GASTROENTEROLOGY CURRICULUM

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INTRODUCTION

The Division of Gastroenterology has resolved to update its previous curriculum to ensure that by the end of training, specialists would be able to have all the necessary skills to diagnose and manage adult patients with gastrointestinal pathologies. The curriculum will enable the trainee to develop into a gastroenterologist who is able to provide a high quality, holistic clinical care to the patient.

The aim of this curriculum is also to support and encourage trainees to learn through their daily work and to take responsibility for their own learning. This should instill the principles of continuous professional development. The main curriculum is designed to have competent general gastroenterologists who have basic (but of a high standard) competencies in Gastroenterology and Hepatology, generic competencies and competencies in Endoscopy. Furthermore, this curriculum also outlines the advanced modules for further sub-speciality training. This is in line with the current guidance from both the European Section and Board of Gastroenterology and Hepatology (ESBGH) [1] and the European Society of Gastrointestinal Endoscopy (ESGE) [2]. The Division of Gastroenterology, through its 2 representatives, is actively involved in the ESBGH and has also been responsible for the current version of the ESBGH Blue Book. Thus, permission was obtained to reproduce, in part, the current ESBGH training programme within the Maltese Curriculum

DEFINITION OF THE SPECIALITY

Gastroenterology is a medical speciality dealing with the normal function and diseases of the digestive system including the organs of the alimentary canal from mouth to anus, the hepatobiliary system (liver, gallbladder, bile ducts), the pancreas and the peritoneum. Additional areas of focus include nutrition, digestive oncology, ultrasound, neurogastroenterology, prevention and screening of disease (particularly colorectal cancer) and liver disease. Gastroenterology requires increasingly complex decision-making with mastery of a growing number of advanced endoscopic interventional techniques, both diagnostic and therapeutic. It is a procedure-intense specialty that requires manual dexterity, knowledge of basic science, clinical skills, and the ability to solve problems analytically.

TRAINING PROGRAMME - SETTING AND ORGANISATION

Training requirements for gastroenterology trainees

Content of training and learning outcome

Competencies required of the trainee.

A **gastroenterology trainee** is a doctor who has completed his/her ccBST and is in an accredited training programme to become a recognised gastroenterologist.

A **gastroenterologist** (specialist in Gastroenterology and Hepatology) is a physician who has acquired sufficient knowledge, competence, skills and behaviours to diagnose, treat and prevent diseases of the digestive system and related organs after a defined period of training and based on a specific syllabus. In Malta, a gastroenterologist needs to be included on the Medical Specialist Register of Gastroenterology within the Malta Medical Council.

Learning Outcomes represent the skills that learners can expect to demonstrate after completing the training period. They are defined in terms of competence (measured or observed as knowledge, skills and professional behaviour).

The curriculum comprehensively described below encompasses "theoretical knowledge" and "practical and clinical skills" which are mandatory to be trained as a gastroenterologist. The curriculum also mandates that the trainee has acquired sufficient knowledge and attitudes in relation to communication, interpersonal skills, ethics, professionalism, patient safety and quality improvement.

Knowledge, skills, and behaviours - Core Curriculum

The core curriculum described below defines the required knowledge, skills and behaviours that a gastroenterologist should have acquired upon completion of his/her training period.

Competencies

To be appointed as a specialist, an individual should show a level of competence sufficient to allow independent clinical practice and be able to care for patients both in acute and chronic situations. By the end of the training programme the trainee will be expected to select appropriately, interpret correctly and where appropriate, perform competently, the required procedures and investigations. For the assurance of adequate experience, a minimum number of procedures should be undertaken by trainees under different levels of supervision. For practical procedures each trainee should have a training logbook. The necessary numbers and levels of competence are defined in the curriculum. The trainee should have adequate competence in information technology, data recording and analysis, and skills in researching relevant literature.

Organization of training

- Entry into the Training Programme

Training in gastroenterology will only commence and be considered as valid for training once the trainee successfully enters the gastroenterology training programme after a call for application and having successfully passed the interview process and been accepted into training. The start date shall correspond to the date of appointment of higher specialist training in gastroenterology, as long as the HST gastroenterology rotation had started. If the date of appointment precedes the commencement of the rotation, then the start date of the training programme will be the first day of the HST rotation.

• Duration of training

The minimum training programme should be of four years duration.

• Dual certification in Gastroenterology and General / Internal Medicine

Trainees will have the opportunity, if they wish to, to train and certify in general internal medicine in parallel with training in gastroenterology. Dual certification is not mandatory, thus trainees should communicate with the Department, at the beginning of their training, if they wish to pursue such training, or else undergo gastroenterology training only. Details of this training can be found at the end of this document.

• Clinical Responsibilities and Timetable

Training will be supervised, assessed, and documented by different trainers. The trainee will also be appointed an Educational Supervisor. The Educational Supervisor who takes on this responsibility must ensure overall supervision and mentoring of the trainee during their training programme by liaising with any other trainers and/or training centres to ensure that the trainee undertakes the full curriculum.

• Clinical Training

Adequate Clinical Experience is mandatory during the Training Period, where there should be appropriate clinical exposure with an adequate number of both inpatients and outpatients and a wide breadth of clinical experience in all aspects of the Specialty. The trainee should have sufficient linguistic ability to communicate with patients, communicate with colleagues and be able to study international medical literature.

• Teaching Activities

Grand rounds, Journal Clubs, Multi-Disciplinary Meetings (especially surgery, radiology and histopathology), Endoscopy courses and Seminars take place regularly. Trainees should attend and contribute to these educational activities. In addition, trainees should be encouraged to attend and present at local, regional, national, and international meetings.

• Study Leave

During their training programme, trainees will have the opportunity to take study leave to attend conferences and other educational activities outside their training unit.

• Documentation of Training

Trainees must document their training on an ongoing basis throughout their training period by means of a logbook. This logbook should log information regarding experience, competencies and non-experiential education (e.g., formal teaching sessions, educational courses attended etc.). Trainees should be encouraged to constructively reflect on training experiences. Opportunities for feedback will be provided throughout the duration of their training. Experience to be logged includes the volume and nature of clinical interaction with patients (emergency, elective, inpatient, and outpatient), endoscopy and other procedures, communication and ethical matters, teaching sessions personally delivered, research, audit, and administration (e.g., Rota management, representative duties etc.).

• Supervision of Training

Trainees require continuing supervision of their clinical duties. In addition, supervision of their training programme and schedule is required to ensure they are making sufficient progress, that milestones are being achieved and that the training curriculum is being covered. Thus, the trainee will have both Clinical Supervision and Educational Supervision.

A Clinical Supervisor may be responsible for one trainee and the Educational Supervisor ideally should supervise no more than three trainees. A Clinical Supervisor oversees the trainee's ongoing work and provides constructive feedback. Although all elements of work in training posts must be supervised, as training progresses the trainee should have the opportunity for increasing autonomy, consistent with safe and effective patient care. An Educational Supervisor oversees the trainee's educational progress in the context of the specialty curriculum. He or she reviews the trainee's logbook or e-logbook, sets goals and provides direction and advice on a regular basis.

• Assessment and Appraisal of Training

Educational Supervisors should have an induction session with their trainees soon after enrolment, during which the training programme and curriculum are explained and how the various clinical aspects of training can be completed. In addition, each trainee should, on a yearly basis, discuss and document a detailed training plan for the forthcoming year with their Educational Supervisor. In the first year of specialised Gastroenterology training, after common trunk/general medicine training, the trainee will require frequent formal feedback from their Clinical and/or Educational Supervisor up to 2-3 times in that year.

Established assessment tools for appraisal of clinical knowledge, skills and professional attributes should be used on an ongoing basis during training, and documentation of these appraisals should be maintained in association with the trainee's logbook. The assessment of clinical skills, especially problem orientated history taking, physical examination, diagnostic decision-making ability, appropriate selection of investigations, investigation interpretation and overall clinical judgements, is particularly important. Workplace assessment of trainee's behaviour and professionalism is normally carried out by feedback from colleagues and other members of the relevant multidisciplinary teams. Assessment of procedural skills, particularly endoscopic skills need to be documented by each trainee in conjunction with his/her trainer – this is normally performed by direct observation of the trainee's procedural skills. Appraisal of training progression should be performed formally on a yearly basis jointly by the trainee and Educational Supervisor by reviewing the trainee's logbook and confirming evidence of the attainment of competencies in knowledge, clinical skills and professional attributes and discussing other matters of relevance to completion of training. The appraisal of training before entering the final year of training is particularly important as deficits in training can be identified and plans made for remedy; for this reason, it is advisable that this particular appraisal involves an external assessor as well as the usual Educational Supervisor.

• Governance of Training

The curriculum is written and owned by the relevant specialist association and approved by the Specialist Accreditation Committee (SAC), on which the association president or nominated delegate is represented. Overall governance rests with the association and SAC, while the training coordinator, supported by the training committee and trainers, oversees local coordination and implementation of training.

• Training Committee

A gastroenterology postgraduate training committee (GPGTC), led by the training coordinator, which includes the chairperson, the SAC representative, the research lead and the audit lead within the department of gastroenterology. The training committee, with guidance from the postgraduate training centre and the SAC will oversee the training programme in gastroenterology.

• Progression to next year of training

In order to progress from one year to the next, trainees need to successfully pass their ARCP (Annual Review of Clinical Progress), which includes, amongst others;

Clinical Supervisor Induction Meeting Form / Mid-placement Meeting Form / End of placement Report - to be filled in at the start, mid and end of year

Educational Supervisor Induction Meeting Form / Mid-placement Meeting Form / End of placement meeting - to be filled in at the start, mid and end of year

Multisource Feedback form - to be filled in every year and must include a minimum of 3 consultants the trainee interacted with during on calls, clinics or other clinical encounters.

Endoscopy Logbook – to be logged and uploaded by trainee every month; a cumulative log will be calculated automatically; to be reviewed remotely by ES every few months

Formative DOPS Assessment for Upper GI Endoscopy - to be filled in by CS every 3 months

Formative DOPS Assessment for Lower GI Endoscopy and Polypectomy - to be filled in by CS every 3 months

Other Achievements (Certificates and Exams, Presentations, Audit and Quality Improvement, Teaching, Courses and Seminars, Conferences, Publications and Other Achievements)

Please note that trainees can be signed off to do particular procedures independently. This requires one of the following:

Summative DOPS Assessment for Upper GI Endoscopy - to be filled in by 2 supervisors once prior to sign off for that procedure. This should be done at the end of HST2 with 2 consultants or resident specialists assessing the trainee performing a minimum of 4 OGDs. If the trainee does not reach the desired level of competence, s/he will be given 3 months to work on the skills and reassessed once further.

Summative DOPS Assessment for Lower GI Endoscopy and Polypectomy - to be filled in by 2 supervisors once prior to sign off for that procedure. This should be done at the beginning of HST 4 with 2 consultants or resident specialists assessing the trainee doing a minimum of 3 colonoscopies and/or polypectomies. If the trainee does not reach the desired level of competence, s/he will be given 3 months to work on the skills and reassessed once further.

- ARCP outcomes

Satisfactory Progress		**Action**
Outcome	Description of Outcome	Description of Proposed Action

1	Achieving progress and the development of competencies at the expected rate	Progress to next year of training as per gastroenterology training document.
Unsatisfactory or Insufficient Evidence of Progress		**Action**
2	Further development of specific competences required	Additional training time is not required. Trainee is given a time period within which to develop the lacking specific competencies and provide the GPGTC with written documentation of progress An additional ARCP will be necessary to confirm satisfactory progress.
3	Inadequate progress by the trainee	Additional training time required including repeating a year of training. Trainee provided with a time period up to one year in which to develop the specific competencies and provide the GPGTC with written documentation of the trainee's progress as part of the Annual Assessment. Consider referral to the Trainee Support Service. A trainee will only be allowed to repeat a year of training once. If there is a further fail in an ARCP the trainee will fall into outcome 4.
4	Recommendation for dismissal from training programme	It is anticipated that in most situations this outcome will result only when a trainee with a prior outcome 3 has not progressed despite an additional period of training of up to one year. Result when a trainee with a prior outcome 3 has not progressed despite an additional period of training of up to one year. A letter recommending dismissal from the training programme, signed by all members of the GPGTC, is sent to the Chair of the postgraduate training centre. Trainee is informed in writing of this outcome.
5	Incomplete evidence presented	Additional training time may be required. The trainee will be required to explain to the GPGTC in writing the reasons for the deficiencies in the documentation.

