

# **CORE CURRICULUM FOR MD GASTROENTEROLOGY**

## **OBJECTIVE:**

The recommended training curriculum for MD Gastroenterology Training Program is constructed so that doctors who successfully complete the specialist training programme will be enabled to practice autonomously as a Gastroenterologist and Hepatologist, without ongoing supervision. The curriculum is designed to train across the entire discipline of clinical Gastroenterology and Hepatology, so although trainees may develop particular clinical interests, they will also have acquired core knowledge and skills.

## **FUNDAMENTAL COMPETENCIES:**

### **Patient Interaction and Consultation-related Competencies:**

All interactions between a patient and a doctor may be viewed as a consultation and there are a number of fundamental consultation- related competencies which must be acquired by the clinician.

These include:

- Establishing rapport and putting the patient at ease
- Eliciting an appropriate history
- Performing a physical examination
- Making an initial diagnosis or differential diagnosis
- Arranging appropriate cost-effective and ethical investigations
- Reaching diagnostic conclusions
- Communicating clearly
- Educating and providing educational resources for the patient
- Deliberating about various management approaches including benefits, risks and alternatives
- Obtaining informed consent
- Obtaining help or second opinions from colleagues or other health professionals
- Quickly sourcing reference information
- Prescribing or recommending therapies or procedures
- Personally undertaking procedures
- Providing sensitive and empathetic emotional support
- Managing the consultation time efficiently
- Throughout the duration of the training programme, the trainee's acquisition of the various consultation related competencies needs to be supported, and when successfully acquired, documented.

### **System Interaction, Management and Organizational Competencies:**

The doctor-patient interaction occurs within a professional and organizational system and a doctor must be competent in his or her relationship with these systems. Thus an array of

competencies which are not directly related to the individual doctor-patient relationship and consultation must be shown.

These include:

- Personal management especially time management
- Team working, including appropriate leadership, with the patient care clinical team, the
- multidisciplinary team, the departmental and institution-wide management and clinical teams
- Hospital Clinic Management including resource allocation and service development
- Ethical behaviour
- Clinical governance
- Awareness and understanding of legal frameworks and obligations within which clinical care occurs
- Awareness and understanding of commercial pressures and biases impacting on clinical care
- Teaching of colleagues and students
- Audit
- Research
- Public Health implications of clinical care

### **Academic Activities:**

Trainees need to have and support an attitude of active inquiry and realize the value of continuing education and knowledge generation. As evidence of this, by the end of training, trainees should ideally have two publications or presentations at National or International level as first or second author.

## **COMPETENCES AND TRAINING RELATED TO DISEASES AND THEIR MANAGEMENT**

### **1. Functional and Motility Disorders of the GI Tract**

Knowledge of:

- Irritable Bowel Syndrome-Rome Diagnostic Criteria
- Functional abdominal pain syndrome/ constipation and functional dyspepsia
- History taking/awareness of psycho-social factors/sexual and physical
- abuse/depression/anxiety and cancer phobia
- Oesophageal and gastric dysmotility syndromes
- Psychogenic vomiting
- Abdominal wall syndromes
- The Gut Microbiome and dysmotility
- Functional diarrhoea and constipation
- Faecal incontinence

### **OESOPHAGEAL DISEASES**

- Oesophageal motor function and its related disorders.
- Pathogenesis and clinical significance of GERD.

- Barrett's oesophagus (especially screening protocols)
- Tumours of the oesophagus.
- Oesophageal disorders caused by caustic agents, medications, infection and trauma.
- Oesophageal diverticula
- Foreign body impaction
- Diagnosis, investigation and management of dysphagia
- Swallowing disorders in the elderly
- Oesophageal function tests
- Management of reflux oesophagitis
- Diagnosis and management of oesophageal strictures
- Management of oesophageal diverticula

### **Oesophageal emergencies**

- Acute dysphagia
- Mallory Weiss tear
- Spontaneous oesophageal perforation
- Acute oesophagospasm
- Bleeding oesophageal varices

