



### **Preamble**

HPB is a clinical teaching unit with several different vocations: It regroups all solid organ Transplantation as well as most advanced Hepatobiliary and Pancreatic clinical activities performed at the MUHC. It also includes some general surgery activities in specific populations (eg cholecystectomy and hernia repair in transplant patients). Solid organ Transplantation requires a good understanding of the natural history of end-stage hepatic or kidney disease, organ preservation techniques, as well as the effects of immunosuppression on patient physiology. The Transplantation activities on currently involve the following organs: renal, hepatic, pancreatic, as well as combinations thereof. Cardiac and pulmonary transplantation are mostly a function of the cardiac clinical service. The management of Hepatobiliary and Pancreatic pathology involves a common approach principally based on common anatomical, physiological, and oncological principles. HPB service is involved with most surgical patients undergoing in-patient Endoscopic Retrograde Cholangio-Pancreatography (ERCP), and looks after all patients who have developed an ERCP-related complication. Because of the great intensity and high level of complexity of the care of our patients, all activities on Purple service involve a strong multidisciplinary team approach.

### **MEDICAL EXPERT**

#### **CLINICAL/KNOWLEDGE BASE – JUNIOR RESIDENT**

Through clinic and inpatient ward experience the junior resident must develop an approach to a patient presenting with simple hepatobiliary problems. This must mainly focus on benign pathologies, with some emphasis on pre-malignant, and malignant problems. For simple hepatobiliary problems the resident must learn to obtain a relevant history and physical exam. The resident must learn to organize a strategy for appropriate investigations. Based on the results of the investigations the resident must be able to arrive at a treatment plan. For each of the pathologies below we have listed points of emphasis to help guide background reading

Biliary Colic/Cholecystitis/Choledocholithiasis/Cholangitis/Pancreatitis (including acute necrotizing pancreatitis)

- Presentation
- Physical findings
- Relevant investigations
- Blood work
- Imaging – US, CT, MRCP



- Management
  - Endoscopic
  - Percutaneous
  - Operative
- Colon Cancer Liver Metastasis
- Staging
- Imaging
- Basic principles in multidisciplinary management
- Outcomes of therapy

### **TECHNICAL SKILLS – JUNIOR RESIDENT**

Through intra-operative experience the junior resident must develop technical proficiency in various portions of a cancer laparotomy, as well as portions of simple HPB procedures. Depending on the complexity of the procedure the junior resident must be able to function either as a first assistant or independent surgeon.

*Begin procedure and perform most of the case independently (I)*

*Function as an assistant (A)*

- Laparotomy (I or A)
  - Accessing the peritoneal cavity (I)
  - Full Staging of disease (I)
  - Lymph node sampling (I or A)
  - Fascial closure (I)
- Cholecystectomy (I)
  - Laparoscopic cholecystectomy (I or A)
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### **CLINICAL/KNOWLEDGE BASE – SENIOR RESIDENT**

#### **Preamble**

Through clinic and inpatient ward experience the senior resident must develop an approach to a patient presenting with simple (as described above) and complicated hepatobiliary problem. This will include benign, pre-malignant, and malignant pathologies. For each of the pathologies listed the resident must learn to obtain a relevant history and physical exam. The resident must learn to organize a strategy for appropriate investigations. Based on the results of the investigations the resident must be able to arrive at a treatment plan. For each of the pathologies below we have listed points of emphasis to help guide background reading.



## LIVER

### Benign liver lesions

- Hemangioma,
  - imaging characteristics
  - management options
- Hepatic Adenoma
  - risk factors
  - imaging characteristics
  - management options
- FNH
  - Imaging features
  - Management options

### Liver cysts

- Simple cysts
  - Presentations
  - Imaging characteristics
  - Operative management

### Malignant Liver Lesions

- HCC
  - Typical presentation
  - Making a diagnosis
  - Relevant Tumor Markers
  - Imaging characteristics
  - Staging
  - Management options
  - Indications and outcomes for resection
  - Indications for transplantation
  - Indications and outcomes of regional and systemic chemotherapy
- Cholangiocarcinoma
  - Typical presentation
  - Making a Diagnosis
  - Imaging characteristics
  - Staging
  - Management options
  - Principles of biliary drainage – percutaneous and endoscopic
  - Indications and outcomes for resection
  - Indications for transplantation
  - Indications and outcomes of regional and systemic chemotherapy



- Metastatic Colorectal Cancer
  - Principles in multidisciplinary approach
  - Indications and outcomes for resection
  - Indications and outcomes of regional and systemic chemotherapy
- Metastatic Neuroendocrine Tumor
  - Typical presentations
  - Making a Diagnosis
  - Tumor Markers
  - Imaging characteristics including options for nuclear medicine
  - Management
  - Indications and outcomes for resection
  - Indications and outcomes of regional and systemic chemotherapy

#### **Bile Duct**

- Benign - Calculus disease of the gallbladder and bile duct
  - Typical Presentations
  - Imaging characteristics
  - Management
  - Endoscopic therapeutics
  - Percutaneous therapeutics
  - Operative management
- Malignant – Cholangiocarcinoma
  - See above

