fellows can always go for the maximum credits (2) Students can learn at their own pace. Practising Surgeons busy in practise will find it to be more suitable. Students can come back and finish the operative modules any time within a stipulated time and in any order. Only the Soft skill development in skills laboratory setup has to be finished first (3) Students get the freedom to choose and identify (4) Fellows can translate their innate capabilities to credits and get the know-how of more than one discipline increasing their horizons

Since the entire course is Credit System based, for each Module, the candidates will be assigned credits for their work by respective Faculty/Institute. The candidates may finish their modules and earn credits in Operative sessions within a certain stipulated time (maximum 3 years and minimum 1 year) in any order depending upon their availability of time and convenience. The basic credits for any system as stipulated by faculty of a particular course, however, will have to be finished first. The fellows may be rotated with different

expert faculties / Institutes of a specific module so as to learn maximum from the respective experts in their actual operative module

CRITERIA FOR INSTITUTIONAL RECOGNITION BY MUHS

List of various training centres, hospitals & institutes should be prepared & will have MOU with MUHS for allowing the faculties to train the candidates & work in their respective institutes for the purpose of award of fellowship. The list of such institute should be prepared & maintained in accordance with & as per approved faculties by MUHS.

A) Criteria for Soft skill Development Centres/Training Centres/Laboratories:

The Centre must have minimum 3 years of experience in conducting such courses. In one academic year, they should have conducted at least 12 courses and minimum number of trainees should be 50 (Fifty).

In addition they should have,

- 1) Operating room fully equipped with laparoscopic/basic set up for Wet lab or Cadaveric surgery with at least 2 working stations.
- 2) Dedicated Operating room for dry labs which is well equipped with simulators for individual participants for developing hands eye coordination or any additional required practice.
- 3) Various simulators for Hands eye coordination skill development, any other skill development for respective courses e.g. Virtual Simulator (LAP MENTOR)
- 4) Conference room facility, Polycom facility for Audio visual
- 5) Library (BOOKS, JOURNALS & VIDEO)
- 6) Live relay OT facility

B) Criteria for Clinical, Operative Sessions Institutes/ Hospitals

1. Minimum of 50 bedded Hospital/ Institute for Single speciality and 200 bedded hospital for Multispecialty
2. Modern ICU for Postoperative Care
3. Dedicated Operating room fully equipped with Basic infrastructure and Instruments required for the particular course set up e.g.

- laparoscopic set up
4. For example in laparoscopic surgery, a Laparoscopic set fully equipped with various telescopes, camera, light source, Monitor, CO2 insufflators, suction irrigation, Bipolar, Monopolar, Harmonic & Ligasure or Enseal like devices
 5. Independent Pathology facilities
 6. Imaging devices like Ultrasound ,CT Scan, MRI
 7. Conference room facility, Polycom facility for Audio visual
 8. Library (BOOKS, JOURNALS & VIDEO). The library services available to fellows should include electronic retrieval of information from medical databases
 9. Live relay OT facility preferred
 10. Independent Department with stipulated criteria of Faculties/Teachers
 11. A sufficient number of patients must be available to ensure that fellows receive appropriate experience in the management of complex problems without adversely affecting particular surgery core program. Specifically, a fellowship will not be approved in an institution that has a program deficiency in the pertinent areas of surgery.
 12. Institutes with High Volume of surgery work for the specific course/module offered is preferred. Should have a workload of more than 50 cases in 2 months in respective courses/modules.
 13. Lines of responsibility for general surgery residents and other residents and fellows must be defined clearly. Fellows may serve as teaching assistants for residents when appropriate.
 14. Conferences, including medical-surgical reviews, analyses of complications and deaths, seminars, and clinical and basic science instruction, must be regularly scheduled

Criteria for the faculty with MUHS for Fellowship of Hepato-Pancreatico-Biliary (HPB) Surgery :

- 1) Minimum 15 years' experience of Surgery in the specified course/module.

- 2) Minimum 10 years' experience of Professor/Teacher /Instructor/Faculty at various specific course Surgery training Institutes
- 3) A University Diploma/Fellowship/Doctorate in specific surgery is preferred

1. Program Director

A single program director must be responsible for the fellowship program.

a. Qualifications of the program director

The program director must be a surgeon who is qualified to supervise and to educate fellows and must meet requirements stipulated by MUHS. The director must be recognized nationally or regionally by his or her peers as a leader in the area of the program's focus.

Program director must:

1. Be certified by the Medical Council of India.
2. Be licensed to practice medicine in the state in which the sponsoring institution is located.
3. Maintain a cooperative working relationship with all other recognized surgical training programs
4. Be a member in good standing of at least one of the constituent societies
5. Minimum 15 years' experience of Specific/specialized Surgery
6. A University Diploma/Fellowship/Doctorate in Specific/specialized surgery.
7. Demonstrated experience and/or expertise in teaching residents, fellows, or post graduate surgeons on a regional, national or international level.

b. Responsibilities of the program director

It is the responsibility of the program director to support the fellowship program by devoting his or her efforts to its management and administration. The director is also expected to be an active and recognized participant in the institution's clinical and educational programs.