### **Stomach and Duodenum**

Knowledge of:

- H.Pylori and NSAID induced ulcer disease/erosions/gastritis
- Refractory peptic ulcer disease
- Stress-related ulcer disease
- Complications of peptic ulcer disease
- Complications of peptic ulcer surgery
- Indications and complications of bariatric surgery
- Management of premalignant gastric lesions
- Presentation, investigation and treatment of gastric adenocarcinoma, gastric Neuroendocrine tumours (NETS), gastric dysplasia, gastric polyps. Gastro Intestinal Stromal Tumours (GISTS), Zollinger-Ellison Syndrome

### **Pancreatic Disorders**

Knowledge of:

- Management of acute and chronic pancreatitis including genetic disorders of the pancreas
- Aetiology of pancreatitis
- Staging of acute pancreatitis, Management of complications including infected necrosis,
- pseudocysts and portal vein thrombosis.
- Nutritional support in pancreatitis
- Multidisciplinary approach to acute pancreatitis with radiological and surgical colleagues
- Diagnosis and management of pancreatic tumours
- Diagnosis and management of pancreatic insufficiency

## **Biliary Tract Disorders**

Trainees should demonstrate knowledge in the physiology and biochemistry of bile formation and the pathogenesis of gallstones. They should be able to recognise the symptoms and signs of the complications of gallstones disease including biliary colic, acute cholecystitis, bile obstruction and cholangitis. They should be able to distinguish between symptomatic and asymptomatic gallstones and understand the clinical implications of this differentiation. They should know the various treatment options and their complications and the indications for operative and non-operative management. Knowledge of sclerosing cholangitis and other causes of cholangitis is necessary along with that of tumours of the bile duct, gall bladder and ampulla. Trainees should be aware of the indications and complications of endoscopic and radiological treatment of biliary disease.

## **Liver**

All prospective specialists in gastroenterology and hepatology should receive basic training in hepatology. Basic training should make it clear to the trainees when advanced competencies are necessary and when more specialised hepatology services should be involved in patient care. Trainees should understand the micro anatomy, physiology and biochemistry of the liver as it relates to disease process. They should recognise and understand the patterns of presentation of liver disease including altered transaminases, jaundice, acute liver failure, acute and chronic hepatitis, cirrhosis, iron and copper overload, intra- and extra-hepatic cholestasis, cholangitis, vascular liver diseases, abscesses/localised infections and tumours. They should be able to elicit the symptoms experienced by patients with these various presentations and the relevant physical signs and identify the patterns of abnormalities of blood tests, imaging, and liver stiffness, functional and histological evaluation.

They should understand the causes of acute hepatitis including viral, drug- and toxin-induced, alcohol induced, fatty liver disease, and autoimmune liver disease and be able to put in place an appropriate plan for the investigation and management of these diseases including the role of serological investigations, non-invasive tests, indication of liver imaging and liver biopsy. They should be able to investigate the causes of liver disease in a structured manner.

They should develop the ability to treat hepatotoxic poisoning with antidotes. They should be able to identify and manage patients with acute alcohol withdrawal symptoms and distinguish this presentation from the many other causes of encephalopathy/coma and acute cognitive impairment in alcoholics. Trainees must be able to evaluate and follow patients in ambulatory care. Trainees should be familiar with different diagnostic and prognostic scores in hepatology, in order to evaluate severity of diseases and response to treatment.

24

They should have knowledge about the risks and prevention of viral hepatitis and vaccination schedules.

They should be aware of international guidelines on the management of liver disease and the need for expert clinician involvement in patient care. Many trainees will achieve

competence and experience in the management of viral Hepatitis and the details of this are included in the Advanced Hepatology Module.

Trainees should be able to diagnose the presence of liver cirrhosis and define its aetiology. They should have experience in the management of haemochromatosis, and knowledge of other genetic liver diseases. Trainees should develop the ability to assess the changes in liver function during pregnancy and identify and manage pregnancy-related liver diseases (e.g. benign cholestasis, acute fatty liver of pregnancy and HELLP syndrome).

