

# Hepato-Pancreato-Biliary Surgery

## Fellowship

### **Introduction:**

The hepatopancreaticobiliary (HPB) surgery fellowship program is designed to graduate independent surgeons with high standards of skills, knowledge and decision making capability. Moreover, by the end of his training, the fellow is expected to be skilled in HPB procedures, endoscopic procedures, interpretation of radiological images as well as the pre-operative assessment, operative timing, management of intra-operative complications and post-operative patient care.

The fellowship program is designed to cover the six core competencies required by the Accreditation Council of Graduate Medical Education-International (ACGME-I) which include:

1. Patient care.
2. Medical knowledge.
3. Practice-based learning and improvement.
4. Interpersonal and communication skills.
5. Professionalism.
6. System-based practice.

### **Eligibility criteria:**

Candidates are considered eligible to join the fellowship program if they:

1. Hold certificate of the Arab Board of Surgery.
2. Hold an equivalent Certificate that is recognized by Hamad Medical Corporation.
3. Pass the interview with the designated committee.

**Duration:**

Duration of the fellowship program will be three academic years divided into thirty-nine (39) blocks and each block is composed of four (4) weeks.

**Number of Positions:**

One fellow for each academic year

**Objectives and Goals:**

The fellowship program provides training in different aspects of HPB surgery and liver transplantation so that by the end of the period the fellow is expected to:

- Function confidently and independently in the concerned fields.
- Fulfill the six core competencies of the ACGME-I mentioned above.
- Submit at least one research and a satisfactory number of case reports and/or literature reviews.
- Attend relevant conferences and journal club in addition to his role as a teacher to the junior residents.
- Submit a logbook as will be explained later.

**Structure of the Fellowship Program:**

**Training Site:**

The training will be provided in department of surgery at Hamad General Hospital (HGH) as the primary teaching sites. Participating sites will include endoscopy and radiology units, department of gastroenterology and hepatology, and department of infectious diseases in HGH in addition to the medical oncology department in the national cancer institute.

During the training period, the fellow would get trained in all fields of hepatology, HPB surgery and liver transplant.

### **Facilities:**

In order to provide efficient training, the fellowship program is equipped with the following:

1. High-standard faculty with interest in education and research
2. Inpatient beds
3. Operating theatre and critical care facilities: One theatre per week.
4. Outpatient clinics:
  1. Hepato-Pancreato-Biliary
  2. Liver transplant
  3. Hepatology
5. Endoscopy including upper and lower gastro-intestinal endoscopies, Endoscopic ultrasound and ERCP
6. Radiology including diagnostic imaging (abdominal and Doppler ultrasound, computed tomography and magnetic resonance imaging) and interventional radiology
7. Medical library with up-to-date database information and electronic learning.

### **Curriculum & Didactic Teaching**

We follow the Curriculum of the international Hepato-Pancreato-Biliary Surgery Fellowship.

At the end of HPB Surgery fellowship, the fellow will be able to provide comprehensive, medical & surgical care to patients with surgical diseases/disorders of the liver, pancreas, biliary tract and duodenum.

This will include the ability to investigate, diagnose, recommend appropriate treatment options, perform operative procedures, and provide the pre- peri- and late postoperative care. To achieve this goal, this curriculum provides a guide to the topics for study, and the knowledge and skills required to become an HBP Surgeon.

This Curriculum consists of 5 Major Units, some with Subunits:

Unit 1 – The Liver

Anatomy, Embryology, Physiology, Testing  
Congenital and acquired non-neoplastic liver disease  
Neoplastic Liver disease  
Liver surgery

Unit 2 – The Biliary Tract including Gall Bladder

Anatomy, Embryology, Physiology, Testing  
Congenital and acquired non-neoplastic biliary disease  
Neoplastic biliary disease

Unit 3 – The Pancreas & Duodenum

Anatomy, Embryology, Physiology, Testing  
Congenital and acquired non-neoplastic pancreatic disease  
Neoplastic pancreatic disease  
Diseases of the Duodenum

Unit 4 – Imaging

Unit 5 – Oncology

**The following regularly scheduled rounds, and conferences are held:**

Date	Frequency	Name	Mandatory
Sunday 8-9 am	weekly	General Surgery Grand Round	mandatory
Monday 7-8 am	weekly	General Surgery M&M meeting	
Monday 7-9pm	monthly	General Surgery Journal club	
Tuesday 10-11 am	weekly	Liver transplant meeting	mandatory
Tuesday 1-3 pm	weekly	HPB tumor review board	mandatory
Thursday 7-8 am	weekly	GI tumor review board	
Thursday 9-10 am	Monthly	HPB/Transplant Journal Club	mandatory

