

ADVANCED MINIMALLY INVASIVE HEPATOBILIARY SURGERY FELLOWSHIP

PROGRAM DIRECTOR:

Tsafrir Vanounou, MD, CM, MBA, FRCSC
Assistant Professor of Surgery and Oncology, McGill University
Director Hepatobiliary Surgery, Jewish General Hospital
tvanounou@jgh.mcgill.ca

Teaching Faculty:

Dr. Tsafri Vanounou, Dr. Jean-Sebastien Pelletier

Length of Fellowship:

One year training with optional second year available.

Academic Affiliation:

McGill University

Name of Hospital:

The Jewish General Hospital (JGH), affiliated with McGill University, offers a dynamic learning environment with a 600+ bed capacity. Located in the vibrant city of Montreal, it serves the greater Montreal area and Quebec.

Program Entry Requirements:

Applicants for the Minimally Invasive Hepatobiliary Surgery Fellowship must have completed a General Surgery residency. Preference is given to applicants who have prior exposure to hepatobiliary surgery.

Funding:

Candidates must secure funding (as per PGME guidelines) to apply for this fellowship.

PROGRAM DESCRIPTION:

The Advanced Minimally Invasive Hepatobiliary Surgery (MIS HPB) Fellowship at the Jewish General Hospital (JGH) - McGill University in Montreal offers a unique and comprehensive training experience in the field of advanced open, laparoscopic and robotic hepatobiliary surgery. Our program is designed to equip fellows with the knowledge and surgical skills necessary for the diagnosis and management of both benign and malignant liver, biliary tract, and pancreatic diseases. Fellows will benefit from extensive didactic and hands-on experience which spans MIS techniques, including laparoscopic and robotic procedures, as well as complex open resections, including vascular resection and reconstruction, intra-operative ablation, portal vein embolization, and two-stage hepatectomy. Fellows will become fully proficient to perform open and laparoscopic intraoperative ultrasound. Fellows will also be exposed to a host of general surgical oncology cases such as cytoreductive surgery, hyperthermic intraperitoneal chemotherapy (HIPEC), as well as complex sarcoma resections. As part of the fellowship, fellows will participate in the general surgery on-call rotation to gain a holistic understanding of patient care and general surgical operative management.

FELLOWSHIP MISSION:

Our fellowship's three major objectives are:

1. Clinical and Academic Mastery:
Elevate fellows to the forefront of open and minimally invasive hepatobiliary surgery, equipping them with skills for evolving proficiency throughout their careers. Foster collaborative scholarship and a multidisciplinary approach to cultivate clinical judgment, self-discipline, and a commitment to ongoing learning and potential research endeavors.
2. Teaching for Transformation:
Empower fellows not just as learners but as future leaders and educators, preparing them to disseminate their knowledge effectively. Beyond transferring skills, we emphasize the art of teaching—instilling the ability to inspire, guide, and lead. This teaching ethos is designed to shape fellows into influential leaders and educators throughout their careers.
3. Mentorship for Lifelong Impact:
Extend continuous support to fellows beyond their training, offering a solid foundation for their journey into advanced minimally invasive hepatobiliary procedures. Our pledge is to nurture an environment where fellows not only thrive but also feel empowered and supported to initiate advanced MIS HPB interventions safely and gradually. This mentorship ensures a lasting influence, fostering excellence in their future endeavors.

CURRICULUM:

The MIS HPB fellowship is a 1-year program providing training in the diagnosis and management of hepatobiliary diseases. The curriculum will focus on cognitive skills, technical skills, education, and research. Progress of the fellows is assessed regularly, and feedback is given every 3 months to trainees.

Fellows may have up to two elective rotations per year, each lasting two weeks; options include interventional radiology, diagnostic radiology, hepatology, medical oncology, or radiation oncology. This will be coordinated with the Fellowship Director.

OPTIONAL SECOND YEAR:

For fellows seeking more advanced research opportunities and a deeper immersion in clinical activities, an optional second year is available. This extended period is designed to enhance fellows' expertise and allow for the completion of substantial research projects. The optional second year offers a unique chance to fine-tune cognitive and surgical skills while contributing significantly to the field of hepatobiliary surgery.

Objectives for the Optional Second Year:

1. *Advanced Research Project:* Engage in a comprehensive research project related to hepatobiliary surgery, aiming for publication in reputable journals. This project should demonstrate a high level of scholarship and contribute valuable insights to the field.
2. *Skill Refinement:* Further refine and advance both cognitive and surgical skills through continued exposure to complex cases. Emphasize mastery in specific areas of interest or identified areas for improvement.