		Trainee will be given a time period within which to submit the lacking evidence. An additional ARCP will be necessary to issue an outcome. If the trainee's explanation is deemed unsatisfactory, the postgraduate training committee may decide to issue outcome 2, 3 or even 4.
Finished training satisfactorily		
6	Gained all competencies	Will be certified as having completed the training programme and will be recommended for the award of a CCST.

Completion of Training in Gastroenterology

In order to complete training, the following requirements are needed.

- A pass in the European Specialty Examination in Gastroenterology and Hepatology
- Have a minimum of four years of training within the Division of Gastroenterology within the Department or Health, Malta or in another institution approved by the Post-graduate training committee. Training in another institution would need to be not more than 50% of the training period (4 years)
- Two publications in a peer reviewed journal (as first or second author) and one presentation at National or International level.
- Pass their annual ARCPs
- Have achieved the minimum number of procedures and/or been successfully signed off after formal assessment

All documentation will need to be submitted to Specialist Accreditation Committee for the issuing of the completion of training certificate.

CORE CURRICULUM

Objective

The recommended training curriculum 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, not discounting the use of appropriate peer consultation. 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.

Sub-Specialist Modules and Advanced Modules

As the specialty of Gastroenterology and Hepatology has grown, some areas have become increasingly complex. The curriculum therefore contains modules of advanced training in Hepatology, Nutrition, Interventional Endoscopy and Ultrasound. These modules are not obligatory, but trainees may wish to undertake one of these modules.

Assessment and Recognition of Competencies

During their training, doctors will acquire a variety of clinical competencies. The acquisition of these competencies needs to be assessed and documented initially in a formative process and thereafter in a summative and maintenance process. Valid tools for assessing and documenting the successful acquisition of competencies will be available to trainees and trainers during the programme. There is an ethical responsibility on both the trainer and the trainee to ensure that the accreditation of any particular competence is valid from the viewpoint of patient safety – the 'primum non nocere' principle. Trainees should be assessed in each domain within the curriculum on an annual basis with a recorded level of supervision with detailed comments to justify their entrustment decision.

Behaviour and Professionalism

Appropriate behaviour and clinical actions by doctors are guided by ancient and longstanding norms and ethical codes. Patients and relatives place their trust in doctors at moments when they are most vulnerable. Doctors must display a professionalism, which maintains and nurtures this trust. As trainee doctors achieve increasing autonomy in patient care, it is important that they also display increasing professionalism and an increasing spectrum of generic behaviours. Gastroenterologists caring for their patients need to demonstrate the highest levels of compassion and honesty and show respect for others and not be discriminating or judgmental. This includes respect to gender equity and equality regardless of gender, ethnicity, region of origin, or religion. Gastroenterologists need to be able to communicate clearly and confidentially with patients and their relatives, carers, advocates, and other professionals and involve the patient in decision-making, be it simple or complex. In order that no untoward harm should occur, gastroenterologists should be involved in quality improvement. They should have a scholarly disposition and maintain knowledge and skills through continuing education. They will also need to display leadership, administrative, personnel management and team management skills. There is an increasing need for consideration of environmental issues including waste arising from medical procedures and energy use.

Professionalism during training

During their training programme, trainees will always need to display appropriate behaviour and professionalism. The precise quantification of these generic behaviours is not easy as they are implicit in all actions involved in patient care, as well as actions not involving patient care. Feedback from patients, as well as members of the multidisciplinary team provides useful information. Lapses in appropriate behaviour or professionalism by a trainee which are reported to or come to the attention of the Clinical and/or Educational Supervisor need to be evaluated and discussed with the trainee and escalated to appropriate authorities as necessary.

Fundamental Generic Competencies

Patient Interaction and Consultation-related Competencies

All interactions between a patient and a doctor may be viewed as a consultation and there are several 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 and empathetically
- Educating and providing educational resources for the patient
- Considering different management approaches taking into account relative benefits, risks and alternatives
- Obtaining appropriate informed consent
- Obtaining help or second opinions from colleagues or other health professionals
- Quickly sourcing reference information with critical appraisal of veracity.
- Prescribing or recommending therapies or procedures
- Personally undertaking procedures (where appropriate)
- Providing sensitive and empathetic emotional support
- Managing the consultation time and health care resources efficiently
- Respecting confidentiality of patient's data

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

- Awareness and understanding of commercial pressures and bias which may impact 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 have a minimum of two publications in peer reviewed journals, as first or second author, and one presentation at National or International level as first or second author.

Basic Competencies in Gastroenterology and Hepatology

Gastroenterology and Hepatology trainees must be thoroughly familiar with the structures and normal functions of the gastrointestinal tract, liver, biliary tree and pancreas.

To this end, they need to acquire sound theoretical knowledge of:

- Anatomy (gross and microscopic) and embryology of the liver, pancreas, and gastrointestinal tract
- Biochemistry, especially GI hormones and neurotransmitters
- Hepatic metabolism and transport, biliary physiology, and pathophysiology
- Cellular turnover, growth, differentiation, and death
- Mucosal immunity and immunology
- Pharmacology
- Physiology including motility, digestion, absorption, and secretion
- Classical and molecular genetics
- Microbiology of the normal gut and infection as a cause of disease
- Epidemiology of liver and gastrointestinal diseases
- Principles of preventative medicine in gastroenterology and hepatology
- Physiological and other changes in the GI tract and liver associated with special circumstances including pregnancy, ageing and their clinical relevance.

Policies on Safeguarding Children and Vulnerable Adults

All Gastroenterology and Hepatology departments must have policies in place to safeguard children and vulnerable adults.

Vulnerable Adult, Child, or Young Person

The vulnerable patient may be an adult (aged 18 years and over) or a child (aged under 18 years), may have dementia, and/or psychiatric or complex physical disorders, and/or adverse financial or social circumstances, and/or may have suffered from abuse or neglect. An acute gastroenterological illness resulting in hospital admission can heighten these vulnerabilities. The healthcare professional is expected to aim to represent the best interests of the patient. A collaborative working relationship with the patient and with their closest carers is most likely to support this goal. The design and delivery of services will also consider, and where possible incorporate, the views of and the specific needs of the most vulnerable patients and those known to have poorer levels of access to healthcare and clinical outcomes. Patient dignity and the delivery of patient-focused care in a safe clinical environment should always be primary objectives of the doctor.

In particular, trainees should be familiar with departmental policies for obtaining consent for procedures on vulnerable adults, children, or young persons.

COMPETENCIES AND TRAINING RELATED TO COMMON PRESENTATIONS

Anaemia and Gastrointestinal haemostasis

Trainees need to be competent in determining the severity and source of upper and lower GI bleeding (occult and overt) and understand when they should undergo necessary and timely diagnostic and therapeutic approaches (including vasoactive drugs, volume replacement, blood transfusion, therapeutic endoscopy, and surgical intervention). Distinguishing variceal from non-variceal upper GI Bleeding is a core clinical competence.

Jaundice and Abnormal Liver Enzymes

A knowledge of the metabolism of bilirubin along with its laboratory analysis and measurement in serum is an essential competence that must be acquired by trainees. Trainees should demonstrate a knowledge and a clinical ability to diagnose isolated disorders of bilirubin metabolism and jaundice due to both hepatocellular dysfunction and cholestasis. The trainee should demonstrate an ability to elicit a focused history in a patient with jaundice and/or abnormal liver biochemistry including attention to presentation, past medical and surgical history with attention to drug usage, environmental risk factors including possible toxins, social history, travel history and family history. The trainee should be able to recognise the physical findings associated with specific liver diseases as well as the signs of acute and chronic liver disease. In addition, it is important that the trainees can discriminate between obstructive and hepatocellular abnormalities of liver enzymes to plan appropriate and efficient blood and serum investigations which will inform the immediate and subsequent selection of appropriate further imaging, functional testing, elastography and histological investigations.

Ascites

The differential diagnosis of ascites may prove challenging. Trainees should have knowledge of the pathogenesis of portal hypertension and other causes of ascites. Trainees should be able to demonstrate the clinical skills involved in differentiating between the various causes of ascites including portal hypertension, infection, cardiac failure, renal failure, and malignancy. Theoretical knowledge of the rarer causes of ascites including pancreatic duct disruption, biliary ascites, chylous ascites, and hypothyroidism should be demonstrated.

COMPETENCIES AND TRAINING RELATED TO DISEASES AND THEIR MANAGEMENT

Disorders of Gut-Brain interactions

Trainees should be able to diagnose functional gastrointestinal disorders and communicate this in a reassuring way to the patient. This requires detailed knowledge of gut-brain interactions, visceral hypersensitivity, the gut microbiome, and gastrointestinal dysmotility. Furthermore, the trainee should be aware of the possible influence of psychosocial factors, sexual and physical abuse, depression, anxiety, and cancer phobia, and be able to address these factors when appropriate. The trainee should have knowledge about tests including oesophageal manometry, pH monitoring and impedance testing, gastric emptying studies, assessment of anorectal function, anorectal biofeedback, colonic transit, breath tests, drink test or other visceral hypersensitivity testing.

The trainee should have knowledge of The Rome Diagnostic criteria [3] including:

- Functional abdominal pain syndrome
- Functional dyspepsia
- Oesophageal and gastric dysmotility syndromes
- Psychogenic nausea and vomiting syndrome and Cyclic vomiting syndrome
- Abdominal wall syndromes
- Irritable Bowel Syndrome
- Functional diarrhoea and constipation
- Faecal incontinence

Oro-Oesophageal Disorders

Knowledge of:

- Oesophageal motor function and its related disorders.

- Pathogenesis and clinical significance of GERD.
- Barrett's oesophagus (especially screening protocols)
- Diagnosis, follow up and treatment of dysplasia in Barrett's metaplasia.
- Eosinophilic oesophagitis
- Tumours of the oesophagus.
- Oesophageal disorders caused by caustic agents, medications, infection, and trauma.
- Diagnosis, investigation, and management of dysphagia
- Diagnosis and treatment of achalasia
- Swallowing disorders in the elderly and oropharyngeal dysphagia
- Management of reflux oesophagitis
- Diagnosis and management of oesophageal strictures
- Management of oesophageal diverticula

Oesophageal emergencies

Knowledge of:

- Acute dysphagia, including food and foreign body impaction
- Mallory –Weiss tear
- Spontaneous oesophageal perforation
- Post-procedural perforation
- Acute oesophagospasm
- Bleeding oesophageal varices

Stomach and Duodenum

Knowledge of:

- *H. pylori*, NSAID induced ulcer, and idiopathic ulcer disease

- Specific gastritis and gastropathies
- Eosinophilic gastritis
- Refractory peptic ulcer disease
- Stress-related ulcer disease
- Complications of peptic ulcer disease, including surgery
- Indications and complications of bariatric surgery
- Management of premalignant gastric lesions
- Presentation, investigation and treatment of gastric adenocarcinoma, gastric NETS, gastric dysplasia, gastric polyps, gastric GISTS, and Zollinger-Ellison Syndrome

Pancreatic Disorders

Knowledge of:

- Management of acute and chronic pancreatitis including genetic disorders of the pancreas
- Aetiology of pancreatitis
- Identification, differentiation and treatment of autoimmune pancreatitis and IgG4 disease
- Staging of acute pancreatitis. Management of complications including infected necrosis, pseudocyst and portal vein thrombosis.
- Nutritional support in pancreatitis.
- Multidisciplinary approach to acute pancreatitis, with radiological and surgical colleagues.
- Diagnosis and management of chronic pancreatitis and exocrine pancreatic insufficiency
- Diagnosis and management of pancreatic tumours and cystic lesions of the pancreas

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 duct 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. Competence is required in the management of sclerosing cholangitis, other causes of cholangitis, and tumours of the bile duct, gallbladder and ampulla. Trainees should be aware of the indications and complications of endoscopic and radiological treatment of biliary disease.

