

<b>MODULE TITLE:</b>	<b>UPPER GI &amp; HPB - HEPATIC, PANCREATIC &amp; BILIARY</b>	<b>7-Nov-2016</b>
<b>DEVELOPED BY:</b>	<b>Chris Christophi, Mark Smithers</b>	
<b>REVIEWED BY:</b>	<b>Tom Wilson, Michael Donovan (2010) Adrian Anthony, Simon Bann, Adam Bartlett, Wendy Brown, Tom Elliott, Sayed Hassen, Michael Cox, Noel Tait (2013). Vijayaragavan Muralidharan (2016).</b>	
<b>Module Rationale and Objectives</b>	<p>A general surgeon is required to have a thorough understanding of normal anatomy and physiology, as well as pathophysiology, investigations, differential diagnosis and surgical and non-surgical management of abdominal disorders. It is important that general surgeons maintain a current understanding of the most appropriate time and manner of intervention. It is also important that they keep abreast of the most current developments in investigative and surgical procedures.</p> <p>The graduating trainee will be able to:</p> <ul style="list-style-type: none"> <li>▪ describe common surgical pathologies of the foregut and associated structures</li> <li>▪ identify and recognise the symptoms and signs of these conditions</li> <li>▪ describe and select appropriate diagnostic testing</li> <li>▪ identify appropriate treatment options, and their indications and contraindications</li> <li>▪ diagnose and manage pathological conditions that pertain to the foregut</li> <li>▪ effectively manages patients</li> <li>▪ maintains skills and learns new skills</li> <li>▪ analyses their own clinical performance for consistent improvement</li> <li>▪ recognise the need to refer patients to other professionals</li> <li>▪ communicate information to patients (and their family) about procedures, outcomes, and risks associated with surgery in ways that encourage their participation in informed decision making (consent)</li> </ul>	
<b>Anatomy, Physiology, Pathology</b>	<p>Trainees should have thorough knowledge of the normal embryology, anatomy, physiology and pathology, of:</p> <ul style="list-style-type: none"> <li>▪ foregut</li> </ul>	
<b>Suggested Reading</b>	<p>Trainees who are preparing to sit the Generic and Clinical Examinations need to refer to the recommended reading list on the RACS website at <a href="http://www.surgeons.org">www.surgeons.org</a></p> <p>Suggested readings:</p> <p>(1) Hepatobiliary and Pancreatic Surgery: A Companion to Specialist Surgical Practice (ISBN 9780702030147), 4<sup>th</sup> edition (or later), edited by O.J. Garden.</p> <p>(2) Blumgart's Surgery of the Liver, Biliary Tract and Pancreas (ISBN 9781437714548), 5<sup>th</sup> edition (or later), by W.R. Jarnagin and L.H. Blumgart.</p> <p>For the Fellowship examination, there are no prescribed texts.</p> <p>Trainees are expected to keep abreast of the current literature, including textbooks, journal articles, consensus guidelines and other on-line resources.</p>	
<b>Learning Opportunities and Methods</b>	<p>If state-based and/or local hospital courses/meetings are available, trainees are strongly advised to avail themselves of these opportunities. This also includes practising procedures on simulation equipment where applicable.</p> <p>Trainees are encouraged to present their research at national and/or accredited regional training days, in order to fulfil the research requirement.</p>	
<b>How this module will be assessed</b>	<p>The Generic and Clinical Examinations; Fellowship examination (written and viva voce sections); Trainee evaluation forms and logbooks; SEAM (where applicable).</p>	
<b>Assumed Knowledge</b>	<ul style="list-style-type: none"> <li>▪ Embryology of the liver, pancreas and bilio-pancreatic tract</li> <li>▪ Anatomy and physiology of the liver, biliary tract, pancreas</li> </ul>	
<b>Definitions</b>	<p><i>Operative Management - Knows:</i> Trainees are required to be familiar with the indications, benefits and limitations of the procedure; trainees should be able to describe the relevant operative techniques involved in performing the procedure; trainees are encouraged to at least observe and preferably assist in these procedures.</p> <p><i>Operative Management - Does:</i> In addition to the above, trainees must be competent at performing the procedure.</p>	