**Program Faculty:**

**Core faculty:**

1. Prof. Hatem Khalaf: Program Director (Sr. Consultant - HPB and Transplant Surgery)
2. Dr. Ahmed Elaffandi: Co-Director (Consultant - HPB and Transplant Surgery)
3. Dr. Walid Shehata: Co-Director (Consultant- HPB and Transplant Surgery)

**Associate faculty:**

1. Dr. Mohamed Khairat (Sr Consultant- General Surgery)
2. Dr. Saad Al-Kaabi (Sr Consultant - Gastroenterology & Endoscopy)
3. Dr. Muna Al Maslamani (Sr Consultant-Infectious diseases)
4. Dr. Salahddin Gehani (Sr Consultant - General Surgery)
5. Dr. Ahmed Mahfouz (Sr Consultant- Diagnostic Radiology)
6. Dr. Ali Barah (Consultant- Interventional Radiology)
7. Dr. Mohammed Nagi Elmasry (Sr Consultant- Transplant Anesthesia)
8. Dr. Yasser Hammad (Sr Consultant- Transplant Anesthesia)
9. Dr. Shaikh Nissaruddin Maheboob (Sr Consultant- Intensive Care Unit)
10. Dr. Yasser Kamel (Consultant - Transplant Hepatology)
11. Dr. Kakil Rasul (Sr Consultant- Medical Oncology)

**Clinical Rotations:**

The fellowship is divided into three years; i.e. 39 blocks each block is composed of four weeks. The clinical rotations in the fellowship program will be divided as follow:

1. HPB and liver transplant surgery (24 blocks)
2. Hepatology and Endoscopy (1 block)
3. Critical care and anesthesia (3 blocks)
4. Diagnostic and Interventional Radiology (3 blocks)
5. Medical Oncology (1 block)
6. Infectious disease (1 block)
7. Research (3 blocks)
8. Leave (3 blocks)

*Number of blocks in each year of the fellowship:*

	HPB Surgery	Radiology	Medical Oncology	Infectious diseases	Hepatology & Endoscopy	SICU & Anesthesia	Research
1 <sup>st</sup> year	6	3	1	1	1	--	--
2 <sup>nd</sup> year	6	--			--	3	3
3 <sup>rd</sup> year	12	--			--	--	

As tabulated above, each fellow is expected to be doing the following:

- In the first year:
  - HPB surgery (Six blocks)
  - Diagnostic and interventional radiology (Three blocks)
  - Hepatology and Endoscopy (One block)

- Medical Oncology (One block)
- Infectious Diseases (One block)
- In the second year:
  - HPB surgery (Six blocks)
  - Anesthesia and Critical care (Three blocks)
  - Research (Three blocks)
- The last year will be totally spent in HPB surgery (Twelve blocks)

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
F1	HPB	HPB	HPB	Rad	Rad	Rad	HPB	HPB	HBP	HE	MO	ID	Lve
F2	HPB	HPB	HPB	ICA	ICA	ICA	HPB	HPB	HPB	Rch	Rch	Rch	Lve
F3	HPB	HPB	HPB	HPB	HPB	HPB	HPB	HPB	HPB	HPB	HPB	HPB	Lve

F= Fellowship; B= Block; Rad= Radiology; HE= Hepatology and Endoscopy; Lve= Leave;  
ICA= Intensive Care and Anesthesia; Rch= Research; HPB= Hepatopancreaticobiliary;  
MO= Medical Oncology; ID= Infectious Diseases

The block allocated to the annual leave as well the arrangement of block sequence within the academic year can be adjusted according to the needs of the HPB unit, and according to the policy approved by HMC Medical education department.

**Suggested Reference and Accreditation:**

International Hepato-Pancreato-Biliary Association (IHPBA)

<http://www.ihpba.org/>

**Effect of Leave on Training (As per HMC policy):**

- The minimum amount of training time during the Academic year is defined by the ACGME-I program requirements as 48 weeks.
- In the case where any requirements relative to a particular HMC fellowship program are not met, the allowable combined total of Leaves taken during the academic year shall be compensated by making up the lost time of training by the fellow.
- Fellows shall be permitted to make up the excess amount or to have their program extended by an equivalent amount of time to meet the requirements of their residency program. Such an extension of program time may require the approval of the Director of Medical Education and program director.
- If it is determined that the fellow has not made sufficient progress in the program due to the amount of training time missed, the fellow may be required to make up training time or repeat a rotation as set in the following paragraph:

Duration of rotation (Blocks)	The total number of days of absence beyond which rotation will be repeated
1 Block	5
2 Blocks	10
3 Blocks	15
4 Blocks	20
6 Blocks	30



### **Research:**

The fellow will participate in clinical research and audits in HMC within the scope of the fellowship program. Obtaining research methodology certification is required before starting a research project. Completing the research component is a mandatory requirement for graduating the fellowship program. During the blocks allocated for research the fellow will continue covering on-calls in the HPB surgery but will have protected time for research.