Liver

All trainees in gastroenterology and hepatology should receive basic training in Hepatology. Some trainees may opt to undertake an advanced module in Hepatology, which will involve further training in the therapy of liver failure, endovascular intervention, and liver transplantation. 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 microanatomy, 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 over- load, 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, the relevant physical signs and identify the patterns of abnormalities of blood tests, imaging, liver stiffness, functional and histological evaluation.

- Diagnostic and prognostic scores to evaluate both severity of disease and response to treatment.

- Increasing frequency of a multi-factorial aetiology in liver disease and how it affects patient's management.

- Prevalence of alcohol related problems and the importance of both early diagnosis using questionnaires (CAGE, AUDIT, etc.) and prompt intervention utilizing a multi-disciplinary approach to support and management.

- Identification and management of patients with acute alcohol withdrawal symptoms, distinguishing this presentation from other causes of encephalopathy/coma and acute cognitive impairment in patients with alcohol problems.

- Causes of acute hepatitis including viral, drug and toxin-induced, alcohol, fat related, 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, liver imaging, and liver biopsy.

- Treatment of hepatotoxic poisoning with antidotes.

- Strategies for both prevention and early identification of patients with viral hepatitis in 'at risk' groups encompassing knowledge of vaccination schedules.

- Awareness of international guidelines for the management of specific liver diseases 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.

- Diagnosis of liver cirrhosis and causation

- 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.

- Assessment of patients with primary and secondary liver cancer and cholangiocarcinoma including the guidelines for surveillance for hepatocellular carcinoma in cirrhosis. They should have knowledge of treatment principles for primary tumours and metastases including surgery, chemotherapy (general and local), transplantation, local ablation, and radiotherapy as well as targeted treatment.

- Assessment of operative risks in patients with chronic liver disease.

- Objective assessment of nutritional status in patients with liver disease undertaking nutritional support as necessary in conjunction with a nutritional multi-disciplinary team.

- Indications for liver transplantation and need for timely transfer of critically ill liver patients to special care units. Trainees will need to be able to provide basic care for both pre and post liver transplant patients and liaise routinely with liver-transplant hepatologists.

- Management of haemochromatosis, and knowledge of other genetic liver diseases.

- Ability to assess the changes in liver function during pregnancy and identify pregnancy-related liver diseases.

- Evaluation and follow-up of patients receiving ambulatory care.

Small Intestine

Trainees should have knowledge of the:

- Management of global malabsorption and specific nutrient malabsorption, particularly coeliac disease. Lactose and fructose-malabsorption and non-allergic intolerances

- Food protein induced enterocolitis syndrome (FPIES)

- Diagnosis and treatment of bacterial, parasitic and helminth infections of the small intestine

- Small intestinal bacterial overgrowth

- Protein losing enteropathies including Whipple’s disease

- Small intestinal lymphoma
- Small intestinal tumours - adenocarcinoma, GIST, neuroendocrine tumours (NET) • Intestinal failure

Small bowel emergencies

Trainees should be able to recognise:

- Perforation
- Intussusception
- Obstruction and Sub-acute obstruction
- Small bowel ischemia

Large Intestine

Trainees should have knowledge of:

- Infectious diarrhoea
- Antibiotic-associated diarrhoea/ *Clostridioides Difficile* diarrhoea
- The Gut Microbiome
- Diverticular Disease/Diverticulitis
- Mesenteric ischemia
- Diseases of the appendix
- Colorectal polyps
- Anal and colorectal cancer
- Solitary rectal ulcer
- Intussusception
- Enterocoele
- Benign anorectal lesions
- Bowen's disease, condylomata
- Proctitis

- Sexually transmitted perianal disease

Systemic Diseases and the Gut

- GI tract and hepatic involvement in infectious, endocrine, haematological, metabolic, infiltrative, rheumatological, and vascular disease.
- GI manifestations of primary immunodeficiency diseases.
- GI and hepatic disease in the elderly
- Impact of clinical genetics on GI tract and hepatic disease

Inflammatory Bowel Disease (IBD)

Diagnosis and Assessment

The trainee should have knowledge of the diagnostic tools that are available and be able to diagnose IBD from other potential differential diagnoses such as infection, vasculitis, ischaemia, Behcet's disease, irritable bowel syndrome (IBS), drug induced colitis, etc.

The trainee should be able to differentiate between active IBD and other mechanisms of GI symptoms such as bacterial overgrowth, bile salt malabsorption, intestinal obstruction, enteric infection, sepsis, and functional bowel disease related symptoms, in a patient with diagnosed IBD. Adequate knowledge must be demonstrated by the appropriate investigations required for diagnosis and as part of follow up. These include biomarkers (blood and stool), endoscopy (upper and lower GI endoscopy, capsule endoscopy, enteroscopy), imaging techniques such as CT, MRI, abdominal ultrasound, and intestinal ultrasound.

The trainee should also be able to classify the disease using standard classifications such as the Montreal Classification. Knowledge on extent of disease, disease activity, extra intestinal manifestations and complications should be demonstrated.

Medical Treatment

The trainee should demonstrate knowledge of the various medications that are used and available for the management of IBD. The trainee should be able to know the available treatment options taking into consideration phenotypic disease characteristics including extent and behaviour, current activity, previous treatment history, and complications, together with the results of screening tests needed before starting specific treatments. A knowledge of symptom-based scoring systems and tests of disease activity is essential. Trainees should be confident in treatment strategies and monitoring for both side effects and complications (including frequency) of medical therapy and their management. Furthermore, experience in treatment optimisation, including the interpretation of therapeutic drug monitoring for conventional medications (e.g., thiopurines) and biological therapies should be demonstrated. Trainees should have experience in decision making with regard to stopping medications and considering surgical intervention and/or onward referral to a tertiary centre.

General Medical Care

The trainee should have knowledge about medical co-morbidities in relation to medical and surgical IBD treatment, considering previous histories of malignancy or the development of malignancy in IBD, the risks relating to infections such as tuberculosis, hepatitis B, hepatitis C and HIV in relation to the treatment of IBD, the role of screening for infectious diseases and immunisation prior to commencing therapy and while on medical treatment.

Endoscopy

Apart from having knowledge in performing a high-quality endoscopic procedure, the trainee should understand the following:

- Different disease scoring systems that are used in clinical practice
- The principles of colorectal cancer surveillance in IBD
- The use of chromoendoscopy or other advanced endoscopy techniques
- The role and contraindications of video capsule endoscopy in IBD
- The appearances of and management of dysplasia during surveillance colonoscopy
- The indications for and complications of stricture dilatation in IBD
- Pouchoscopy

The trainee needs to understand the importance of close liaison with histopathologists in interpreting biopsy results. One must also have basic knowledge of the histological features of IBD and the differences from other gastrointestinal pathologies (e.g., infection).Further specific training is required in how to perform wireless video capsule endoscopy and enteroscopy [4].

Surgery and IBD

The trainee should understand the importance of timely referral for consideration of surgery, and the role of the IBD MDT in decision making. There should be an understanding of the importance of pre-operative optimisation, the surgical role in the management of disease-associated dysplasia and the different surgical procedures, which may be considered. Trainees should demonstrate a knowledge of the principles of, and evidence base for, the prevention of IBD recurrence post-surgery.

Nutrition

There should be knowledge of the role of enteral nutrition as a treatment for active IBD, nutritional screening, mechanisms of nutritional deficiency in IBD (including vitamin and mineral deficiency), the indications for enteral and parenteral nutrition and its potential complications. The trainee should have knowledge of the challenges and some basic principles of HPN (home parenteral nutrition).

Imaging

There should be knowledge, including indication and risks, of the imaging modalities used in the diagnosis and follow-up of patients with IBD (MR enterography, CT scan, intestinal ultrasound).

Training is also required in the following specific situations:

- Assessment and management of ileoanal pouches and pouchitis
- Management of acute severe colitis
- Fistulising and perianal CD (perianal, enteroenteric, enterocutaneous, enterovesical and rectovaginal fistulae)
- Extraintestinal manifestations of IBD
- Pregnancy
- The effect of active IBD, drug therapy, and surgery on fertility and pregnancy.
- The management of immunosuppressants, biological therapy and surgery during pregnancy,
- Breastfeeding and choice of treatment
- Vaccination of neonates
- Malignancy (IBD and non-IBD related and the impact on medications, screening)
- Opportunistic Infections
- Nutritional Assessment
- Transition Care (Paediatric to Adult Transition)
- Role of IBD Multidisciplinary Team (MDT)
- Novel Therapies

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 and the acquisition of these is often underestimated. [2], [5], [6]

Training for endoscopy will be provided in the form of lectures, tutorials, simulation, courses and handson training.

Fundamental Clinical and General Skills and Knowledge for Endoscopy

- Appropriateness and correct indications
- Informed consent including difficult complex consent situations

- Patient safety, comfort assessment and measurement
- Safe administration of sedation including its monitoring, e.g., Richmond Agitation Sedation Scale
- Communication with patients before and after procedure, especially communicating 'bad news'
- Endoscope design, function, and capabilities, including artificial intelligence (AI)
- Use and complications of diathermy
- Endoscopic unit design and management including finance and personnel
- Endoscope decontamination
- Quality Measures of outcome

Specific Endoscopy Skills

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

Upper GI Endoscopy

- Diagnostic Endoscopy with biopsy and chromoendoscopy
- Therapeutic Endoscopy - Haemostasis techniques (ligation, thermal haemostasis, injection techniques, clip deployment)

Lower GI Endoscopy

- Diagnostic lower endoscopy with biopsy and chromoendoscopy
- Proctoscopy, Rectoscopy. Sigmoidoscopy
- Ileocolonoscopy
- Therapeutic Endoscopy
- Basic Polypectomy
- Haemostasis techniques (e.g., ligation, endoloop, thermal haemostasis, injection techniques, clip deployment)

Indicative numbers of procedures to be carried out by the trainee unassisted prior to summative assessment of competence:

- Diagnostic oesophago-gastro-duodenoscopy - 300
- Haemostatic techniques of the upper gastrointestinal tract - 30
- Ileocolonoscopy - 300

- Diagnostic sigmoidoscopy - 50 (separate from ileocolonoscopy)
- Polypectomy and haemostatic procedures in the lower GI-tract - 50 (*Excludes rectal/rectosigmoid hyperplastic polyps*

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

Assessment of Endoscopic procedures

Trainees will be supervised during their endoscopy procedures. Furthermore, assessment will be carried out as follows:

DOPS

A Direct Observation of Procedure form will be filled in after every 10 procedures done. Form attached as an annex (page 27). Trainees will be given feedback for improvement until the required number of endoscopies is achieved.

Competency based assessment

Towards the end of training, trainees will undergo a summative competency-based assessment. Trainees will be supervised by two registered gastroenterologists to ensure independence and competence.

The Formative and Summative DOPs are taken from the Royal Association of Physicians Joint Advisory Group (JAG) on GI Endoscopy. [7]

Trainees may be eligible for independent endoscopic practice prior to completion of CCST after having performed the number of that specific procedure and would have also undergone a formal assessment by a minimum of 2 different gastroenterologists who would be able to declare that the trainee is well trained to perform that specific procedure independently. Final approval will then be also obtained from the Mater Dei hospital (or department of Health) administration.

CORE ULTRASOUND TRAINING

Training in ultrasound techniques is highly desirable for specialists in Gastroenterology.

It is desirable that trainees have experience in performing US-guided diagnostic and therapeutic ascitic tap, which includes identification of basic abdominal anatomy, using aseptic techniques, indications, complications and peri-interventional management.