Preparation of a written statement: to include an outline of the goals of the fellowship program with respect to knowledge, skills, and other attributes, a narrative description of the fellowship, including details of fellows' involvement in clinical, research, teaching, and administrative activities, and a description of the relationship between the fellowship and the general surgery residency program. This statement must be made available to fellows, general surgery residents, the director of the general surgery residency program, and members of the teaching staff.

1. Selection of fellows for the program in accordance with institutional policies and procedures.
2. Selection and supervision of the teaching staff and other program personnel at each institution participating in the program.
3. Supervision of fellows through explicit written descriptions of supervisory lines of responsibility for the care of patients. Such guidelines must be communicated to all members of the fellowship program staff.
4. Organization and supervision of the research activities of fellows.
5. Organization and supervision of fellows' participation in conferences and other educational activities, and oversight of implementation of the fellowship curriculum.
6. Implementation of fair procedures, as established by the sponsoring institution, regarding academic discipline complaints and grievances.
7. Oversight of accurate tabulation and recording of operative logs by surgical fellows in the Fellowship case log system.
8. Notification in writing to Accreditation Committees of MUHS if there is change in the faculty complement for the fellowship.

2. Teaching staff / Faculties

- Other than the program director, additional teaching staff with documented qualifications and a commitment to instruct and supervise fellows must be available.
- Minimum 10 years' experience of Professor/Teacher /Instructor/Faculty at various Specific/specialized Surgery training Institutes
- A University Diploma/Fellowship/Doctorate in Specific/specialized surgery is preferred
- Staff members should have a recognized record of achievement in clinical practice, teaching, research, or a combination of these. Faculty members should be primarily committed to the program's area of focus and have a clinical practice that supports areas of special skills. Members of the teaching staff must be able to devote sufficient time to supervisory and teaching responsibilities.
- When the fellowship program is located in more than one institution, a member of the teaching staff of each participating institution must be designated to assume responsibility for the day-to-day activities of the program at that institution, with overall coordination by the program director.
- The teaching staff must submit to regularly and formally review of performance in accordance with the goals and objectives of the fellowship.

SCHEME OF EVALUATION

General Guidelines for allotment of Credits

Total Credits: 300

Minimum Number of Credits for successful completion of programme:-240 credits (80%)

Transfer of Credit to and from other Universities: Not at present but will be informed once broad consensus among other universities is established.

Breakup of credits

(In any course, if soft skill module is NOT required then its total credits may be merged with Operative modules)

It should be based on following Modules

A) SOFT SKILL DEVELOPMENT MODULE:(25 credits points) (May not be required in all Modules/Courses)

These include Working at MUHS recognised Basic Skill Institutes, Virtual Reality Stations, Cadaveric Surgeries, Knotting and suturing Techniques, Basic knowledge of instrumentation and Energy Sources. A candidate may have to take additional Basic course pertaining to any special operative techniques

B) Didactic Credits :(25 credit points)

Didactic on various topics as per syllabus spread over One Hour lecture. Total 10-20 Lectures depending upon specified course material and depth of theory.

Topics of Didactic lectures will depend upon the particular course/ Module offered.

C) Presentation, Publications & Project Work (25 credit point)

Under faculty guidance, presentations for Local , Regional & national conferences.

D) Video Learning, Grand Rounds, Faculty Discussions (10 credit Points)

Review of Recorded Surgical Procedures with Faculty Input.
Specific/specialized Surgery Grand Round/Clinical Case Conference.
Disease/Journal Club, Round Table Discussions.

E) Sessions in Imaging Clinics (15 credit points)

Learning of Ultrasound, CT scan, MRI & Various Procedures required for the particular course/module (e.g. Doppler study etc.)

F) 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.

G) Fellowship Examination 50 Credit Points (Terminal Exam by MCQs)

The examination for a particular course may be conducted according to the requirement of a course.

Rotation:

A Fellow during his tenure of One year will be rotated through various institutes /faculties for total exposure to various aspects and skill in Specific/specialized Surgery. Rotations to other faculties within the course are important part of the skills curriculum. Rotations are agreed upon by the faculty and optional rotations are available upon request of the fellow and approval by the faculty program director. Upcoming interesting cases by faculty should be broadcast to all fellows through the monthly didactic meetings so freely available fellows can travel to the sites to participate or see these unusual cases.

Evaluations of the fellows by the faculty and of the faculty by the fellows will be performed at all teaching sites every quarter during the year and upon the completion of each rotation.