3. *Collaborative Initiatives:* Foster collaboration with other departments or institutions to broaden the scope of research and promote interdisciplinary approaches to hepatobiliary care.
4. *Teaching and Mentorship:* Take on a more active role in teaching and mentoring junior fellows or residents, sharing the knowledge and skills acquired during the fellowship.

Requests for a second year must be submitted by October 1st of the first year and are subject to approval by the fellowship director, ensuring a focused and enriching learning experience for the fellow.

OBJECTIVES:

Upon completion of the fellowship, trainees will demonstrate advanced competencies in the following clinical and knowledge areas:

Cognitive Skills:

- Acquire cognitive skills through diverse experiences in clinical care across wards, clinics, and operating rooms.
- Develop proficiency in critical thinking, integrating structured instruction in rounds and other sessions.
- Engage in discussions with staff and colleagues, actively participating in rounds to enhance cognitive abilities.
- Contribute to a structured research project, fostering the ability to critically appraise scientific foundations behind clinical guidelines and decision-making.

Surgical Management Proficiency:

- Attain expertise in the surgical management of both benign and malignant hepatobiliary (HPB) pathologies.
- Demonstrate comprehensive skills in preoperative evaluation, assessment, and counseling of patients.
- Participate in perioperative and postoperative inpatient care, integral to the fellowship experience.

Inpatient and Outpatient Management:

- Gain experience in managing both inpatient and outpatient cases, fostering a holistic understanding of HPB care.
- Contribute actively as a member of the CTU 2 surgical team, specializing in the management of inpatients with HPB and surgical oncology pathologies.
- Participate in clinical management conferences, morbidity and mortality conferences, and multidisciplinary tumor boards.

Educational Engagement:

- Engage in didactic educational opportunities for CTU 2 residents and medical students, contributing to the academic growth of peers.
- Demonstrate commitment to continuous learning through active participation in educational sessions, conferences, and academic forums.

Comprehensive Patient Care:

- Acquire expertise in the comprehensive care of HPB patients, encompassing preoperative, perioperative, and postoperative phases.

- Develop effective communication skills for patient counseling, ensuring informed decision-making throughout the care continuum.

These competencies collectively empower the fellow to function as an adept clinician, educator, and contributor to the advancement of hepatobiliary surgery.

Technical/Surgical Skills:

1. Liver:

- Intraoperative ultrasound (open and laparoscopic)
- Hepatic hilar dissection (open, laparoscopic and robotic)
- Liver parenchymal transection techniques (open, laparoscopic and robotic)
- Liver resections (open, laparoscopic and robotic)
 - Hemi-hepatectomy
 - Trisectionectomy
 - Central hepatectomy
 - Right posterior sectionectomy
 - Right anterior sectionectomy
 - Left lateral sectionectomy
 - Wedge resections
 - Non-anatomic resections
- Unroofing of large or multiple hepatic cysts (open, laparoscopic and robotic)
- Hepatic tumor ablation (open and laparoscopic)

2. Pancreas:

- Intraoperative ultrasound (open and laparoscopic)
- Distal pancreatectomy +/- spleen preservation (open, laparoscopic and robotic)
- Pancreaticoduodenectomy (open, laparoscopic and robotic)
- Vascular reconstruction (SMV, portal vein)
- Other pancreatic resections (Appleby and Central)
- Pancreatic tumor enucleation
- Pancreatic drainage procedures (e.g., Frey, Puestow, etc.)
- Pancreatic debridement or necrosectomy

3. Bile Duct:

- Bile duct resection and reconstruction (open, laparoscopic, and robotic)
- Palliative bypass to stomach or bile ducts (open, laparoscopic, and robotic)
- Common bile duct exploration (open, laparoscopic and robotic)
- Ampullary or bile duct resection (open, laparoscopic and robotic)
- Transduodenal sphincteroplasty and ampullectomy (open, laparoscopic and robotic)
- Biliary anastomosis - intra-hepatic or extra-hepatic (open, laparoscopic and robotic)

4. Gallbladder and Other:

- Radical cholecystectomy (open, laparoscopic and robotic)
- Colon resection (open and laparoscopic)
- Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy
- Gastrectomy (open, lap and robotic techniques)
- Sarcoma

The Advanced MIS HPB fellow, upon graduation, will showcase a comprehensive understanding of the indications, contraindications, complications, and interpretation of these procedures, along with possessing expertise and technical competence in their performance.