SET LEVEL	MEDICAL EXPERTISE	JUDGEMENT / CLINICAL DECISION MAKING			TECHNICAL EXPERTISE	
	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>HEPATIC</b>						
<b>Primary liver malignancy</b>						
<ul style="list-style-type: none"> <li>▪ HCC</li> <li>▪ cholangiocarcinoma</li> <li>▪ others</li> </ul>						
Early SET	<ul style="list-style-type: none"> <li>▪ Describe the embryology, anatomy, and physiology of the liver</li> <li>▪ Describe the aetiology, pathology, and staging</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the clinical presentation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> </ul>			
Mid SET	<ul style="list-style-type: none"> <li>▪ Describe the common anatomical variations of the liver</li> </ul>		<ul style="list-style-type: none"> <li>▪ Determine the degree of hepatic dysfunction</li> </ul>	<ul style="list-style-type: none"> <li>▪ Patient and family counselling</li> <li>▪ Understand the aims of treatment</li> <li>▪ Staging</li> <li>▪ Describe and evaluate the various methods of treatment</li> </ul>		<ul style="list-style-type: none"> <li>▪ Staging Laparoscopy</li> </ul>
Late SET			<ul style="list-style-type: none"> <li>▪ Establish the operability of the lesion</li> <li>▪ Assessment of portal hypertension</li> <li>▪ Assessment of future liver remnant (FLR)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improving future liver remnant (FLR)</li> <li>▪ Prevention of post-operative liver failure</li> <li>▪ Post treatment surveillance</li> </ul>	<ul style="list-style-type: none"> <li>▪ Liver resection in patient with cirrhosis</li> <li>▪ Intra Operative US</li> <li>▪ Laparoscopic Liver Biopsy in Cirrhosis</li> </ul>	
<b>Liver metastases</b>						
Early SET	<ul style="list-style-type: none"> <li>▪ Describe the pathology and staging</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demonstrate the clinical assessment of the patient with suspected liver metastasis</li> </ul>				
Mid SET			<ul style="list-style-type: none"> <li>▪ Outline the role of staging techniques including: <ul style="list-style-type: none"> <li>- Cross sectional imaging</li> <li>- Functional imaging</li> <li>- Laparoscopy</li> <li>- Laparoscopic IOUS</li> </ul> </li> <li>▪ Determine factors for operability</li> </ul>	<ul style="list-style-type: none"> <li>▪ Patient and family counselling</li> <li>▪ Understand the principles of treating metastatic disease</li> <li>▪ Selection and pre-operative preparation of patient</li> <li>▪ Outline the multi-disciplinary approach to treatment</li> </ul>		<ul style="list-style-type: none"> <li>▪ Staging laparoscopy</li> <li>▪ Staging at laparotomy</li> </ul>
Late SET			<ul style="list-style-type: none"> <li>▪ Assessment of future liver remnant (FLR)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improving future liver remnant (FLR)</li> <li>▪ Prevention of post-operative liver failure</li> <li>▪ Post treatment surveillance</li> </ul>	<ul style="list-style-type: none"> <li>▪ Principles of hepatic mobilisation, localisation of the tumour and dissection of the liver</li> <li>▪ Intra Operative US</li> </ul>	<ul style="list-style-type: none"> <li>▪ Laparoscopic Liver Biopsy</li> </ul>

SET LEVEL	MEDICAL EXPERTISE	JUDGEMENT / CLINICAL DECISION MAKING			TECHNICAL EXPERTISE	
	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Incidental liver lesions</b>						
<ul style="list-style-type: none"> <li>▪ adenoma</li> <li>▪ FNH</li> <li>▪ haemangioma</li> <li>▪ non-parasitic cysts</li> </ul>						
Early SET	<ul style="list-style-type: none"> <li>▪ Differentiate between the various pathologies</li> <li>▪ Describe the natural history of each entity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the clinical presentation and assessment</li> </ul>				
Mid SET			<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> <li>▪ Understand the strengths and weakness of investigations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Establish which lesions need further management and/or referral for further investigations or treatment</li> <li>▪ Role of long term surveillance</li> <li>▪ Risk stratification of tumours</li> <li>▪ Role of immune-histochemical and genetic profiling of biopsies</li> </ul>		<ul style="list-style-type: none"> <li>▪ Evaluation at open operation</li> <li>▪ Laparoscopic liver biopsy</li> </ul>