Trainees should also be aware of the increasing frequency of a multi-factorial aetiology in liver disease and how it affects patient's management.

Trainees will need to become competent in management of the **complications of cirrhosis including variceal bleeding, ascites, spontaneous bacterial peritonitis, hepato-renal syndrome, hepatic encephalopathy and bacterial infections. We particularly emphasize the competent management of acute bleeding.**

Trainees will need to be competent in making objective assessment of nutritional status in patients with liver disease and undertake nutritional support as necessary in conjunction with a nutritional multidisciplinary team.

Trainees will need to know the indications for liver transplantation and transfer to special care units with critically ill liver patients. Trainees will need to provide basic care for pre and post-liver transplant patients and liaise decisively with liver-transplant hepatologists.

Trainees will need to have gained competence in the assessment of patients with primary and secondary liver cancer including the guidelines for surveillance for hepatocellular carcinoma in cirrhosis. They should have knowledge of treatment principles for primary tumours and metastases with surgery, chemotherapy (general and local), transplant, local ablation, radiotherapy as well as targeted treatment.

#### **Percutaneous Liver Biopsy**

Increasingly, percutaneous liver biopsy is aided by ultrasonography. During the training period, the trainee should have carried out 20 liver biopsies.

#### **Small Intestine**

Knowledge of:

- Management of global malabsorption and specific nutrient malabsorption, particularly coeliac disease Diagnosis and treatment of bacterial, parasitic and helminth infections of the small intestine Small intestinal bacterial overgrowth
- Whipple's disease
- Small intestinal lymphoma
- Small intestinal tumours-adenocarcinoma,GIST,Carcinoid Syndrome
- Intestinal Failure

#### **Small bowel emergencies**

- Perforation
- Intussusception

- Obstruction
- Sub-acute obstruction
- Small bowel ischemia
- Investigation of small intestine structure (capsule endoscopy, double balloon enteroscopy, CT, MRI) could be changed to capsule endoscopy, deep enteroscopy, or flexible enteroscopy, CT, MRI, deep enteroscopy includes double balloon, single balloon and spiral enteroscopy

### **Large Intestine**

Knowledge of:

- **Infectious diarrhoea**
- **Antibiotic-associated diarrhoea/C. difficile diarrhoea**
- **The Gut Microbiome**
- **Diverticular Disease/Diverticulitis**
- **Mesenteric ischemia**
- **Diseases of the appendix**
- **Colorectal cancer-multidisciplinary approach**
- **Anorectal disorders: Functional anorectal disorders**
- **Solitary rectal ulcer**
- **Intussusception,**
- **Enterocoele,**
- **Dyssynergia (see ROME IV)**
- **Anorectal disease**
- **Haemorrhoids mucosal prolapse**
- **Fissure**
- **Perianal fistula**
- **Bowen's disease, condylomata**
- **Pruritus Ani**
- **Colorectal polyps**
- **Proctitis**
- **Sexually transmitted perianal disease**
- **Rectal Bleeding**

### **Rubber Band Ligation**

Radiation and Chemotherapy induced Enteropathies

Diagnosis and management of radiotherapy and chemotherapy induced intestinal damage, particularly radiation enteropathy, and radiation proctitis.

### **Systemic disease and the gut**

GI tract and hepatic involvement in infectious, endocrine, haematological, infiltrative, rheumatological and vascular disease.

GI and hepatic disease in the elderly

Impact of clinical genetics on GI tract and hepatic disease

## **Inflammatory Bowel Disease**

Diagnosis, differential diagnosis and management of Ulcerative Colitis and Crohn's Disease

Assessment of severity of IBD

Imaging of IBD

Therapeutic management including indications for biological therapies.