### **ACGME Core competencies:**

- **Patient Care:**

Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Fellows are expected to become proficient in:

- Appropriate diagnosis methods, pre-operative assessment and preparation
- Awareness of risks, indications and alternatives to surgery
- Operative management including techniques, intra-operative decision-making, avoidance and management of complications
- Post-operative management of patients
- Appropriate conservative management in selected cases

- **Medical Knowledge:**

The fellow is to establish basic knowledge of:

- HPB surgical disorders, including surgical anatomy, pathology, genetics and molecular biology
- Clinical presentation and management protocols

- **Practice Based Learning and Improvement:**

Fellows must demonstrate the ability to:

- Investigate and evaluate their care of patients
- Appraise and assimilate scientific evidence
- Continuously improve patient care based on constant self-evaluation and life-long learning

- **Professionalism:**

Fellows must show adherence to:

- High standard of ethical principles, compassion, integrity, and respect for others;
- Responsiveness to patients' needs that supersedes self-interest, respect for patient privacy and autonomy, accountability to patients, society.
- The profession, sensitivity and responsiveness to a diverse patient population and a commitment to continuity of care.

- **Interpersonal And Communication Skills:**

Fellows must be able to:

- Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds
- Communicate effectively with physicians and other health care professionals.
- Work effectively as a member or leader of a health care team or other professional group
- Act in a consultative role to other physicians and health care professionals
- Maintain comprehensive, timely, and legible medical records

- **System-Based Practice:**

Fellows must:

- Demonstrate awareness of the rules and regulations of the health care system they work in
- Acquire skills that help providing best health care to their patients within this system, including cost effectiveness and communication with affiliated institutions and supporting health care professional

**Evaluations:**

Either the program director or a faculty member (Direct educational supervisor) will carry out end-of-year & end of fellowship evaluations. Evaluations should be based on the six general competencies mentioned above. The evaluation process should include:

- **Fellow Evaluation:**

- It should include: Formative, semi-annual, annual, and end of training assessments
- Evaluation tools include:
  - Direct Observation Of Procedure Skills (DOPS)
  - 360 degrees evaluation
  - Mini – CEX
- The Program Director will collect and analyze data on fellow performance; these include in-training evaluations, and results of any fellow assessment methods

- **Faculty evaluation (by fellows)**

This should include a review of the faculty's clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities. This evaluation must include biannual electronic confidential evaluations by all the Fellows.

- **Program Evaluation:**

Department of Medical Education will collect and analyze data to assess the program quality. This will include: fellow evaluation of the program, Faculty evaluation of the program, fellow evaluation of the Faculty, analysis of the fellow selection process and correlation of the results of selection examination to performance in fellow program.

### **Supervision of Fellows in the Inpatient Setting**

- Fellows and Attending Staff should inform patients of their roles in the patient's care at every new patient encounter. Faculty Attending should delegate portions of patient care to Fellows.
- Faculty Attendings' supervision assignments on inpatient services are usually done on every block allowing sufficient duration to assess the knowledge and skill of the fellows and to delegate the appropriate level of patient care authority and responsibility.
- Fellows should serve in a supervisory role to general surgery residents, or medical students assigned to their teams.
- Assignment of Levels of Supervision: The Fellow is responsible for knowing the limits of his/her scope of authority, and outlined in the Table below is the Level of Supervision for specific tasks assigned based on PGY level of training:

**New Patient Encounters:**

Fellow Level	History & Physical Examination	Interpretation of Specialty-specific Diagnostics	Formulation of Assessment and Plans	Communication of Care Plans with Patient and Family
PGY-6	2-B	2-A	2-A	1
PGY-7	2-B	2-B	2-A	2-A
PGY-8	3	3	2B	2-A

**Established or Follow-up Patient Encounters:**

Fellow Level	History & Physical Examination	Interpretation of Specialty-specific Diagnostics	Formulation of Assessment and Plans	Communication of Care Plans with Patient and Family
PGY-6	2-B	2-A	2-A	2-A
PGY-7	3	2-B	2-B	3
PGY-8	3	3	3	3

**Circumstances and events where Fellows must communicate with Faculty:**

Fellows are encouraged to communicate with supervising Faculty Attendings any time that Fellows feel the need to discuss any matter relating to patient-care. The following are circumstances and events where Fellows must communicate with supervising Faculty Attending:

- Encounters with any patient in emergency rooms

- All new patient encounters in intensive care or critical care units
- If requested to do so by other Faculty Attendings in any primary or specialty program
- If specifically requested to do so by patients or family
- If any error or unexpected serious adverse event is encountered at any time
- If the Fellow is uncomfortable with carrying out any aspect of patient care for any reason
- Inter-Hospital transfer of patients