Late SET					<ul style="list-style-type: none"> <li>▪ Principles of hepatic mobilisation, localisation of the tumour and dissection of the liver</li> <li>▪ Intra Operative US</li> </ul>	
<b>Liver infections</b>						
<ul style="list-style-type: none"> <li>▪ abscess pyogenic</li> <li>▪ parasitic</li> <li>▪ others</li> </ul>						
Early SET	<ul style="list-style-type: none"> <li>▪ Describe the aetiology and pathological features including microbiology</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the clinical symptoms and signs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the medical and surgical management of each condition</li> </ul>		
Mid SET				<ul style="list-style-type: none"> <li>▪ Role of percutaneous drainage</li> <li>▪ Role for surgical drainage</li> </ul>		
<b>Portal hypertension</b>						
Early SET	<ul style="list-style-type: none"> <li>▪ Classification of portal hypertension</li> <li>▪ Describe the aetiology and pathophysiology</li> <li>▪ Classification of severity of liver disease (Childs-Pugh)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demonstrate the clinical assessment of a patient with acute or chronic liver disease and portal hypertension</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the endoscopic, laboratory and radiological assessments</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the management of a patient with acute or chronic liver disease in relation to peri-operative care and portal hypertension</li> <li>▪ Describe the principles of management: <ul style="list-style-type: none"> <li>- medical</li> <li>- radiological</li> <li>- surgical management</li> <li>- endoscopic</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Operative strategies for patient with portal hypertension</li> </ul>	

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	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Portal hypertension (continued)</b>						
Late SET					▪ Management of variceal bleeding	
<b>Ascites</b>						
Early SET	▪ Describe the aetiology and associated pathologies causing ascites	▪ Describe the clinical symptoms and signs	▪ Define the role of medical imaging and laboratory investigations ▪ Interpretation of ascitic tap	▪ Describe the principles of radiological, medical and surgical management ▪ Medical and paracentesis for symptom management	▪ Impact of ascites on abdominal surgery	
Mid SET					▪ Operative management of patient with ascites	
<b>Hepatic trauma</b> <i>See also Trauma Module</i>						
Early SET	▪ Describe aetiology and the patterns of injury ▪ Define the subsequent complications of blunt and penetrating trauma ▪ Define the natural history of each type of injury	▪ Demonstrate the clinical assessment of the trauma patient with liver injury	▪ Define the role of medical imaging and laboratory investigations	▪ Describe the principles of management: - radiological - operative		
Mid SET			▪ Describe the CT grading of liver injuries	▪ Describe the principles of management of liver injury ▪ Describe the principles of management: - non-operative - operative	▪ Understand the principles of use of various haemostatic agents ▪ Understand the role of low CVP anaesthesia in liver injuries	▪ Laparotomy ▪ Assessment of severity of injury ▪ Methods to obtain haemostasis including packing a liver injury for referral/transfer
<b>Hepatic Failure (Acute &amp; Chronic)</b>						
Early SET	▪ Describe the definitions of acute and chronic liver failure ▪ Understand the aetiology of acute and chronic liver failure	▪ Demonstrate the clinical assessment of patients with liver failure	▪ Define the investigations to determine the aetiology ▪ Determine assessment of liver failure			
Mid SET				▪ Describe the principles of management of acute and chronic liver failure	▪ Methods to achieve haemostasis	

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	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>BILIARY</b>						