This requires rotation in

- a) **Soft Skill Development and working at skill station and Virtual reality module for proper hand to eye co-ordination ,basic skills, basic laboratory work and proper perspective**
- b) **Didactic Lectures /Grand Rounds/ Clinical meetings**
- c) **Operative sessions in various modules/subjects/expertise in particular surgical procedure in the specified/specialized course**
- d) **Other**

Operative experience will take place along with the Faculties who will be assigned by MUHS with those hospitals/ institutes who will have MOU with MUHS for training candidates.

Clinical Responsibilities

The fellow will attend and work under the faculty in the recognised institutes on the assigned modules. He/ She will participate in the preoperative assessment and planning as well as the postoperative follow-up of their assigned patients under the faculty guidance.

Research Training:

All Fellows are expected to be intimately involved with the program's research activities, to publish at least 5 case reports per year and present their work at local, regional and National meetings and conferences. Most of the research will focus on the current techniques and outcomes evaluations of Procedures. These will involve both clinical and laboratory based work.

The Programme recognizes the necessity that its Fellows have a basic knowledge in specified Surgery. Didactics, round table meets and seminars will routinely update the academic content of the programme. This will be supplemented with Clinical Learning, through outpatient clinics, ward rounds and presentations and operative experience in the form of assisting and being proctored over surgical procedures

Expectations include: All Fellows

- Demonstrate manual dexterity appropriate for their training level.
- Critically evaluate and demonstrate knowledge of pertinent scientific information.
- Practice-based learning and improvement that involve investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care
- All Fellows will present and review current literature at Journal Clubs.
- All Fellows will be expected to actively participate at local, regional and National seminars and conferences.
- Maintain high standards of ethical behaviour.
- 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.

These academic activities will be constantly be reviewed by a Senior Faculty.

Portfolio Management:

All Fellows will maintain a Fellowship PORTFOLIO

Two monthly review of following topics by faculty via internet /in person this will include:

- Research/Project
- Log Book
- Presentations
- On-going Publications

- Number of hours spent on hands on practice
- Summaries of case discussions and presentations.
- Synopsis of publications.

Maintaining accurate case logs is critical to each fellow. These numbers are vital for hospital privileging. It is mandatory that case logs are entered by each fellow into the Specified Surgery/Course Fellowship Case Log. Case logs need to be printed and brought to the monthly didactic meetings for review. Failure to do so results in the curtailment of operative privileges. Log book, presentation & Dissertation will be signed & evaluated on a time to time basis by respective faculties.

On successful completion of all modules of the Programme the Fellow will be awarded a Certificate of the Fellow in Hepato-Pancreatico-Biliary (HPB) Surgery by the MUHS.

CURRICULUM:

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)

A) Hand Skill Development

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) Laparoscop[ic Cholecystectomy on Wet model

2. Tissue Approximation Techniques in M.A.S.

- a) Laproscopic Knotting & Suturing
- b) Laparoscopic Mechanical Wound closures
- c) Wet model tissue approximation

3. Liver Resection

- a) **Open** Approach to Liver Resection
- b) **Laparoscopic** Approach to Liver Resection
- c) Wedge Resection

4 HPB anastomosis

- a) Revision of Tissue Approximation techniques
- b) Wet model for HPB anastomic techniques

5. Hepatic Transplant

- a) Hepatic tissue Retrieval

- b) Transplant techniques
- 6. session on Virtual reality (e.g. LAP MENTOR)**
 - a) Cholecystectomy
 - b) Hepatic Resection
- 7. Ablation Techniques**
 - a) Percutaneous Metastatic Ablation Techniques
- 8. Pancreatic Surgery**
 - a) MAS pancreatic Surgery
 - b) Open Pancreatic Techniques
 - c) Cystopancreatic Anastomosis
 - d) Pancreatic resection & anastomosis (e.g. whipple's)

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
 - Use of Energy Sources in HPB
 - Selection criteria of the Patient for open or Laparoscopy HPB surgery
 - Caring, Cleaning, disinfecting & Sterilization of the Laparoscopic Instruments & optics
- Anesthesia complications due to Open/laparoscopic HPB operations.
 - HPB complications, avoidances & troubleshooting
 - Complications of Minimally invasive surgery
 - Introduction & Demonstration of the various knots by the faculty & its uses
 - Introduction & Demonstration of Vascular anastomosis
 - Introduction & basic principles of suturing techniques /needle selection / selection of suture as per the surgical requirements
 - Surgical site Infection in HPB surgery

C) Sessions in Imaging Clinics (15 credit points)

Learning of Ultrasound, CT scan , MRI & Various Procedures required for the particular course/module (e.g. Doppler study for diabetic foot surgery)

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

1. _
2. _
3. _

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)

1. _
2. _
3. _
4. _
5. _
6. _
7. _
8. _
9. _
10. _

E) Other

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 Hepato-Pancreatico-Biliary (HPB) Surgery by the MUHS.