Exclusion of tuberculosis and Hepatitis B before starting biological therapies

Surgical management of IBD

Recognition and management of fulminant colitis

Management of local and systemic, (extra-intestinal), complications of IBD

Multidisciplinary team involvement in the long term management of IBD

Prevention of cancer in IBD=endoscopic surveillance

Transition of adolescent with IBD

Microscopic colitis

## **ENDOSCOPY TRAINING**

Endoscopy Training is not solely about the acquisition of motor skills to complete procedures. It involves a much broader set of knowledge and generic clinical skills the acquisition of which is often underestimated.

### **Fundamental Clinical and General Skills and Knowledge for Endoscopy**

Appropriateness and correct indications

Informed consent including difficult complex consent situations

Patient safety and comfort assessment and measurement

Safe administration of sedation including its monitoring, e.g. Ramsey Scale of Sedation

**Communication with patients before and after procedure, especially communicating 'bad news'**

**Endoscope design, function and capabilities**

Skills:

Proctoscopy

Radiation and Chemotherapy induced Enteropathies

27

Use and complications of diathermy

Endoscopic unit design and management

Endoscope decontamination

Quality Measures of outcome

### **Specific Endoscopy Skills**

Trainees should be able to recognize endoscopic abnormalities and be able to use severity scores for these abnormalities.

#### **Upper GI Endoscopy**

1) Diagnostic Endoscopy with biopsy and vital staining

2) Therapeutic Endoscopy- Haemostasis techniques (ligation, thermal haemostasis, injection techniques, clip insertion),- Balloon dilatation

3) PEG insertion and retrieval

### Lower GI Endoscopy

1) Diagnostic lower endoscopy with biopsy and vital staining Proctoscopy, Sigmoidoscopy, Total Colonoscopy

2) Therapeutic Endoscopy, Snare Polypectomy, Haemostasis techniques (e.g. ligation, thermal haemostasis, injection techniques, clip insertion), Balloon dilatation of stenosis. During basic endoscopy training, a minimum of procedures needs to be carried out by the trainee:

<b>Diagnostic esophago-gastro-duodenoscopy</b>	<b>200</b>
<b>Haemostatic techniques for oesophageal varices and other upper GI-bleeding</b>	<b>30</b>
<b>Diagnostic total colonoscopy</b>	<b>200</b>
<b>Diagnostic sigmoidoscopy</b>	<b>50</b>
<b>Proctoscopy</b>	<b>50</b>
<b>Polypectomy and haemostatic procedures in the lower GI-tract</b>	<b>50</b>
<b>Balloon dilatation</b>	<b>10</b>
<b>PEG</b>	<b>15</b>

As well as carrying out the minimum number of procedures, competence in these procedures must be validated according to international criteria.

### CORE NUTRITION TRAINING

It is recommended that a focus period of training in relevant nutrition-related areas. In recent years, attention has given to the severe impact of disease-related malnutrition on clinical outcome, partly due to the associated strain on healthcare resources.

. It is important for the specialist to understand metabolism under normal conditions, but also in relation to adaptation following semi-starvation and in relation to stress conditions and to provide the best possible nutritional support, when oral feeding is inadequate. Patients with diarrhoea, malabsorption, pseudo-obstruction, short bowel syndrome and small bowel fistulae require specific management. At the other end of the nutritional spectrum, specialists are increasingly confronted with obesity and its related problems following bariatric surgery procedures.

The treatment of malnutrition should be initiated by physicians, in close cooperation with adequately trained (clinical) dieticians. The lack of doctor awareness of nutrition-related issues probably results from the absence of this topic in the medical curriculum.

Many nutritional problems are associated with motility disorders, such as postoperative or drug induced dysmotility. GE-specialists are particularly skilled to diagnose and treat these problems. HGE specialists play a central role in the care of patients at the interface of surgical and medical specialties, who deal with metabolic and nutritional derangements. The HGE specialist plays an important role in the performance of therapeutic procedures to prevent or treat malnutrition, including placement of feeding tubes, percutaneous endoscopic gastrostomies (PEG) and jejunostomies (PEG-J and PEJ). Comprehensive training also requires exposure to research, either in basic sciences, translational research, or in clinical trials.