<b>Gallstone disease</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the aetiology of biliary stone disease and the complications</li> </ul>	<ul style="list-style-type: none"> <li>Describe and differentiate the clinical features and signs</li> </ul>	<ul style="list-style-type: none"> <li>Understand the role, limitations and complications of investigations and treatment options</li> </ul>			
Mid SET	<ul style="list-style-type: none"> <li>Describe the common anatomical variations of the biliary tree</li> <li>Describe the common anatomical variations of the hepatic vasculature</li> </ul>		<ul style="list-style-type: none"> <li>Understanding of the role, limitations and complications of endoscopic retrograde cholangiopancreatography</li> <li>Understanding of the role, limitations and complications of transcystic bile duct exploration</li> </ul>	<ul style="list-style-type: none"> <li>Describe and evaluate the management, including all complications</li> </ul>		<ul style="list-style-type: none"> <li>Cholecystectomy for uncomplicated and complicated disease, including performance of operative cholangiography</li> <li>Open exploration of the common bile duct</li> <li>Laparoscopic transcystic exploration of the common bile duct</li> </ul>
Late SET					<ul style="list-style-type: none"> <li>Laparoscopic exploration of the common bile duct</li> </ul>	<ul style="list-style-type: none"> <li>Open cholecystectomy including techniques for the "difficult" gall bladder</li> </ul>
<b>Gall bladder polyp</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the aetiology and the pathology</li> <li>Describe the natural history of the causes</li> </ul>	<ul style="list-style-type: none"> <li>Describe the symptoms and signs</li> </ul>	<ul style="list-style-type: none"> <li>Define the role of medical imaging and laboratory investigations</li> </ul>			
Mid SET			<ul style="list-style-type: none"> <li>Risk stratification</li> </ul>	<ul style="list-style-type: none"> <li>Describe the principles of management: <ul style="list-style-type: none"> <li>non-operative</li> <li>operative</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>Laparoscopic cholecystectomy</li> </ul>
Late SET					<ul style="list-style-type: none"> <li>Role of laparoscopic IOUS</li> </ul>	
<b>Gallbladder carcinoma/ cholangiocarcinoma</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the pathology and staging</li> </ul>	<ul style="list-style-type: none"> <li>Describe and differentiate the clinical features and signs</li> </ul>	<ul style="list-style-type: none"> <li>Define the role of medical imaging and laboratory investigations</li> </ul>			
Mid SET				<ul style="list-style-type: none"> <li>Patient and family counselling</li> <li>Describe the assessment, staging and management</li> <li>Define the role of resection</li> <li>Outline the mechanism of palliation of jaundice when present</li> </ul>	<ul style="list-style-type: none"> <li>Laparoscopic assessment</li> <li>Laparoscopic IOUS</li> </ul>	<ul style="list-style-type: none"> <li>Staging laparoscopy</li> <li>Laparoscopic liver biopsy</li> </ul>

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	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Benign biliary bile duct /strictures injuries</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the aetiology of benign biliary strictures</li> <li>Describe the mechanism for bile duct injuries</li> <li>Describe the classification of bile duct injuries</li> </ul>	<ul style="list-style-type: none"> <li>Describe and differentiate the clinical symptoms and signs</li> </ul>				
Mid SET	<ul style="list-style-type: none"> <li>Define the risk factors for injury</li> <li>Describe the common anatomical variations of the biliary tree</li> <li>Describe the common anatomical variations of the hepatic vasculature</li> </ul>	<ul style="list-style-type: none"> <li>Describe the clinical features of an injury in the post-operative period</li> </ul>	<ul style="list-style-type: none"> <li>Define the role of medical imaging and laboratory investigations</li> <li>Define the role of medical imaging, endoscopic and laboratory investigations peri-operatively</li> </ul>	<ul style="list-style-type: none"> <li>Describe the assessment and management of injuries and stricture</li> <li>Describe the outcomes</li> <li>Outline the role of follow-up</li> <li>Describe the assessment and management of a bile duct injury recognised</li> </ul>	<ul style="list-style-type: none"> <li>Roux-en-Y hepatico-jejunostomy</li> </ul>	<ul style="list-style-type: none"> <li>Intra-operative <ul style="list-style-type: none"> <li>recognition</li> <li>call for help or</li> <li>drain and refer</li> </ul> </li> <li>Postoperative <ul style="list-style-type: none"> <li>recognition</li> <li>laparoscopic or open drainage and refer</li> </ul> </li> </ul>