Further training in ultrasound, including Contrast enhanced ultrasound (CEUS) in guidance and therapy control, Liver Elastography and other US-guided procedures including, but not limited, to Cyst puncture/FNA, Abscess/infected lesion puncture, Lymph node FNA/FNB, Liver tumour FNA/FNB and Pancreatic tumour FNA/FNA can be performed as part of Advanced US Training as per the ESEGH Curriculum. [1]

CORE NUTRITION TRAINING

The ESBGH recommends specific training in nutrition. In recent years, attention has become focused on the severe impact of disease-related malnutrition and its effect on clinical outcome. Significant malnutrition is present in 20-25% of patients in hospital.

A lack of physician awareness of nutrition-related issues most probably results from the lack of prominence given to this topic in both undergraduate medical curricula and during postgraduate medical training.

Poor nutrition in hospital patients frequently arises due to key information including diet records and weight measurements being poorly recorded with inadequate prominence in the medical notes. Specific nutritional deficiencies arise when appropriate monitoring is not undertaken. There is a key role for gastroenterologists and trainees, working in conjunction with nursing staff, dieticians, and pharmacists to lead and educate staff in the identification of patients with inadequate nutrition.

Trainees are required to be skilled in the recognition of malnutrition and conditions that threaten the patient's nutritional status at an early stage, recommending appropriate intervention and, where necessary, arranging further tests of gastrointestinal function with appropriate interventions.

An awareness of the causes and management of intestinal failure is essential General Nutrition Knowledge

The trainee should have the knowledge and be aware of:

- Nutrition as a key component in the physiology of the gastrointestinal tract and that adequate digestion, absorption and nutrient delivery are the cornerstones for metabolic homeostasis and health
- The biochemistry and physiology of malnutrition
- The current knowledge relating to the pathogenesis of malnutrition such as maldigestion and malabsorption, including related aetiologies such as intestinal resection leading to short bowel, inflammatory bowel disease, pancreatic exocrine insufficiency and protein-losing enteropathies
- Metabolism under normal conditions, and in relation to adaptation following semi-starvation and in relation to stress conditions – difference between simple and stress starvation
- How to avoid/manage refeeding syndromes – recognise refeeding syndrome as a potentially lifethreatening metabolic complication which is avoidable; appreciating common predisposing factors including high severity of underlying malnutrition, overaggressive nutrition support in the early stages without adequate supplementation of phosphate, thiamine, potassium, magnesium, and associated conditions that exacerbate micronutrient deficiencies such as chronic alcoholism, GI disorders and poor dietary intake
- Options for feeding with the ability to select an appropriate diet/feed/supplement and route of administration e.g., oral, enteral, or parenteral, with an awareness of the potential complications relating to method of delivery – understanding the indications and contraindications for all routes of nutrient delivery is paramount; basic understanding of elemental, semi-elemental and polymeric enteral feeds available and when appropriate to use each one; basic understanding of parenteral nutrition formulations (namely standard multi-chamber bags vs compounded bags) and different central IV access options (namely: PICC, tunnelled line such as Hickman line or implantable device such as Port)
- The management of cancer cachexia in GI oncology – recognising these are patients at very high risk of cachexia secondary to chemotherapeutic agents potentially causing mucositis, diarrhoea, severe

protracted nausea and emesis; be able to assess whether patients are able to have oral intake (thus benefitting from dietetic counselling) or requiring tube feeding (upper GI or head & neck tumour or severe mucositis) or non-functional GI tract (malignant small bowel obstruction peritoneal carcinomatosis, radiation enteritis, where parenteral nutrition might need to be considered

- The optimal organisational setup for the successful management of patients at risk of malnutrition – namely, to be familiar with commonly used nutrition screening tools such as MUST, NRS, SGA and eventually confirming the diagnosis of malnutrition with GLIM criteria; understanding basics of anthropometry measurements (BMI, triceps skin fold thickness and mid-upper arm circumference) and functional assessment (namely hand grip dynamometry)
- The importance of the Nutrition Support Team (NST) in decision making with the need for close collaboration with allied health professionals including specialist nurses, dieticians and pharmacists.
- The care of patients at the interface of surgical and medical specialties (important in complicated IBD patients such as Crohn's with structuring or penetrating phenotype or acute severe UC; enterocutaneous fistulas of different aetiologies; ischaemic bowel with extensive resection; post-operative ileus; high output stomas)

Further training in Nutrition can be performed as part of Advanced Nutrition Training.

FORMATIVE DOPS FOR DIAGNOSTIC OGD

Date of procedure			
Trainer name		**Membership no. (e.g. Malta Medical Council)**	
Outline of case			
Difficulty of case	**Easy**	**Moderate**	**Complicated**
Please tick appropriate box			

Level of supervision Complete DOPS form by ticking box to indicate the appropriate level of supervision required for each item below. Constructive feedback is key to this tool assisting in skill development.	**Maximal supervision** Supervisor undertakes the majority of the tasks/decisions & delivers constant verbal prompts	**Significant supervision** Trainee undertakes tasks requiring frequent supervisor input and verbal prompts	**Minimal supervision** Trainee undertakes tasks requiring occasional supervisor input and verbal prompts	**Competent for independent practice** no supervision required	**Not applicable**
Pre-procedure					
Indication					
Risk					
Confirms consent					
Preparation					
Equipment check					
Sedation					
Monitoring					
Comments					
Insertion and withdrawal					
Scope handling					
Angulation / tip control					
Suction/air/lens cleaning					
Intubation and oesophagus					
Stomach					
2nd part of duodenum					
Problem solving					
Pace and Progress					

Patient Comfort					
Comments					
Visualisation					
Oesophagus					
Gastro-oesophageal junction					
Fundus					

Level of supervision	**Maximal supervision**	**Significant supervision**	**Minimal supervision**	**Competent for independent practice**	**Not applicable**
Lesser curve					
Greater curve					
Incisura					
Pylorus					
1st part duodenum					
2nd part duodenum					
Comments					
Management of Findings					
Recognition					
Management					
Complications					
Comments					
Post-procedure					
Report writing					
Management plan					
Comments					
ENTS (endoscopic non-technical skills)					
Communication and teamwork					
Situation awareness					
Leadership					

Judgement and decision making					
Comments					

Learning Objectives for the next case The objectives should be added to the trainee's personal development plan (PDP) once DOPS is completed	
1.	
2.	
3.	

Overall Degree of Supervision required	**Maximal Supervision** Supervisor undertakes the majority of the tasks/decisions & delivers constant verbal prompts	**Significant Supervision** Trainee undertakes tasks requiring frequent supervisor input and verbal prompts	**Minimal Supervision** Trainee undertakes tasks requiring occasional supervisor input and verbal prompts	**Competent for independent practice** no supervision required
Please tick appropriate box				

DOPS form descriptors

Pre Procedure	
Indication	□ Assesses the appropriateness of the procedure and considers possible alternatives
Risk assessment	□ Assesses co-morbidity including drug history □ Assesses any procedure related risks relevant to patient □ Takes appropriate action to minimise any risks
Confirms Consent	□ Early in training the consent process should be witnessed by the trainer, once competent it is acceptable for the trainee to confirm that valid consent has been gained by another trained person. □ During the summative DOPS the process of obtaining consent should witnessed and assessed □ Complete and full explanation of the procedure including proportionate risks and consequences without any significant omissions and individualised to the patient □ Avoids the use of jargon □ Does not raise any concerns unduly □ Gives an opportunity for patient to ask questions by adopting appropriate verbal and non-verbal behaviours □ Develops rapport with the patient □ Respects the patient's own views, concerns and perceptions
Preparation	□ Ensures all appropriate pre-procedure checks are performed as per local policies

	▯ Ensures that all assisting staff are fully appraised of the current case ▯ Ensures that all medications and accessories likely to be required for this case are available
Equipment Check	▯ Ensures the available scope is appropriate for the current patient. Ensures the ▯ endoscope is functioning normally before attempting insertion checking all channels and connections, light source and angulation locks are off.
Monitoring	▯ Ensures appropriate monitoring of oxygen saturation and vital signs pre-procedure ▯ Ensures appropriate action taken if readings are sub-optimal ▯ Demonstrates awareness of clinical monitoring throughout procedure
Sedation	▯ When indicated inserts and secures IV access and uses appropriate topical anaesthesia ▯ Uses sedation and/or analgesic doses in keeping with current guidelines and in the context of the physiology of the patient ▯ Drug doses checked and confirmed with the assisting staff
Insertion and withdrawal	
Scope handling	▯ Exhibits good external control of gastroscope at all times. ▯ Efficient and effective manipulation, using rotation of the head of the scope with the left hand to generate torque and the right hand to insert and withdraw. ▯ Minimizes external looping in shaft of instrument.
Angulation controls	▯ Demonstrates ability to use angulation controls appropriately, using the left hand only during the vast majority of the procedure.
Suction/air/lens cleaning	▯ Well-judged and timely use of distension, suction and lens clearing.
Tip control	▯ Use of torque and angulation wheels independently and in combination, as necessary to elicit excellent controlled tip movement. ▯ Avoids unnecessary mucosal contact, maintaining luminal view when possible.
Intubation and	▯ Insertion through the mouth and pharynx under endoscopic vision.

oesophagus	▯ Careful and safe intubation of the oesophagus under endoscopic vision. ▯ Passage down the oesophagus under endoscopic vision.
Stomach	▯ Smooth passage through the stomach and pylorus, maintaining luminal views. ▯ Rapid recognition of all major landmarks.
2nd part of duodenum	▯ Insertion into second part of duodenum. ▯ Optimisation of scope position in second part of duodenum.
Pro-active Problem Solving	▯ Demonstrates and can articulate a logical approach to resolving technical challenges (bend negotiation, pathology encountered, large hiatus hernia) to ensure complete gastroscopy achieved.

	□ Is able to adapt approach depending on anatomy and technical challenge faced ensuring best option is used. □ Early recognition of lack of success of a technique with adaptation or change in strategy to next appropriate potential solution.
Pace and Progress	□ Completes whole procedure in reasonable and appropriate time, without rushing and without unduly prolonging the procedure
Patient comfort	□ Conscious awareness of patient discomfort and potential causes at all times □ Applies logical strategy to minimise any potential or induced discomfort, including anticipation of problems and reducing patient anxiety □ Appropriate escalation of analgesic use if technical strategies unsuccessful in managing patient discomfort
Visualisation	
Oesophagus	□ Full and careful visualisation of the whole length of the oesophagus
Gastro-oesophageal junction	□ Correct identification of the both the gastro- oesophageal junction and the squamo-columnar junction. □ Full views of gastro-oesophageal junction from both proximally and distally.
Fundus	□ Full visualisation of all areas of the gastric fundus with retrograde viewing
Lesser curve	□ Full visualisation of whole length of lesser curve using antegrade and retrograde viewing
Greater curve	□ Full visualisation of whole length of greater curve using antegrade and retrograde viewing
Incisura	□ Full visualisation of proximal and distal margins of the incisura
Antrum and pylorus	□ Full visualisation of the antrum, pylorus and pyloric channel
1st part duodenum	□ Full and careful visualisation of all walls of the 1st part of the duodenum
2nd part duodenum	□ Careful visualisation of distal duodenum
Management of Findings	
Recognition	□ Rapid, accurate and thorough determination of normal and abnormal findings. □ Appropriate use of mucosal enhancement techniques.
Management	□ Takes appropriate specimens as indicated by the pathology and clinical context. □ Full and appropriate attempt to visualise important associated lesions. □ Performs endoscopic therapy or interventions appropriately for the pathology and clinical context (includes taking no action)
Complications	□ Ensures the risk of complications is minimised □ Rapid recognition of complications both during and after the procedure. □ Manages any complications appropriately and safely.
Post procedure	
Report writing	□ Records a full and accurate description of procedure and findings