## **Sub Speciality Exposure in HIGHER TRAINING MODULES**

All training bodies who recognize Higher Specialist Training Modules, should ensure that trainees have access to the broad range of training necessary for safe practice in these subspecialty areas.

### **Digestive Oncology**

Training programs are required to provide a structured educational experience at an advanced level in centres that are recognised as providing training in Digestive Oncology, to ensure that trainees acquire the knowledge and skills necessary to gain expertise beyond that acquired in the standard MD Gastroenterology Training Programme

### **Advanced hepatology curriculum**

#### **Introduction**

During the dedicated year of formation the trainee is expected to widen and deepen the knowledge and experience in all areas of hepatology covered by the basic core curriculum. In addition, the trainee should get wide experience and develop specific clinical competence in the following areas:

- 1) Knowledge of Liver transplantation and post-transplant care
- 2) Intensive care management of patients with acute liver failure.
- 3) Intensive care management of patients with acute-on-chronic liver failure.
- 4) In-depth management of viral hepatitis including management of antiviral-resistant strains & latest anti-viral therapy.
- 5) Management of difficult-to-treat autoimmune and metabolic liver diseases.
- 6) Management of difficult-to-treat alcoholic and fatty liver disease.
- 7) Management of malignant liver diseases.
- 8) Management of patients with portal hypertension, including the use of specialized investigations and treatment, such as portal pressure measurement, transjugular liver biopsy, TIPS, and expanding oesophageal stents.
- 9) Refractory ascites and its complications
- 10) Manifest hepatic encephalopathy
- 11) Nutritional counsel to patients with chronic liver disease, prior to and after transplantation, and to patients with co-morbidities in addition to liver disease.

#### **Intensive Care Management of Patients with Acute liver Failure**

Knowledge of the clinical course and prognosis in acute and subacute liver failure, particularly drug and toxin-induced damage, hypoxic hepatitis, severe viral and autoimmune hepatitis Ability to manage fluid imbalances, cerebral oedema, hypoglycaemia and electrolyte imbalance Ability to identify signs of poor prognosis and criteria for acceptance into a special care unit Ability to identify and manage life threatening liver disease in pregnant women Ability to communicate relevant patient/relative information concerning the disease, its treatment and prognosis Ability, using internationally validated scoring scales, to identify and care for patients needing urgent/emergency liver transplantation

### **Intensive Care Management of Patients with Acute-on-Chronic Liver Failure (ACLF)**

Trainees should acquire the competencies to manage patients with severe ACLF, in an ICU and in a multidisciplinary setting Trainees should have the ability to assess organ function, impairment and failure including the cardiovascular, GI, neurological, respiratory and renal systems in ventilated patients Knowledge of liver support techniques including artificial support Knowledge of intensive care and prognosis scoring systems Ability to assess and treat coagulation disorders in severely ill liver patients

### **Viral Hepatitis**

Knowledge of epidemiology, clinical courses and prognosis in the acute and chronic viral hepatitis. Ability to carry out patient assessment and interpretation of blood work including examination for relevant viruses and genotypes Detailed knowledge of and ability to correctly treat viral hepatitis (including the management of antiviral resistant strains) taking into account indications, side effects, drug-drug interactions and expected treatment outcomes, and be familiar with international guidelines Knowledge of the liver biopsy findings and the histopathology scoring systems in viral hepatitis Knowledge of the assessment and treatment of combined viral infections Ability to communicate relevant patient information regarding risks of infection, treatment options, side effects and prognosis

### **Auto-Immune Liver Disease**

Knowledge of assessment and clinical course for patients with autoimmune hepatitis not responding to standard therapy, primary sclerosing cholangitis, primary biliary cholangitis, IgG4 cholangiopathy, and overlap syndromes. Ability to interpret liver biochemistry, autoantibodies and histology in preparation for conclusive diagnostics, treatment and monitoring in complicated cases. Ability to deliver treatment to patients with uncomplicated and complicated disease, and ability to offer further treatment options in case of failure of standard treatments.