Late SET				<ul style="list-style-type: none"> <li>Describe associated vascular injuries and consequences</li> </ul>		
<b>Choledochal anomalies</b>						
Mid SET	<ul style="list-style-type: none"> <li>Describe the pathology and the classification</li> </ul>	<ul style="list-style-type: none"> <li>Describe and differentiate the clinical symptoms and signs</li> </ul>	<ul style="list-style-type: none"> <li>Define the role of medical imaging and laboratory investigations</li> </ul>	<ul style="list-style-type: none"> <li>Describe the principles of management</li> </ul>		
Late SET					<ul style="list-style-type: none"> <li>Biliary resection</li> <li>Roux-en-Y hepatico-jejunostomy</li> </ul>	
<b>PANCREATIC</b>						
<b>Acute pancreatitis</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the embryology, anatomy, and physiology of the exocrine pancreas</li> <li>Define the aetiology</li> <li>Describe the pathophysiology of the changes associated with acute pancreatitis</li> <li>Describe and explain the pathology of the complications</li> </ul>	<ul style="list-style-type: none"> <li>Define the clinical symptoms and signs</li> <li>Define the risk stratification</li> </ul>	<ul style="list-style-type: none"> <li>Describe and evaluate the indicators of severity</li> </ul>	<ul style="list-style-type: none"> <li>Describe the principles of management of the acute episode</li> </ul>		
Mid SET		<ul style="list-style-type: none"> <li>Describe the presentation of the complications</li> </ul>	<ul style="list-style-type: none"> <li>Define the role of imaging in diagnosis, staging, severity, and assessment of complications</li> </ul>	<ul style="list-style-type: none"> <li>Role of ERCP</li> <li>Define the assessment and treatment of the complications: <ul style="list-style-type: none"> <li>general</li> <li>pancreas specific</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Percutaneous necrosectomy</li> </ul>	<ul style="list-style-type: none"> <li>Operative recognition of acute pancreatitis</li> <li>Percutaneous abscess drainage</li> </ul>

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	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Acute pancreatitis (continued)</b>						
Late SET				<ul style="list-style-type: none"> <li>▪ Role of EUS for diagnosis and therapeutic roles</li> </ul>	<ul style="list-style-type: none"> <li>▪ Open, laparoscopic and endoscopic cysto-gastrostomy</li> <li>▪ Open necrosectomy</li> <li>▪ Laparoscopic necrosectomy</li> </ul>	
<b>Chronic pancreatitis</b>						
Early SET	<ul style="list-style-type: none"> <li>▪ Define the aetiology</li> </ul>					
Mid SET	<ul style="list-style-type: none"> <li>▪ Describe the pathophysiology of the changes associated with chronic pancreatitis</li> <li>▪ Describe and explain the complications</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the clinical symptoms and signs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> <li>▪ Assessment of exocrine and endocrine deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the role of medical radiological, endoscopic and surgical treatment options for general constitutional and pancreas specific problems</li> </ul>		
Late SET			<ul style="list-style-type: none"> <li>▪ Differentiate pancreatic mass in chronic pancreatitis</li> </ul>	<ul style="list-style-type: none"> <li>▪ Chronic pain management</li> <li>▪ Nutritional management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pancreatico-jejunostomy</li> <li>▪ Distal pancreatectomy</li> <li>▪ Role for splenic preservation</li> </ul>	
<b>Periampullary and ductal pancreatic carcinoma</b>						