	☐ Uses appropriate endoscopy scoring systems
Management plan	☐ Records an appropriate management plan (including medication, further investigation and responsibility for follow-up).
ENTS (endoscopic non-technical skills)	
Communication and teamwork	☐ Maintains clear communication with assisting staff ☐ Gives and receives knowledge and information in a clear and timely fashion ☐ Ensures that both the team and the endoscopist are working together, using the same core information and understand the 'big picture' of the case ☐ Ensures that the patient is at the centre of the procedure, emphasising safety and comfort ☐ Clear communication of results and management plan with patient and/or carers
Situation awareness	☐ Ensure procedure is carried out with full respect for privacy and dignity Maintains ☐ continuous evaluation of the patient's condition ☐ Ensures lack of distractions and maintains concentration, particularly during difficult situations ☐ Intra-procedural changes to scope set-up monitored and rechecked
Leadership	☐ Provides emotional and cognitive support to team members by tailoring leadership and teaching style appropriately ☐ Supports safety and quality by adhering to current protocols and codes of clinical practice ☐ Adopts a calm and controlled demeanor when under pressure, utilising all resources to maintain control of the situation and taking responsibility for patient outcome
Judgement and decision making	☐ Considers options and possible courses of action to solve an issue or problem, including assessment of risk and benefit ☐ Communicates decisions and actions to team members prior to implementation ☐ Reviews outcomes of procedure or options for dealing with problems ☐ Reflects on issues and institutes changes to improve practice

FORMATIVE DOPS FOR DIAGNOSTIC COLONOSCOPY

Date of procedure			
Trainee name		**Membership no. (e.g. Malta Medical Council)**	
Outline of case			

Difficulty of case	Easy	Moderate	Complicated
Please tick appropriate box			

Level of supervision Complete DOPS form by ticking box to indicate the appropriate level of supervision required for each item below. Constructive feedback is key to this tool assisting in skill development.	Maximal supervision Supervisor undertakes the majority of the tasks/decisions & delivers constant verbal prompts	Significant supervision Trainee undertakes tasks requiring frequent supervisor input and verbal prompts	Minimal supervision Trainee undertakes tasks requiring occasional supervisor input and verbal prompts	Competent for independent practice no supervision required	Not applicable
Pre-procedure					
-Indication					
Risk					
Confirms consent					
Preparation					
Equipment check					
Monitoring					
Sedation					
Comments					
Procedure					
Scope handling					
Tip control					
Air management					
Proactive problem solving					
Loop management					
Patient comfort					
Pace and progress					
Visualisation					
Comments					
Management of findings					
Recognition					
Management					
Complications					

Level of supervision	Maximal supervision	Significant supervision	Minimal supervision	Competent for independent practice	Not applicable
Post-procedure					
Report writing					
Management plan					
Comments					
ENTS (endoscopic non-technical skills)					
Communication and teamwork					
Situation awareness					
Leadership					
Judgement and decision making					
Comments					

Learning Objectives for the next case The objectives should be added to the trainee's personal development plan (PDP) once DOPS is completed	
1.	
2.	
3.	

Overall Degree of Supervision required	**Maximal Supervision** Supervisor undertakes the majority of the tasks/decisions & delivers constant verbal prompts	**Significant Supervision** Trainee undertakes tasks requiring frequent supervisor input and verbal prompts	**Minimal Supervision** Trainee undertakes tasks requiring occasional supervisor input and verbal prompts	**Competent for independent practice** no supervision required
Please tick appropriate box				

DOPS form descriptors

Pre Procedure	
Indication	☐ Assesses the appropriateness of the procedure and considers possible alternatives
Risk assessment	☐ Assesses co-morbidity including drug history ☐ Assesses any procedure related risks relevant to patient ☐ Takes appropriate action to minimise any risks
Confirms Consent	☐ Early in training the consent process should be witnessed by the trainer, once competent it is acceptable for the trainee to confirm that valid consent has been gained by another trained member of staff. ☐ During the summative DOPS the process of obtaining consent should witnessed and assessed ☐ Complete and full explanation of the procedure including proportionate risks and consequences without any significant omissions and individualised to the patient ☐ Avoids the use of jargon ☐ Does not raise any concerns unduly ☐ Gives an opportunity for patient to ask questions by adopting appropriate verbal and non-verbal behaviours ☐ Develops rapport with the patient ☐ Respects the patient's own views, concerns and perceptions
Preparation	☐ Ensures all appropriate pre-procedure checks are performed as per local policies ☐ Ensures that all assisting staff are fully appraised of the current case ☐ Ensures that all medications and accessories likely to be required for this case are available
Equipment check	☐ Ensures the available scope is appropriate for the current patient and indication ☐ Ensures the endoscope is functioning normally before attempting insertion
Monitoring	☐ Ensures appropriate monitoring of oxygen saturation and vital signs pre-procedure ☐ Ensures appropriate action taken if readings are sub-optimal ☐ Demonstrates awareness of clinical monitoring throughout procedure
Sedation	☐ When indicated inserts and secures IV access and uses appropriate topical anaesthesia ☐ Uses sedation and/or analgesic doses in keeping with current guidelines and in the context of the physiology of the patient ☐ Drug doses checked and confirmed with the assisting staff ☐ Uses Nitrous Oxide (Entonox) appropriately*

Procedure	
Scope handling	☐ Exhibits good control of head and shaft of colonoscope at all times ☐ Angulation controls manipulated using the left hand during the procedure ☐ Demonstrates ability to use all scope functions (buttons/biopsy channel) whilst maintaining stable hold on colonoscope ☐ Minimises external looping in shaft of instrument
Tip control	☐ **Integrated technique**: Combines tip and torque steering to accurately control the tip of colonoscope and manoeuvre the tip in the correct direction. ☐ **Individual components:** ☐ **Tip steering:** Avoids unnecessary mucosal contact and maintains luminal view, avoiding need for blind negotiation of flexures and 'slide-by' where possible ☐ **Torque steering:** Demonstrates controlled torque steering using right hand/fingers to rotate shaft of colonoscope
	☐ **Luminal awareness:** Correctly identifies luminal direction using all available visual clues, and avoids red outs
Air management	☐ Appropriate insufflation and suction of air to minimise over-distension of bowel while maintaining adequate views
Pro-active problem solving	☐ **Anticipates** challenges and problems (e.g. flexures and loops) ☐ Uses appropriate techniques and **strategies** to prevent problems and minimise difficulties and patient discomfort ☐ **Recognition:** Early recognition of technical challenges and difficulties preventing progression (e.g. loops, fixed pelvis) ☐ **Management:** Can articulate and demonstrate a logical approach to resolving technical challenges, including early change in strategy when progress not being made
Loop management	☐ Uses appropriate techniques (tip and torque steering, withdrawal, position change) to minimise and prevent loop formation ☐ Early recognition of when loop is forming or has formed ☐ Understands and can articulate techniques for resolution of loops ☐ Resolves loops as soon as technically possible, to minimise patient discomfort and any compromise to scope function ☐ Recognises when loop resolution not possible and safely inserts colonoscope with loop, with awareness and management of any associated patient discomfort
Pace and progress	☐ Takes sufficient time to maximise mucosal views ☐ Insertion of colonoscope speed adjusted to minimise looping, prevent problems and manage difficulties ☐ Able to complete both insertion and withdrawal at pace consistent with normal service lists, adjusted, depending on difficulty of procedure ☐ Extent of examination is appropriate to the indication

Patient comfort	□ Conscious awareness of patient discomfort and potential causes at all times □ Applies logical strategy to minimise any potential or induced discomfort, including anticipation of problems and reducing patient anxiety □ Able to utilise effective colonoscopy techniques to resolve the majority of pain-related problems without the need for increased analgesia □ Appropriate escalation of analgesic use if technical strategies unsuccessful in managing patient discomfort
Visualisation	□ Visually and digitally examines the rectum and perineum (or stomal) area to ensure no obstruction or contraindication to insertion of instrument □ Well-judged and timely use of screen washes and water irrigation to ensure clear views □ Utilises positional changes to maximise mucosal views □ Ensures optimal luminal views throughout the examination □ Uses mucosal washing and suction of fluid to ensure optimal visualisation of mucosa, particularly at potential blind spots (caecal pole, flexures, recto-sigmoid). □ Retroversion in the rectum should be performed to fully visualise the lower rectum and dentate line. If rectal retroversion is not possible, the reason should be indicated. □ Recognises and identifies landmarks of complete examination (appendix orifice, ileo-caecal valve, tri-radiate fold or anastomosis/neo-terminal ileum) □ There is photo-documentation (or video) of significant findings and landmarks of completion
Management of Findings	
Pathology recognition	□ Accurate determination of normal and abnormal findings □ Appropriate use of mucosal enhancement techniques
Pathology management	□ Takes appropriate specimens as indicated by the pathology and clinical □ context Performs relevant therapy or interventions if appropriate in clinical context (includes taking no action) □ For management of polyps please use DOPyS.
Complications	□ Ensures risk of complications is minimised □ Rapid recognition of complications both during and after the procedure □ Manages any complications appropriately and safely
Post procedure	
Report writing	□ Records a full and accurate description of procedure and findings □ Extent of the procedure is recorded in the report and supported by image/video recording □ Uses appropriate endoscopy scoring systems
Management plan	□ Records an appropriate management plan (including medication, further investigation and responsibility for follow-up).

ENTS (endoscopic non-technical skills)	
Communication and teamwork	☐ Maintains clear communication with assisting staff ☐ Gives and receives knowledge and information in a clear and timely fashion ☐ Ensures that both the team and the endoscopist are working together, using the same core information and understand the 'big picture' of the case ☐ Ensures that the patient is at the centre of the procedure, emphasising safety and comfort ☐ Clear communication of results and management plan with patient and/or carers
Situation awareness	☐ Ensure procedure is carried out with full respect for privacy and dignity Maintains ☐ continuous evaluation of the patient's condition ☐ Ensures lack of distractions and maintains concentration, particularly during difficult situations ☐ Intra-procedural changes to scope set-up monitored and rechecked
Leadership	☐ Provides emotional and cognitive support to team members by tailoring leadership and teaching style appropriately ☐ Supports safety and quality by adhering to current protocols and codes of clinical practice ☐ Adopts a calm and controlled demeanor when under pressure, utilising all resources to maintain control of the situation and taking responsibility for patient outcome
Judgement and decision making	☐ Considers options and possible courses of action to solve an issue or problem, including assessment of risk and benefit ☐ Communicates decisions and actions to team members prior to implementation ☐ Reviews outcomes of procedure or options for dealing with problems ☐ Reflects on issues and institutes changes to improve practice

FORMATIVE DOPS FOR POLYPECTOMY

Date of procedure			
Trainer name		**Membership no. (e.g. Malta Medical Council)**	
Polyp type	**Stalked**	**Small sessile lesion/EMR**	
Please tick appropriate box			
Polyp site		**Polyp size (mm)**	
Difficulty of case	**Easy**	**Moderate**	**Complicated**
Please tick appropriate box			

Level of supervision Complete DOPyS form by ticking box to indicate the appropriate level of supervision required for each item below. Constructive feedback is key to this tool assisting in skill development.	**Maximal supervision** Supervisor undertakes the majority of the tasks/decisions & delivers constant verbal prompts	**Significant supervision** Trainee undertakes tasks requiring frequent supervisor input and verbal prompts	**Minimal supervision** Trainee undertakes tasks requiring occasional supervisor input and verbal prompts	**Competent for independent practice** no supervision required	**Not applicable**
Optimising view of / access to the polyp					
Achieves optimal polyp views and position					
Determines full extent of lesion					
Adjusts/stabilises scope position					
Chooses appropriate polypectomy technique					
Checks equipment and snare closure prior to insertion					
Checks appropriate diathermy settings					
Uses appropriate polypectomy technique					
Photo-documents pre and post polypectomy					
Comments					
Stalked polyps					
Selects appropriate snare size					
Directs snare accurately over polyp head					
Correctly selects en-bloc or piecemeal removal depending on size					
Advances snare sheath towards stalk as snare closed					

Level of supervision	Maximal supervision	Significant supervision	Minimal supervision	Competent for independent practice	Not applicable
Places snare at appropriate position on the stalk					
Mobilises polyp and applies appropriate degree of diathermy					
Comments					
Small sessile lesions / Endoscopic mucosal resection					
Adequate sub mucosal injection					
Checks lesion lifts adequately					
Selects appropriate snare size					
Directs snare accurately over the lesion					
Correctly selects en-bloc or piecemeal removal depending on size					
Appropriate positioning of snare over lesion as snare closed					
Tents lesion gently away from the mucosa					
Uses cold snare technique or applies appropriate diathermy					
Ensures adequate haemostasis prior to further resection					
Comments					
Post polypectomy					

Examines remnant stalk/polyp base					
Identifies and appropriately treats residual polyp					
Identifies bleeding and performs adequate endoscopic hemostasis if appropriate					
Retrieves, or attempts retrieval of polyp					

Level of supervision	**Maximal supervision**	**Significant supervision**	**Minimal supervision**	**Competent for independent practice**	**Not applicable**
Places tattoo competently, where appropriate					
Comments					
ENTS (endoscopic non-technical skills)					
Communication and teamwork					
Situation awareness					
Leadership					
Judgement and decision making					
Comments					

Learning Objectives for the next case The objectives should be added to the trainee's personal development plan (PDP) once DOPS is completed	
1.	
2.	
3.	