#### **Pancreas**

- Neoplastic Cystic Lesions – serous cystadenoma, mucin cystadenoma
  - Typical Presentation
  - Making Diagnosis
  - Tumor Markers
  - Imaging include EUS
  - Management
  - Indications and outcomes for resection
- IPMN
  - Typical presentation
  - Diagnosis
  - Imaging include EUS
  - Management
  - Indications and outcomes for resection



- Adenocarcinoma
  - Presentation
  - Diagnosis
  - Imaging characteristics including determinants of respectability
  - Management
  - Indications and outcomes for resection
  - Surgical Palliation

### **TECHNICAL SKILLS – SENIOR RESIDENT**

Through intra-operative experience the senior resident must develop technical proficiency in various portions of advanced HPB resections. Depending on the complexity of the procedure the senior must be able to function either as a first assistant or independent surgeon.

*I – perform independently*

*A – function as assistant*

- Liver resection (A)
  - hepatic mobilization (A)
  - hepatic transection (A)
- Pancreaticoduodenectomy (A)
  - Duodenal Kocherization (I)
  - Distal gastrectomy (I)
  - Choledochojejunostomy (I)
  - Gastrojejunostomy (I)
- Distal pancreatectomy (A)
  - splenectomy (I)
- CBD exploration (I)
- Difficult cholecystectomy (I)
- Pancreatic cyst gastrostomy or cystjejunostomy (I)
- Pancreatic necrosectomy (I)



### **COMMUNICATOR**

1. Demonstrate effective communication with patients and families characterized by understanding, trust, respect, empathy and confidentiality;
2. Demonstrate ability to communicate "bad news" to patients presently advanced hepato-biliary and pancreatic malignancy;
3. Demonstrate ability to communicate effectively in regards to palliative options for patients presenting with advanced hepato-biliary and pancreatic malignancy
4. Gather information not only about disease but the patient's belief, concerns and expectations about his/her illness;
5. Be aware of the influential factors such as age, gender, ethnic, cultural and socio economic background and spiritual values that may affect the illness;
6. Ensures that consistent messages are delivered to the patient and the family by various members of the health care team;
7. Establish good relationship with peers and other health professionals;
8. Effectively provide and receive information;
9. Prepares documents, summaries, operative reports that are accurate and timely;
10. Demonstrates the ability to handle conflict situations.

### **COLLABORATOR**

1. Demonstrate effective interaction with health professionals recognizing their roles within the care of the patient;
2. Consult effectively with other physicians and health care professionals;
3. Contribute effectively to the inter-disciplinary team activity and meetings. This relates to multidisciplinary tumor board presentation for patients with hepato-biliary and pancreatic malignancy. Specifically this relates to collaboration with medical oncology, radiation oncology, radiology, and pathology ;
4. Develop care plan for the patient including investigation, treatment, and continued care in collaboration with other member of inter-disciplinary team.

### **MANAGER**

1. Understand the concept of resource utilization and the need for prioritization of health care delivery.
2. Allocate such resources wisely.
3. Utilize various technologies such as OACIS and PACS, I-PAD systems to optimize patient care and using such information to assist in decision-making.
4. Demonstrate effective leadership with appropriate delegation of responsibilities to other members of the house staff.
5. Plan for the weekly service rounds with the assignment of responsibility for presentation of subject matter and cases.



6. Select cases for the weekly morbidity and mortality rounds with specific emphasis on identification of systemic issues.

#### **HEALTH ADVOCATE**

1. Understand the specialist role to intervene on behalf of patients on issues that may impact on their health;
2. Identify the important determinants of health affecting the patient as they relate to hepatobiliary and pancreatic malignancy (Smoking, ETOH, Hepatitis);
3. Utilize such information in the prioritization of cases for urgent, emergent or elective access to the operating room;
4. Understand the social demographic issues which affect patient hospital stay and evaluate the patient’s ability to access various support services within the health and social systems;
5. Understand the issues related to disease prevention and identification of risk factors which may be modified through lifestyle change.

#### **SCHOLAR**

1. Commitment as a specialist to engage in lifelong learning in the pursuit of mastery;
2. Recognize and identify gaps in one’s own knowledge and develop a personal learning project to correct such deficiency;
3. Participate actively in the CAGS evidence based Journal Club;
4. Critically appraise medical information and successfully integrate this information into the discussion at M&M rounds, Grand rounds and service rounds;
5. Contribute to the development of new knowledge through involvement in a research project while on the service;
6. Utilize an evidence-based approach to the resolution of clinical problems.

#### **PROFESSIONAL**

1. Recognize the responsibility for the overall care of the surgical patient;
2. Deliver the highest quality of care with integrity, understanding and compassion. Practice of surgery must be ethically consistent
3. Have knowledge of and understanding of the professional legal and ethical codes to which surgeons are bound;
4. Develop ability to recognize, analyze and deal with unprofessional behaviors in clinical practice through knowledge of local and provincial regulations;
5. Demonstrate appropriate personal and inter-personal behavior.