Early SET	<ul style="list-style-type: none"> <li>▪ Describe the pathology and staging</li> <li>▪ Describe and evaluate the pathophysiological changes associated with obstructive jaundice</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the clinical symptoms and signs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Outline the multidisciplinary approaches to management</li> </ul>		
Mid SET			<ul style="list-style-type: none"> <li>▪ Outline the role of endoscopic ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>▪ Patient and family counselling</li> <li>▪ Define assessment for resectability pre-operatively and intra-operatively</li> <li>▪ Describe the principles of pancreatic resection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Biliary-enteric anastomosis and gastro-enterostomy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Laparoscopic staging</li> </ul>
Late SET					<ul style="list-style-type: none"> <li>▪ Pancreatic-duodenectomy</li> <li>▪ Distal pancreatectomy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gastro-enterostomy</li> </ul>
<b>Pancreatic cysts &amp; Cystic tumours trauma</b>						
Early SET	<ul style="list-style-type: none"> <li>▪ Describe the pathology and staging</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the clinical symptoms and signs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> </ul>			

SET LEVEL	MEDICAL EXPERTISE	JUDGEMENT / CLINICAL DECISION MAKING			TECHNICAL EXPERTISE	
	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Pancreatic cysts &amp; Cystic tumours trauma (continued)</b>						
Mid SET		<ul style="list-style-type: none"> <li>▪ Define the natural history</li> <li>▪ Risk stratification</li> </ul>	<ul style="list-style-type: none"> <li>▪ Outline the role of endoscopic ultrasound</li> <li>▪ Understand interpretation of FNA and cyst fluid biochemistry</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the principles of:               <ul style="list-style-type: none"> <li>- Risk stratification and conservative management</li> <li>- Role of surgical intervention</li> <li>- Role of endoscopic intervention</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Pancreatic duodenectomy</li> <li>▪ Distal pancreatectomy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Laparoscopic staging</li> </ul>
Late SET						<ul style="list-style-type: none"> <li>▪ Gastro-enterostomy</li> </ul>
<b>Other pancreatic tumours including:</b> <i>See also Endocrine Module</i>						
<ul style="list-style-type: none"> <li>▪ endocrine tumours</li> <li>▪ incidental tumours</li> </ul>						
Early SET	<ul style="list-style-type: none"> <li>▪ Describe the pathology and staging</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the clinical symptoms and signs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> </ul>			
Mid SET			<ul style="list-style-type: none"> <li>▪ Outline the role of endoscopic ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the principles of:               <ul style="list-style-type: none"> <li>- resectability</li> <li>- medical management</li> <li>- control of systemic symptoms</li> </ul> </li> <li>▪ Risk stratification and conservative management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pancreatic duodenectomy</li> <li>▪ Distal pancreatectomy</li> </ul>	
<b>Pancreatic-duodenal trauma</b>						
<i>See also Trauma Module</i>						
Early SET	<ul style="list-style-type: none"> <li>▪ Describe the patterns of injury</li> </ul>		<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> </ul>			
Mid SET	<ul style="list-style-type: none"> <li>▪ Define the classification for duodenal and pancreatic trauma</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the clinical findings and assessment in suspected pancreatico-duodenal trauma</li> </ul>		<ul style="list-style-type: none"> <li>▪ Define the principles of:               <ul style="list-style-type: none"> <li>- assessment</li> <li>- non-operative management</li> <li>- operative assessment and management</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Techniques for repair of a duodenal injury/± pancreatic injury</li> <li>▪ Assess the extent of injury at laparotomy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Damage control</li> <li>▪ Laparotomy</li> </ul>