### **Management of difficult to treat Alcoholic and fatty liver disease (NAFLD, NASH)**

#### **Management of malignant liver diseases**

#### **Management of Patients with clinically significant Portal Hypertension**

Ability to assess the severity of the condition and the anatomical state of the portal vein and other splanchnic vessels

Experience with rescue treatment including glue injection, expanding stents, indication for acute TIPS for unresponsive bleeding oesophageal and/or gastric varices

Experience in the management of ectopic varices

### **Refractory Ascites and its Complications**

Ability to deliver treatment for difficult ascites including sodium limited diet, fluid restriction, diuretics, paracentesis and TIPS, and drainage systems.

Ability to manage the complications of difficult ascites (tense ascites, spontaneous bacterial peritonitis, hepatic hydrothorax, abdominal hernia development.

Ability to diagnose and treat hepato-renal syndrome.

Ability to distinguish it from dehydration and other causes of renal failure.

Knowledge and experience of clinical course and prognosis with or without spontaneous bacterial peritonitis

Ability to assess the increased operative risk in patients with chronic liver disease.

### **Manifest Hepatic Encephalopathy (HE)**

Ability to take relevant medical history regarding earlier episodes, classification, severity of manifestations, clinical time course, and existence of precipitating factors. Competing diagnoses causing brain involvement should be excluded. Other complications of cirrhosis should be noted.

Ability to carry out focused physical examination with emphasis on neurological signs of HE so as to grading the HE, supplemented with general signs of cirrhosis and portal hypertension.

Ability to initiate care for a patient with altered consciousness, to treat alternative causes for altered consciousness, to correct precipitating factors, and to plan and commence specific HE treatment.

Ability to plan the course of treatment including prevention of new episodes of HE as well as mapping other complications in cirrhosis, including application of clinical scores (i.e. Child-Pugh, MELD, and Glasgow Coma Score)

Ability to inform the patient and caregivers about HE and its impact on daily living, prognosis, and preventive measures.

### **Advanced Nutritional management of Liver Diseases**

Knowledge about the central importance of nutritional status and correction of undernutrition for the clinical course and prognosis of cirrhosis.

Capability to perform baseline clinical nutritional assessment by medical history and physical examination in order to identify without delay the patient at nutritional risk.

Ability to plan and interpret the established tools for screening and assessment of malnutrition

Ability to evaluate protein, energy, and micronutrient needs by means of the established formulae.

Ability to prescribe enteral and parenteral nutritional therapy (including hyper-alimentation in hepatic malnutrition) according to established guidelines.

Ability to follow-up on nutritional therapy, adherence to it, and adjust administration route when nutritional goals are not attained.

Ability to plan long-term nutritional therapy of cirrhosis patients.

Ability to communicate the aims, means, and importance of nutritional therapy to patient and caregivers.

### **Infiltrative Liver Disease**

Knowledge of and capability to manage or management of infiltrative diseases of the liver including storage diseases, granulomatous diseases and haematological diseases.

Knowledge of and capability to manage or direct management of localized infectious diseases of the liver including bacterial liver abscesses, amoebic abscesses and hydatid cysts.

### **Primary and Secondary Liver Cancer Advanced Management**

- Knowledge of risk factors, causes, and prognostic factors
- Ability to carry out initial diagnostics, stage classification and assessment regarding resect ability utilising tumour markers, endoscopy, radiological diagnostics (including operational radiological diagnostics) as well as histology

- Knowledge of clinical course and outcome of primary and secondary liver cancer (from gastrointestinal cancer, neuroendocrine tumours, lung cancer and breast cancer)
- Knowledge of and experience of complications of e.g. portal vein thrombosis, extrahepatic metastases, malignant ascites, icterus, carcinoid syndrome/paraneoplastic syndromes
- Knowledge and application of screening protocol for hepatocellular carcinoma in cirrhosis
- Knowledge and application of assessment strategy after radiology diagnostic detection of liver tumours
- Knowledge of and application of treatment principles for primary tumours and metastases with surgery, chemotherapy (general and local), transplant, local ablation, radiotherapy as well as targeted treatment
- Ability to communicate relevant patient/relative information concerning the disease, its treatment and prognosis