Overall Degree of Supervision required	**Maximal Supervision** Supervisor undertakes the majority of the tasks/decisions &	**Significant Supervision** Trainee undertakes tasks requiring frequent supervisor input and verbal prompts	**Minimal Supervision** Trainee undertakes tasks requiring occasional supervisor	**Competent for independent practice** no supervision required

	delivers constant verbal prompts		input and verbal prompts	
Please tick appropriate box				

DOPS form descriptors

Optimising view of / access to the polyp	
Achieves optimal polyp views and position	Ensures clear views by aspiration/insufflation/wash and maintains optimal polyp position (5-6'0'clock). Takes appropriate action for position correction and clear views throughout the procedure.
Determines full extent of lesion	Demonstrates assessing and determining full extent of the lesion using adjunctive measures (e.g. bubble breaker, NBI, dye spray etc.) as appropriate
Adjusts/stabilises scope position	Ensures the scope is maintained in a stable position if needed involving an assistant to hold the scope for stable platform before polypectomy
Chooses appropriate polypectomy technique	Chooses appropriate polypectomy technique safely without errors taking into account size, morphology, site and access (SMSA concept)
Checks equipment and snare closure prior to insertion	Ensures the appropriate equipment (e.g. injection, forceps, snare, clips, rothnet etc.) are available and functioning. Ensures the snare is marked appropriately in the handle before attempting insertion.
Checks appropriate diathermy settings	Ensures the diathermy settings are appropriate for the techniques used and no contraindication for diathermy. Ensures the diathermy is available and functioning. Ensures pads are attached and foot pedal accessible.
Photo-documents pre and post polypectomy	Ensures accurate photo-documentation pre and post polypectomy
Stalked polyps	
Selects appropriate snare size	Demonstrates ability to always choose correct snare size appropriate to the polyp.
Directs snare accurately over polyp head	Demonstrates ability to use angulation controls, torque to steer snare over polyp head accurately and appropriately.

Correctly selects en-bloc or piecemeal removal depending on size	Demonstrates ability to judge and correctly select en-bloc or piecemeal removal of the polyp depending on its size
Advances snare sheath towards stalk as snare closed	Ensures that snare sheath is advances slowly and in a controlled fashion towards the stalk as the snare is closed
Places snare at appropriate position on the stalk	Ensures that snare is appropriately placed midway between polyp head and stalk base
Mobilises polyp and applies appropriate degree of diathermy	Ensures that appropriate amount of tissue is snared and the polyp stalk is mobile. Ensures that the polyp stalk tents away from mucosa towards the contralateral wall. Demonstrates application of appropriate degree of diathermy with no evidence of contra-lateral burns or cutting through too quickly causing bleeding.

Small sessile lesions / endoscopic mucosal resection	
Adequate sub mucosal injection	Demonstrates accurate injection(injection at 45 degree and gradual withdrawal as lesion lifts) of the submucosa maintaining excellent views of the lesion
Checks lesion lifts adequately	Ensures and checks that lesion is lifting adequately and only proceeds if lesion lifts adequately.
Selects appropriate snare size	Demonstrates ability to always choose correct snare size appropriate to the polyp.
Directs snare accurately over the lesion	Demonstrates ability to use angulation controls, torque to steer snare over lesion accurately and appropriately.
Correctly selects en-bloc or piecemeal removal depending on size	Demonstrates ability to judge and correctly select en-bloc or piecemeal removal of the polyp depending on its size.
Appropriate positioning of snare over lesion as snare closed	Demonstrates ability to position snare appropriately over lesion as snare is closed.
Tents lesion gently away from the mucosa	Ensures no additional tissue is trapped within snare by checking snare marking and tenting lesion away from mucosa mobilising the snare

Uses cold snare technique or applies appropriate diathermy	Demonstrates ability to judge and use cold snare technique or Demonstrates application of appropriate degree of diathermy with no evidence of contra-lateral burns or cutting through too quickly causing bleeding.
Ensures adequate haemostasis prior to further resection	Demonstrates checking for bleeding and always ensures adequate haemostasis is achieved before further resection
Post polypectomy	
Examines remnant stalk/polyp base	Demonstrates examining remnant stalk/polyp base thoroughly to check for bleeding and any residual polyp tissue
Identifies and appropriately treats residual polyp	Ensures that any residual polyp is identified and appropriately resected or treated (e.g. APC)
Identifies bleeding and performs adequate endoscopic hemostasis if appropriate	Demonstrates identification of bleeding and ensures appropriate treatment method (e.g. clips, APC etc.) are applied adequately to ensure endoscopic haemostasis.
Retrieves, or attempts retrieval of polyp	Ensures polyp retrieval using appropriate method (e.g. forceps, snare, rothnet etc.) according to size of polyp. Demonstrates checking for complete removal of polyp tissue and confirms retrieval with endoscopy staff
Places tattoo competently, where appropriate	Demonstrates ability to use tattoo in appropriate setting. Ensures raised bleb before switching to appropriate ink and places appropriate number of tattoos
ENTS (endoscopic non-technical skills)	
Communication and teamwork	Gives and receives knowledge and information in a clear and timely fashion. Ensures that both the team and the endoscopist are working together from the same information and understand the 'big picture' of the case. Ensures that the patient is at the centre of the procedure, emphasising safety, comfort and giving information in a clear and understandable fashion
Situation awareness	Maintains continuous evaluation of the patient's condition. Ensures lack of distractions and maintains concentration, particularly during difficult situations.

Leadership	Provides emotional and cognitive support to team members by tailoring leadership and teaching style appropriately. Supports safety and quality by adhering to current protocols and codes of clinical practice. Adopts a calm and controlled demeanor when under pressure. Utilising all resources to maintain control of the situation and taking responsibility for patient outcome.
Judgement and decision making	Considers options and possible courses of action to solve an issue or problem, including assessment of risk and benefit. Chooses a solution to a problem, communicates this to team members and implements it Reviews outcomes of procedure or options for dealing with problems. Reflects on issues and institutes changes to improve practice

SUMMATIVE DOPS FOR DIAGNOSTIC OGD

Date of procedure				
Trainee name		**Membership no. (e.g. Malta Medical Council)**		
Assessor name		**Membership no. (e.g. Malta Medical Council)**		
Outline of case				
Difficulty of case	**Easy**	**Moderate**	**Complicated**	
Please tick appropriate box				

Complete DOPS form by ticking box to indicate whether trainee is competent for independent practice	**Not competent for independent practice** supervision required	**Competent for independent practice** no supervision required
Pre-procedure		
Indication		
Risk		
Confirms consent		
Preparation		
Equipment check		
Sedation		
Monitoring		
Comments		

Insertion and withdrawal		
Scope handling		
Angulation / tip control		
Suction/air/lens cleaning		
Intubation and oesophagus		
Stomach		
2nd part of duodenum		
Problem solving		
Pace and Progress		
Patient Comfort		
Comments		
Visualisation		
Oesophagus		
Gastro-oesophageal junction		
Fundus		
Lesser curve		
Greater curve		
Incisura		
Level of supervision	**Not competent for independent practice** supervision required	**Competent for independent practice** no supervision required
Pylorus		
1st part duodenum		
2nd part duodenum		
Comments		
Management of Findings		
Recognition		
Management		
Complications		
Comments		

Post-procedure		
Report writing		
Management plan		
Comments		
ENTS (endoscopic non-technical skills)		
Communication and teamwork		
Situation awareness		
Leadership		
Judgement and decision making		
Comments		

Recommended areas for future development	
1.	
2.	
3.	

Overall Degree of Supervision required	**Not competent for independent practice** supervision required	**Competent for independent practice** no supervision required
Please tick appropriate box		

Assessor name		**Membership no.**	
Assessor signature			

DOPS form descriptors

Pre Procedure	
Indication	☐ Assesses the appropriateness of the procedure and considers possible alternatives
Risk assessment	☐ Assesses co-morbidity including drug history ☐ Assesses any procedure related risks relevant to patient

	Takes appropriate action to minimise any risks
Confirms Consent	Early in training the consent process should be witnessed by the trainer, once competent it is acceptable for the trainee to confirm that valid consent has been gained by another trained person. During the summative DOPS the process of obtaining consent should witnessed and assessed Complete and full explanation of the procedure including proportionate risks and consequences without any significant omissions and individualised to the patient Avoids the use of jargon Does not raise any concerns unduly Gives an opportunity for patient to ask questions by adopting appropriate verbal and non-verbal behaviours Develops rapport with the patient Respects the patient's own views, concerns and perceptions
Preparation	Ensures all appropriate pre-procedure checks are performed as per local policies Ensures that all assisting staff are fully appraised of the current case Ensures that all medications and accessories likely to be required for this case are available
Equipment Check	Ensures the available scope is appropriate for the current patient. Ensures the endoscope is functioning normally before attempting insertion checking all channels and connections, light source and angulation locks are off.
Monitoring	Ensures appropriate monitoring of oxygen saturation and vital signs pre-procedure Ensures appropriate action taken if readings are sub-optimal Demonstrates awareness of clinical monitoring throughout procedure
Sedation	When indicated inserts and secures IV access and uses appropriate topical anaesthesia Uses sedation and/or analgesic doses in keeping with current guidelines and in the context of the physiology of the patient Drug doses checked and confirmed with the assisting staff
Insertion and withdrawal	
Scope handling	Exhibits good external control of gastroscope at all times. Efficient and effective manipulation, using rotation of the head of the scope with the left hand to generate torque and the right hand to insert and withdraw. Minimizes external looping in shaft of instrument.
Angulation controls	Demonstrates ability to use angulation controls appropriately, using the left hand only during the vast majority of the procedure.
Suction/air/lens cleaning	Well-judged and timely use of distension, suction and lens clearing.

Tip control	□ Use of torque and angulation wheels independently and in combination, as necessary to elicit excellent controlled tip movement. □ Avoids unnecessary mucosal contact, maintaining luminal view when possible.
Intubation and oesophagus	□ Insertion through the mouth and pharynx under endoscopic vision. □ Careful and safe intubation of the oesophagus under endoscopic vision. □ Passage down the oesophagus under endoscopic vision.