Late SET					<ul style="list-style-type: none"> <li>▪ Distal pancreatectomy</li> </ul>	
<b>ERCP complications</b>						
Mid SET	<ul style="list-style-type: none"> <li>▪ Define the types of complications               <ul style="list-style-type: none"> <li>- haemorrhage</li> <li>- perforation</li> <li>- cholangitis</li> <li>- pancreatitis</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the clinical findings and assessment of post ERCP complications</li> </ul>	<ul style="list-style-type: none"> <li>▪ Define the role of medical imaging and laboratory investigations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the principles of management</li> </ul>		



SET LEVEL	MEDICAL EXPERTISE	JUDGEMENT / CLINICAL DECISION MAKING			TECHNICAL EXPERTISE	
	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>SPLEEN AND HAEMOPOIETIC SYSTEM</b>						
<b>Splenic trauma</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the embryology, anatomy, and physiology of the spleen</li> <li>Describe the patterns and classification of injury</li> </ul>	<ul style="list-style-type: none"> <li>Describe the clinical assessment of splenic trauma</li> </ul>	<ul style="list-style-type: none"> <li>Define the role of medical imaging and laboratory investigations</li> </ul>	<ul style="list-style-type: none"> <li>Describe the principles of management including: <ul style="list-style-type: none"> <li>resuscitation</li> <li>non-operative</li> <li>operative (conservative and resection)</li> </ul> </li> </ul>		
Mid SET	<ul style="list-style-type: none"> <li>Describe the complications of splenectomy</li> </ul>					<ul style="list-style-type: none"> <li>Trauma splenectomy</li> </ul>
Late SET					<ul style="list-style-type: none"> <li>Understand the principles of use of various haemostatic agents</li> <li>Splenorrhaphy</li> </ul>	
<b>ITP/other indications for splenectomy</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the pathophysiology of ITP</li> </ul>		<ul style="list-style-type: none"> <li>Define the role of medical imaging and laboratory investigations</li> </ul>			
Mid SET	<ul style="list-style-type: none"> <li>Describe the indications for elective splenectomy</li> </ul>			<ul style="list-style-type: none"> <li>Describe the principle of pre-operative management</li> <li>Describe the principles of the follow-up care</li> </ul>	<ul style="list-style-type: none"> <li>Laparoscopic splenectomy</li> </ul>	<ul style="list-style-type: none"> <li>Elective splenectomy for a normal sized spleen</li> </ul>
<b>Massive spleen</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the causes (infective vs. non-infective)</li> </ul>	<ul style="list-style-type: none"> <li>Describe the clinical features</li> </ul>	<ul style="list-style-type: none"> <li>Define the role of medical imaging and laboratory investigations</li> </ul>	<ul style="list-style-type: none"> <li>Describe the principle of pre-operative management</li> </ul>		
Mid SET				<ul style="list-style-type: none"> <li>Describe the indications for splenectomy</li> </ul>		
Late SET					<ul style="list-style-type: none"> <li>Splenectomy for massive spleen</li> </ul>	
<b>Lymph nodes including lymphoma</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the aetiology and associated pathologies causing lymphadenopathy</li> </ul>	<ul style="list-style-type: none"> <li>Describe the clinical symptoms and signs</li> </ul>	<ul style="list-style-type: none"> <li>Define the role of medical imaging and laboratory investigations</li> <li>Define the role of cytology</li> </ul>	<ul style="list-style-type: none"> <li>Describe the principle of pre-operative assessment</li> <li>Define the role of lymph node biopsy</li> </ul>		<ul style="list-style-type: none"> <li>Open node biopsy; <ul style="list-style-type: none"> <li>cervical</li> <li>axillary</li> <li>femoral</li> </ul> </li> </ul>
Mid SET					<ul style="list-style-type: none"> <li>Laparoscopic abdominal nodal biopsy <b>See also Surgical Oncology Module</b></li> </ul>	<ul style="list-style-type: none"> <li>Open abdominal nodal biopsy</li> </ul>