EVALUATIONS:

Quarterly evaluations throughout their fellowship will systematically test the attainment of the stated objectives, ensuring a dynamic and adaptive learning environment.

It is recognized that different fellows may acquire technical skills at somewhat different rates. As a result, the evaluation of technical skills will not be based simply upon the number of procedures performed. Ultimately, the Fellowship Program Director will be responsible for evaluation of technical skills acquired by each trainee. Nevertheless, there are a certain minimum number of procedures required to have adequate exposure to the techniques of hepatobiliary surgery. Thus, the fellow will be expected to perform close to the annual surgical volume listed below.

APPROXIMATE ANNUAL SURGICAL VOLUME:

- Liver resections: 40-50 cases
- Pancreatic resections: 25-35 cases
- Biliary resections: 5-10 cases
- Gastric resections: 5-10 cases
- Sarcoma resections: 5-10 cases
- CRS & HIPEC: 10-15 cases

Evaluation

The fellow will keep a formal journal of completed procedures. As well as on the above-mentioned skills, the fellow will be evaluated formally every 3 months on the following criteria: cognitive skills, surgical management proficiency, clinical acumen, competent clinical follow-up, availability and reliability, complications, technical skills, and quality of interpersonal (patients, staff and peers) and interdisciplinary relations, initiative, teaching and mentoring ability.

FELLOW DUTIES AND RESPONSIBILITIES:

1. CTU-2 service:

The fellow is expected to arrive at work at 07:30 every working day, excluding specified out-of-hospital teaching opportunities, holidays, or illness. The fellow will function as an integral member of the JGH HPB service (CTU-2). The fellow will participate in daily morning and afternoon rounds with the CTU-2 team, will supervise residents' daily activity, review all HPB-related consults, attend clinic, and plan the weekly OR schedule. Collaborating with the CTU-2 team, the fellow will participate in monthly CTU-2 teaching rounds and journal club, occasionally selecting and presenting articles.

The fellow will be on-call every other weekend for the CTU-2 team (with attending backup). Occasionally, the fellow may cover general surgery call at the JGH site under specific circumstances, such as an unexpected shortage of general surgery residents.

2. Teaching responsibilities and Conferences:

Responsibilities include preparing cases for the weekly hour-long Upper GI, HPB, Colon Tumour Board, and occasionally presenting at the weekly Morbidity & Mortality conference. Additionally, the fellow will be asked to prepare concise presentations on core topics in HBP as well as edit videos. The fellow will be asked to present at least once in the year at McGill's Surgery Grand Rounds. Monthly attendance at multidisciplinary HCC rounds is also expected. The fellow will also be asked to conduct HPB teaching sessions for general surgery residents and students at least once a month. Additionally, participation in McGill research days and conferences is part of the fellow's teaching responsibilities.

RESEARCH OPPORTUNITIES:

The fellow will have unique and comprehensive research opportunities available to them. While research is not mandatory, it is highly recommended. These opportunities are designed to support the fellow's professional development and enhance their clinical skills through active involvement in innovative and impactful research projects.

Key components of our research opportunities include:

1. Conducting clinical research:

The fellow will be given the opportunity to conduct clinical research. Our division's research lab is active with multiple ongoing projects, spanning many aspects of clinical research. Fellows are strongly encouraged to actively participate in research, aiming to complete a minimum of two projects for publication in peer-reviewed journals. Presenting research findings at national and international conferences is also strongly encouraged.

2. Research support:

Our program is committed to provide dedicated research support to our fellow. The fellow will have access to shared JGH research resources such as a biostatisticians, research coordinators, and data analysts. This support will be available to the fellow throughout their research endeavors, ensuring that they have the necessary resources and guidance to conduct rigorous and impactful studies.

3. Protected time for research:

Recognizing the importance of dedicating sufficient time to research activities, the fellow will be given protected time each week specifically devoted to research. This ensures that they can fully immerse themselves in research-related tasks without compromising their clinical responsibilities. The protected time is intended to foster an environment conducive to research productivity and allow the fellow to concentrate on generating valuable findings.

4. Collaboration and networking:

Our program encourages collaboration and networking among fellows, faculty, and other researchers. The fellow will have ample opportunities to engage in multidisciplinary collaborations and exchange ideas with experts in various specialties. These interactions will enable them to expand their professional network, learn from diverse perspectives, and potentially produce collaborative research projects with lasting impact.