Stomach	□ Smooth passage through the stomach and pylorus, maintaining luminal views. □ Rapid recognition of all major landmarks.
2nd part of duodenum	□ Insertion into second part of duodenum. □ Optimisation of scope position in second part of duodenum.
Pro-active Problem Solving	□ Demonstrates and can articulate a logical approach to resolving technical challenges (bend negotiation, pathology encountered, large hiatus hernia) to ensure complete gastroscopy achieved. □ Is able to adapt approach depending on anatomy and technical challenge faced ensuring best option is used. □ Early recognition of lack of success of a technique with adaptation or change in strategy to next appropriate potential solution.
Pace and Progress	□ Completes whole procedure in reasonable and appropriate time, without rushing and without unduly prolonging the procedure
Patient comfort	□ Conscious awareness of patient discomfort and potential causes at all times □ Applies logical strategy to minimise any potential or induced discomfort, including anticipation of problems and reducing patient anxiety □ Appropriate escalation of analgesic use if technical strategies unsuccessful in managing patient discomfort
Visualisation	
Oesophagus	□ Full and careful visualisation of the whole length of the oesophagus
Gastro-oesophageal junction	□ Correct identification of the both the gastro- oesophageal junction and the squamo-columnar junction. □ Full views of gastro-oesophageal junction from both proximally and distally.
Fundus	□ Full visualisation of all areas of the gastric fundus with retrograde viewing
Lesser curve	□ Full visualisation of whole length of lesser curve using antegrade and retrograde viewing
Greater curve	□ Full visualisation of whole length of greater curve using antegrade and retrograde viewing
Incisura	□ Full visualisation of proximal and distal margins of the incisura
Antrum and pylorus	□ Full visualisation of the antrum, pylorus and pyloric channel
1st part duodenum	□ Full and careful visualisation of all walls of the 1st part of the duodenum

2nd part duodenum	▯ Careful visualisation of distal duodenum
Management of Findings	
Recognition	▯ Rapid, accurate and thorough determination of normal and abnormal findings. ▯ Appropriate use of mucosal enhancement techniques.
Management	▯ Takes appropriate specimens as indicated by the pathology and clinical context. ▯ Full and appropriate attempt to visualise important associated lesions. ▯ Performs endoscopic therapy or interventions appropriately for the pathology and clinical context (includes taking no action)
Complications	▯ Ensures the risk of complications is minimised ▯ Rapid recognition of complications both during and after the procedure. ▯ Manages any complications appropriately and safely.
Post procedure	
Report writing	▯ Records a full and accurate description of procedure and findings ▯ Uses appropriate endoscopy scoring systems
Management plan	▯ Records an appropriate management plan (including medication, further investigation and responsibility for follow-up).

ENTS (endoscopic non-technical skills)	
Communication and teamwork	▯ Maintains clear communication with assisting staff ▯ Gives and receives knowledge and information in a clear and timely fashion ▯ Ensures that both the team and the endoscopist are working together, using the same core information and understand the 'big picture' of the case ▯ Ensures that the patient is at the centre of the procedure, emphasising safety and comfort ▯ Clear communication of results and management plan with patient and/or carers
Situation awareness	▯ Ensure procedure is carried out with full respect for privacy and dignity Maintains ▯ continuous evaluation of the patient's condition ▯ Ensures lack of distractions and maintains concentration, particularly during difficult situations ▯ Intra-procedural changes to scope set-up monitored and rechecked
Leadership	▯ Provides emotional and cognitive support to team members by tailoring leadership and teaching style appropriately ▯ Supports safety and quality by adhering to current protocols and codes of clinical practice ▯ Adopts a calm and controlled demeanour when under pressure, utilising all resources to maintain control of the situation and taking responsibility for patient outcome

Judgement and decision making	☐ Considers options and possible courses of action to solve an issue or problem, including assessment of risk and benefit ☐ Communicates decisions and actions to team members prior to implementation ☐ Reviews outcomes of procedure or options for dealing with problems ☐ Reflects on issues and institutes changes to improve practice

ENTS (endoscopic non-technical skills)	
Communication and teamwork	☐ Maintains clear communication with assisting staff ☐ Gives and receives knowledge and information in a clear and timely fashion ☐ Ensures that both the team and the endoscopist are working together, using the same core information and understand the 'big picture' of the case ☐ Ensures that the patient is at the centre of the procedure, emphasising safety and comfort ☐ Clear communication of results and management plan with patient and/or carers
Situation awareness	☐ Ensure procedure is carried out with full respect for privacy and dignity Maintains ☐ continuous evaluation of the patient's condition ☐ Ensures lack of distractions and maintains concentration, particularly during difficult situations ☐ Intra-procedural changes to scope set-up monitored and rechecked
Leadership	☐ Provides emotional and cognitive support to team members by tailoring leadership and teaching style appropriately ☐ Supports safety and quality by adhering to current protocols and codes of clinical practice ☐ Adopts a calm and controlled demeanour when under pressure, utilising all resources to maintain control of the situation and taking responsibility for patient outcome
Judgement and decision making	☐ Considers options and possible courses of action to solve an issue or problem, including assessment of risk and benefit ☐ Communicates decisions and actions to team members prior to implementation ☐ Reviews outcomes of procedure or options for dealing with problems ☐ Reflects on issues and institutes changes to improve practice

SUMMATIVE DOPS FOR DIAGNOSTIC COLONOSCOPY

Date of procedure			
Trainee name		**Membership no. (e.g. Malta Medical Council)**	
Assessor name		**Membership no. (e.g. Malta Medical Council)**	

Outline of case			
Difficulty of case	**Easy**	**Moderate**	**Complicated**
Please tick appropriate box			

Complete DOPS form by ticking box to indicate whether trainee is competent for independent practice	**Not competent for independent practice** supervision required	**Competent for independent practice** no supervision required
Pre-procedure		
Indication		
Risk		
Confirms consent		
Preparation		
Equipment check		
Sedation		
Monitoring		
Comments		
Procedure		
Scope handling		
Tip control		
Air management		
Proactive problem solving		
Loop management		
Patient comfort		
Pace and progress		
Visualisation		
Comments		
Management of findings		
Recognition		
Management		
Complications		
Comments		
Post-procedure		
Report writing		

Management plan		
Comments		
Level of supervision	**<u>Not</u> competent for independent practice** supervision required	**Competent for independent practice** no supervision required
ENTS (endoscopic non-technical skills)		
Communication and teamwork		
Situation awareness		
Leadership		
Judgement and decision making		
Comments		

Recommended areas for future development	
1.	
2.	
3.	

Overall Degree of Supervision required	**<u>Not</u> competent for independent practice** supervision required	**Competent for independent practice** no supervision required
Please tick appropriate box		

Assessor name		**Membership no.**	
Assessor signature			

DOPS form descriptors

Pre Procedure	
Indication	Assesses the appropriateness of the procedure and considers possible alternatives
Risk assessment	Assesses co-morbidity including drug history Assesses any procedure related risks relevant to patient Takes appropriate action to minimise any risks
Confirms Consent	Early in training the consent process should be witnessed by the trainer, once competent it is acceptable for the trainee to confirm that valid consent has been gained by another trained member of staff. During the summative DOPS the process of obtaining consent should witnessed and assessed Complete and full explanation of the procedure including proportionate risks and consequences without any significant omissions and individualised to the patient Avoids the use of jargon Does not raise any concerns unduly Gives an opportunity for patient to ask questions by adopting appropriate verbal and non-verbal behaviours Develops rapport with the patient Respects the patient's own views, concerns and perceptions
Preparation	Ensures all appropriate pre-procedure checks are performed as per local policies Ensures that all assisting staff are fully appraised of the current case Ensures that all medications and accessories likely to be required for this case are available
Equipment check	Ensures the available scope is appropriate for the current patient and indication Ensures the endoscope is functioning normally before attempting insertion
Monitoring	Ensures appropriate monitoring of oxygen saturation and vital signs pre-procedure Ensures appropriate action taken if readings are sub-optimal Demonstrates awareness of clinical monitoring throughout procedure
Sedation	When indicated inserts and secures IV access and uses appropriate topical anaesthesia Uses sedation and/or analgesic doses in keeping with current guidelines and in the context of the physiology of the patient Drug doses checked and confirmed with the assisting staff Uses Nitrous Oxide (Entonox) appropriately*

Procedure	
Scope handling	Exhibits good control of head and shaft of colonoscope at all times Angulation controls manipulated using the left hand during the procedure Demonstrates ability to use all scope functions (buttons/biopsy channel) whilst maintaining stable hold on colonoscope Minimises external looping in shaft of instrument
Tip control	**Integrated technique**: Combines tip and torque steering to accurately control the tip of colonoscope and manoeuvre the tip in the correct direction. **Individual components:** **Tip steering:** Avoids unnecessary mucosal contact and maintains luminal view, avoiding need for blind negotiation of flexures and 'slide-by' where possible **Torque steering:** Demonstrates controlled torque steering using right hand/fingers to rotate shaft of colonoscope **Luminal awareness:** Correctly identifies luminal direction using all available visual clues, and avoids red outs
Air management	Appropriate insufflation and suction of air to minimise over-distension of bowel while maintaining adequate views
Pro-active problem solving	**Anticipates** challenges and problems (e.g. flexures and loops) Uses appropriate techniques and **strategies** to prevent problems and minimise difficulties and patient discomfort **Recognition:** Early recognition of technical challenges and difficulties preventing progression (e.g. loops, fixed pelvis) **Management:** Can articulate and demonstrate a logical approach to resolving technical challenges, including early change in strategy when progress not being made
Loop management	Uses appropriate techniques (tip and torque steering, withdrawal, position change) to minimise and prevent loop formation Early recognition of when loop is forming or has formed Understands and can articulate techniques for resolution of loops Resolves loops as soon as technically possible, to minimise patient discomfort and any compromise to scope function Recognises when loop resolution not possible and safely inserts colonoscope with loop, with awareness and management of any associated patient discomfort
Pace and progress	Takes sufficient time to maximise mucosal views Insertion of colonoscope speed adjusted to minimise looping, prevent problems and manage difficulties Able to complete both insertion and withdrawal at pace consistent with normal service lists, adjusted, depending on difficulty of procedure Extent of examination is appropriate to the indication

Patient comfort	□ Conscious awareness of patient discomfort and potential causes at all times □ Applies logical strategy to minimise any potential or induced discomfort, including anticipation of problems and reducing patient anxiety □ Able to utilise effective colonoscopy techniques to resolve the majority of pain-related problems without the need for increased analgesia □ Appropriate escalation of analgesic use if technical strategies unsuccessful in managing patient discomfort
Visualisation	□ Visually and digitally examines the rectum and perineum (or stomal) area to ensure no obstruction or contraindication to insertion of instrument □ Well-judged and timely use of screen washes and water irrigation to ensure clear views □ Utilises positional changes to maximise mucosal views □ Ensures optimal luminal views throughout the examination □ Uses mucosal washing and suction of fluid to ensure optimal visualisation of mucosa, particularly at potential blind spots (caecal pole, flexures, recto-sigmoid). □ Retroversion in the rectum should be performed to fully visualise the lower rectum and dentate line. If rectal retroversion is not possible, the reason should be indicated. □ Recognises and identifies landmarks of complete examination (appendix orifice, ileo-caecal valve, tri-radiate fold or anastomosis/neo-terminal ileum) □ There is photo-documentation (or video) of significant findings and landmarks of completion
Management of Findings	
Pathology recognition	□ Accurate determination of normal and abnormal findings □ Appropriate use of mucosal enhancement techniques
Pathology	□ Takes appropriate specimens as indicated by the pathology and clinical context

management	□ Performs relevant therapy or interventions if appropriate in clinical context (includes taking no action) □ For management of polyps please use DOPyS.
Complications	□ Ensures risk of complications is minimised □ Rapid recognition of complications both during and after the procedure □ Manages any complications appropriately and safely
Post procedure	
Report writing	□ Records a full and accurate description of procedure and findings □ Extent of the procedure is recorded in the report and supported by image/video recording □ Uses appropriate endoscopy scoring systems

Management plan	□ Records an appropriate management plan (including medication, further investigation and responsibility for follow-up).
ENTS (endoscopic non-technical skills)	
Communication and teamwork	□ Maintains clear communication with assisting staff □ Gives and receives knowledge and information in a clear and timely fashion □ Ensures that both the team and the endoscopist are working together, using the same core information and understand the 'big picture' of the case □ Ensures that the patient is at the centre of the procedure, emphasising safety and comfort □ Clear communication of results and management plan with patient and/or carers
Situation awareness	□ Ensure procedure is carried out with full respect for privacy and dignity Maintains □ continuous evaluation of the patient's condition □ Ensures lack of distractions and maintains concentration, particularly during difficult situations □ Intra-procedural changes to scope set-up monitored and rechecked
Leadership	□ Provides emotional and cognitive support to team members by tailoring leadership and teaching style appropriately □ Supports safety and quality by adhering to current protocols and codes of clinical practice □ Adopts a calm and controlled demeanour when under pressure, utilising all resources to maintain control of the situation and taking responsibility for patient outcome
Judgement and decision making	□ Considers options and possible courses of action to solve an issue or problem, including assessment of risk and benefit □ Communicates decisions and actions to team members prior to implementation □ Reviews outcomes of procedure or options for dealing with problems □ Reflects on issues and institutes changes to improve practice

ADVANCED CURRICULA

The advanced curriculum is not part of the 4-year training programme in Gastroenterology and is not required to obtain specialisation in Gastroenterology and Hepatology.