### **Knowledge of Procedural Skills**

- Overall Procedural Skills the trainee should acquire can be summarised as follows:
- Liver Biopsy
- Knowledge of Transjugular liver biopsy
- Hepatobiliary ultrasonography
- Liver stiffness measurement
- Insertion and management of expanding distal oesophageal stents
- Insertion and Management of balloon tamponade and band ligation and, in the relevant clinical scenario, sclerotherapy
- Hepatic venous and portal pressure measurements

### **Short Bowel Syndrome and Post-Surgery Problems**

Understands and has the ability to assess the degree of nutrient deficiency including fluid balance in patients with short bowel syndrome Can advise on the use of oral glucose-saline solutions, magnesium oral preparations, subcutaneous replacement and pharmacological anti-secretory and anti-diarrhoea agents.

### **Enteral Nutrition (EN)**

- Knows and is able to deliver EN in patients with residual intestinal function appropriately Can determine when EN has failed and when PN is preferable
- Can transfer a patient from PN to EN
- Knows about the composition and indication of various EN preparations
- Parenteral Nutrition (PN) Can prescribe appropriate PN regimes
- Knows the principles of feeding bag composition
- Is aware of varying catheter types and their ports, the practice of strict aseptic techniques and the care of catheters including possible complications
- Can recognise and treat adverse metabolic sequelae of PN including osteoporosis, gallstones and abnormal liver biochemistry
- Can institute home parenteral nutrition (HPN)

### **Ethical Considerations and Nutrition towards the end-of-life**

Knows the ethical considerations surrounding nutritional support

Is able to assess the benefits and disadvantages of nutritional support in patients with advanced cerebral dysfunction, those unwilling to eat and those with advanced incurable diseases

Can determine whether a patient is mentally competent to make decisions and to respect these decisions

In the instance where patients are unable to make decisions about their own care, to make decisions about the nutritional and medical care of the patient taking into account previous decisions and directives of the patient and the input of authorized patient advocates, the patients spouse and family and other relevant people according to local, legal and ethical frameworks. Can compassionately and honestly discuss these matters with the patient and/or other relevant people.

Knowledge regarding the placement of central venous access such as tunnelled catheters, peripherally inserted central catheters (PICCs), subcutaneous ports and arteriovenous fistulas or shunts.

### **Procedures**

- Nasogastric tube insertion endoscopically
- Nasojejunal tube insertion endoscopically
- Placement of Percutaneous Endoscopic Jejunostomy (PEJ) tube
- Central intravenous line insertion (jugular or subclavian)
- Peripheral intravenous long-line insertion
- Tunnelled insertion of intravenous central line
- Unblocking of obstructed PEG/PEJ tube
- Unblocking of blocked venous lines
- Removal of cuffed intravenous feeding line

### **Interventional endoscopy curriculum**

After having acquired the basic requirements in endoscopy, a trainee may wish to extend their endoscopic competencies. This specialized training should be undertaken in an endoscopy unit which provides a minimum number of specialized procedures per year in order to enable the trainee the opportunity of learning these techniques in a reasonable period of time. The training period should not be shorter than one year and may take up to two years.

The main focus of training, besides therapeutic interventions for benign and malignant stenosis in the upper and lower GI tract (bougienage, dilatation, stent insertion), is usually diagnostic and therapeutic ERCP and endoscopic polypectomy, mucosal resection, and therapeutic intervention for complex GI bleeding. In regard to ERCP, the trainee must gain competences in endoscopic sphincterotomy, stone removal, including lithotripsy and biliary-pancreatic stent insertion. Further training may be acquired in percutaneous access to the biliary tree. Advanced endoscopy trainees may wish to develop knowledge and higher level skills if possible in endoscopic ultrasound.