#### **Supervision of Fellows in Outpatient Clinics:**

Fellows and faculty should inform patients of their roles in the patient's care at every new patient encounter. Faculty Attendings should delegate portions of patient care to Fellows. Fellows should serve in a supervisory role to general surgery residents, or medical students assigned to their clinics

#### **Assignment of Levels of Supervision:**

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**New Patient Encounters:**

Fellow Level	History & Physical Examination	Interpretation of Specialty-specific Diagnostics	Formulation of Assessment and Plans	Communication of Care Plans with Patient and Family
PGY-6	2-B	2-A	2-A	1
PGY-7	2-B	2-B	2-A	2-A
PGY-8	3	3	2B	2-A

**Established or Follow-up Patient Encounters:**

Fellow Level	History & Physical Examination	Interpretation of Specialty-specific Diagnostics	Formulation of Assessment and Plans	Communication of Care Plans with Patient and Family
PGY-6	2-B	2-A	2-A	2-A
PGY-7	3	2-B	2-B	3
PGY-8	3	3	3	3

**Circumstance and Events where Fellows must communicate with Faculty:**

Fellows are encouraged to communicate with supervising Faculty Attending any time that Fellows feel the need to discuss any matter relating to patient-care. The following are Circumstances and Events where Fellows must communicate with supervising Faculty Attending:

- If requested to do so by my other Faculty Attending in any primary or specialty program
- If specifically requested to do so by patients or family
- If any error or unexpected serious adverse event is encountered at any time
- If the fellow is uncomfortable with carrying out any aspect of patient care for any reason

### **Supervision of Fellows Performing Procedures**

- A Fellow is considered qualified to perform a procedure independently if, in the judgment of the Program Director and as indicated by the list of procedures (see Table below), the Fellow is competent to perform the procedure safely and effectively.
- Competence in the performance of subspecialty-specific procedures is documented by the responsible Faculty on end-of-rotation evaluation forms provided by the Program Director, by documentation in any semi-annual evaluation by the Program Director, and by ascent to PGY7 or greater. Fellows deemed competent to perform procedures independently may do so with appropriate indication and without prior approval or direct supervision of a Faculty Attending.
- The Faculty of record remains ultimately responsible for all procedures performed by Fellows of any training level.
- Fellows may perform emergency procedures without prior staff approval or without direct supervision when life or limb is threatened by delay.
- All procedures performed independently by the Fellow must be documented in the medical record or by computer entry and must indicate the Faculty of record.



### **Level of Supervision for Procedures:**

Fellow Level	Cholecystectomies	Biliary procedures	Minor liver resections	Major liver resection	Whipple's procedure	Distal pancreatectomy
PGY-6	2B	1	1	1	1	1
PGY-7	3	2-A	2-A	2A	1	2-A
PGY-8	3	2-B	2-B	2B	2A	2B

### **Duty Hours:**

Duty hours and on calls for HPB surgery fellows will be determined in keeping with HMC and ACGME-I regulations:

- Maximum Hours of Work per Week: Duty hours must be limited to 80 hours per week, averaged over a 4 week period, inclusive of all in-house call activities.
- Duty Hour Exceptions: A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale.
- In preparing a request for an exception the program director must follow the duty hour exception policy from the ACGME Manual on Policies and Procedures.
- Prior to submitting the request to the Review Committee, the program director must obtain approval of the institution's GMEC and DIO.
- Mandatory Time Free of Duty: Fellows must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot be assigned on these free days.
- Due to the limitations of number of fellows in the institution; a **"on calls from home"** system might be applied, and will not be counted in the in-house duty hours mentioned above.

### Logbook:

The fellow should keep a record of the procedures he participates in (Level of supervision) which will be verified by the faculty. Moreover, the portfolio should include evidence of Continuous Medical Education (CME) such as: symposia, journal clubs, conferences, workshops and training courses.

The fellow should be exposed to a certain number of procedures towards the end of his training. These include:

- Pancreatic resection 10-15
- Biliary reconstruction 15-20
- Liver resections. 10-15
- Orthotopic liver transplant 5-10
- Multiorgan procurement 5-10
- Laparoscopic procedures 15-20

### Criteria for graduating the fellowship program:

- 1- Completion of 3 years of training.
- 2- Passing the End of Training Evaluation.
- 3- Completion of the research component.
- 4- Approval of the log book and procedure logs.

By the end of training, the fellow will be awarded a certificate of completion of "Fellowship of Hepatopancreaticobiliary Surgery" issued by the Department of Medical Education, Hamad Medical Corporation