Advances Ultrasound Training

Trainees may acquire Ultrasound training by simulation training, special courses at teaching centres and assisted learning to practice.

To gain these specialised competences, a minimum number of procedures are required:

US-guided diagnostic procedures 50

- Cyst puncture/FNA
- Abscess/infected lesion puncture
- Lymph node FNA/FNB
- Liver tumour FNA/FNB
- Pancreatic tumour FNA/FNB

US-guided therapeutic procedures 20

- Liver cyst therapy
- Pancreatic cyst drainage
- Abscess puncture/drainage
- Percutaneous transhepatic cholangiography and drainage (PTCD) optional
- Percutaneous US-guided gastrostomy (PUG) optional
- Tumour ablation therapy (RFA/PEI) optional

EUS interventions

EUS-Procedures upper GIT 250

- EUS of oesophagus (oesophageal cancer)
- EUS of mediastinum (lymph nodes, lung cancer)
- EUS of stomach (gastric cancer, submucosal tumours, GIST)
- EUS of pancreas (pancreatic cancer, NET, cystic tumour)
- EUS of biliary tract (CBD stones, tumours)
- EUS of adrenal gland (tumour left AG)

EUS-Procedures lower GIT 50

- EUS of rectal / anal cancer
- EUS of pararectal and perineal region (abscess, fistula)

Diagnostic EUS-guided procedures (FNA/FNB) 75

- Lymph node FNA/FNB
- Cyst puncture/FNA
- Pancreatic tumour FNA/FNB
- Adrenal gland tumour FNA/FNB

Therapeutic EUS-guided procedures (Punctures/Drainages) 20

- EUS-guided pancreatic cyst drainage
- EUS-guided pancreatic necrosectomy (optional)
- EUS-guided abscess drainage
- EUS-guided drainage of bile duct system (optional)
- EUS-guided drainage of pancreatic duct system (optional)

ADVANCED NUTRITION TRAINING

Diagnosis and Assessment

The trainee should demonstrate competence in

- Performing baseline clinical nutritional assessments by medical history and physical examination to identify without delay the patient at nutritional risk – recognising sarcopenia, assessing fluid balance and looking out for signs of micronutrient deficiencies: typically skin, nail and hair changes
- Undertaking and interpreting the established tools for screening and assessment of malnutrition – screening with MUST and diagnosis using GLIM criteria
- Evaluating protein, energy, and micronutrient needs by means of established formulae
- Diagnosing nutritional deficiency and differentiate when oral supplements, enteral and parenteral nutrition is indicated – ties in with having sound knowledge of indications and contraindications for the different route of feeding
- Performance of/referral for therapeutic procedures to prevent or treat malnutrition, including placement of feeding tubes, percutaneous endoscopic gastrostomies (PEG) and jejunostomies (PEG-J and PEJ) – not as relevant in Malta due to RIG being preferred modality for enteral access; knowledge of indications/contraindications and common complications associated with these procedures

Nutritional Treatment

Thus, based on basic training in nutrition and understanding the fundamentals of biochemistry and physiology related to the provision of nutrition, the trainee should have the competence to identify and treat patients with diarrhoea, malabsorption, short bowel syndrome and small bowel fistulae.

Obesity

Adult and paediatric gastroenterologists are becoming increasingly involved in the management of patients with obesity. The trainee should have the knowledge and ability to recommend treatment for obesity including related conditions such as the 'metabolic syndrome' and sarcopenic obesity. The trainee should have an awareness of the different types of bariatric surgery and complications which may arise – agreed with knowledge of bariatric surgery options as different surgeries carry varying risks for developing nutrient deficiencies in the long-term, therefore need to be aware of who is at increased risk.

Intestinal Failure and Adaption

- Can classify and grade the severity of intestinal failure – basic functional classification into type 1, 2, 3 and being able to list the 5 pathophysiological classifications for causes of IF: namely, short bowel, intestinal fistula, intestinal dysmotility, mechanical obstruction and extensive small bowel mucosal disease
- Understands the process of adaption to intestinal failure – recognise those patients who are at increased risk of demonstrating limited adaptation as these might not achieve intestinal autonomy in the long-term
- Understands the mechanisms of fluid absorption and secretion in the GI tract in health and various disease states including post-surgical adaptation and the effects of stomas and fistulas and the importance of colonic continuity – crucial in understanding which patients might need parenteral fluid support and specific electrolyte replacement (typically magnesium)

Short Bowel Syndrome and Post-Surgery Problems

- Understands and can assess the degree of nutrient deficiency including fluid balance in patients with short bowel syndrome (SBS) – recognise intravascular volume depletion on clinical examination, serum biochemistry and urinary sodium measurements
- Can advise on the use of oral glucose-saline solutions (St Mark's solution or double-strength diarolyte), oral magnesium preparations, subcutaneous replacement, and pharmacological anti-secretory (PPI) and anti-diarrhoeal agents (loperamide, codeine) – being able to prescribe and optimise a suitable oral short bowel syndrome regime, which might reduce dependence on parenteral fluid/nutrition support
- Can advise on the use of selective drugs in SBS – recognise erratic absorption of particular medications administered orally
- Able to recognise (and refer appropriately) complications of the short-gut syndrome including dehydration, renal failure, gallstones, renal stones, liver fibrosis, osteoporosis, metabolic acidosis, and malnourishment
- Understands and can advise on indications for surgical intervention and intestinal transplantation
- Able to manage complications of the short-gut syndrome including dehydration, renal failure, gallstones, renal stones, liver fibrosis, osteoporosis, metabolic acidosis, and malnourishment
- Can manage complex post-surgical complications including enterocutaneous fistulae, wound dehiscence, ileus, intestinal obstruction, and continuing sepsis. Able to liaise with surgical colleagues when further surgery may be necessary.

Enteral Nutrition (EN)

- Delivery of EN in patients with residual intestinal function
- Can identify when EN has failed and when PN is needed
- Can transfer a patient from EN to PN and vice versa
- Knowledge of the composition and indication of available EN preparations

Parenteral Nutrition (PN)

- Can prescribe appropriate PN regimes
- Knows the principles of multi-chamber bag composition or tailored PN
- 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 including liver failure and indications for liver transplantation.
- Can institute and follow home parenteral nutrition (HPN)

Ethical Considerations and Nutrition towards the end-of-life

- Knows the ethical and legal considerations surrounding nutritional support
- Can 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 considering previous decisions and directives of the patient and the input of authorized patient advocates, the patients partner 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.

Skills

- Review and supervise nutritional needs of patients between ward rounds and provide clinical input during ward rounds
- Assess patients for consideration of gastrostomy or enterostomy
- Assess patients for consideration of enteral and parenteral nutrition
- Ability to communicate with the patients' families, friends and loved ones, including lawyers and attorneys if necessary.
- Ability to undertake procedures as described in the core nutrition curriculum
- Optional competencies (overlapping with advanced endoscopy curriculum) including: o Treatment of malignant stenoses of the oesophagus, stomach, duodenum, and colon

o Endoscopic treatment of anastomotic leakages after surgery and percutaneous endoscopic gastrostomy (PEG) or PEG-J or PEJ placement.

In addition, a thorough knowledge of line insertion and line management is required for tunnelled catheters, peripherally inserted central catheters (PICC), and subcutaneous ports.

Procedures

- Nasogastric tube insertion
- Endoscopic nasogastric tube insertion
- Endoscopic nasojejunal tube insertion
- Placement of Percutaneous Endoscopic Gastrostomy
- Button placement
- Changing of PEG/Button/PEG-J/PEJ
- Placement of Percutaneous Endoscopic Jejunostomy (PEJ) tube

- Central intravenous line insertion (jugular or subclavian)
- Peripheral intravenous long-line insertion (e.g., PICC)
- Tunnelled insertion of intravenous central line
- Unblocking of blocked venous lines
- Removal of cuffed intravenous feeding line
- Unblocking of obstructed PEG/PEJ tube • Faecal Microbiota Transplantation

ADVANCED ENDOSCOPY TRAINING

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

- Part of the advanced endoscopy curriculum may be followed during Gastroenterology and hepatology training
- Competency assessment should not be based solely on the number of procedures. We strongly suggest using Entrustable Professional Activities (EPA's) or other assessment methods to evaluate competency.
- To obtain the qualification of advanced endoscopist, the trainee or fellow should become competent in one or more advanced endoscopic procedures
- If a diploma is attributed, it must specify which technique(s) the gastroenterologist is competent to perform from the following procedures:
- Endoscopic Retrograde Cholangiopancreatography (ERCP)
- Endoscopic Ultrasound (EUS)
- Endoscopic mucosal resection (EMR) of large lesions and Endoscopic submucosal dissection (ESD)
- Device-assisted enteroscopy

Not all advanced endoscopic procedures are addressed in this advanced curriculum section. Procedures like POEM, bariatric endoscopy, endoscopic gastroenterostomy, EDGE procedure etc. are considered as advanced endoscopic procedures, but are not incorporated in this curriculum.

The European Society of Gastrointestinal Endoscopy (ESGE) has defined the prerequisites and steps of training to develop skills in ERCP and EUS. [8] The assessment of competence and the quality of training has been described in the main recommendations. It is of importance to use formal assessment tools during ERCP and EUS training to track trainee's competence and to support a feedback culture during teaching. New formal assessment tools have been introduced in most European countries such as EPA's (Entrustable Professional Activities) and they will change the postgraduate training with objectives moving away from required numbers of procedures to a more comprehensive assessment of treatment plans and endoscopic skills.

Recommended minimum number of procedures - competent under supervision

ERCP

Aim: competency up to Schutz level 2 ERCP ERCP (therapeutic) 300, Including:

- Sphincterotomy (biliary/pancreatic) 150
- Stent placement (plastic/metal) 100
- Gallstones treatment (Balloon extraction, Dormia basket extraction, mechanical lithotripsy) 100

The recommended success rates for each interventional procedure (papilla cannulation, stone clearance, and stenting) according to the ESGE guidelines are available in the following link: https://www.esge.com/ercp-and-eus-training-curriculum [8]

EUS

Aim: to achieve independent competency in diagnostic and therapeutic EUS

EUS-Procedures upper GIT 250

EUS-Procedures lower GIT 50 E

US interventional procedures 100

Including: EUS-guided procedures (FNA/FNB) 75

Therapeutic EUS-guided procedures 20

The recommended success rates of each aspect of the procedure (visualization of anatomical landmarks, accuracy rate of FNA/FNB) according to the ESGE guidelines are available in the following link: https://www.esge.com/ercp-and-eus-training-curriculum/. [8]

Endoscopic Mucosal Resection and ESD

Aim: competency in removing large lesions in the gastrointestinal tract by piecemeal

EMR. Mucosectomy of lesion >2cm 50

Before starting training in ESD, trainees must be competent in EMR. ESD training should commence utilising animal or ex vivo models.

For further details refer to the ESGE guideline, in the following link: https://www.esge.com/ esd-trainingcurriculum/. [9]

Small Bowel Endoscopy

Capsule endoscopy: Minimum of 50 procedures

Device-assisted enteroscopy: 75, including 35 retrograde DAEs.

ADVANCED HEPATOLOGY CURRICULUM

Introduction

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

- Liver transplantation with a special focus on both indication and follow up.
- Intensive care management of patients with acute liver failure
- Intensive care management of patients with acute-on-chronic liver failure
- Liver cirrhosis and management of related complications
- Portal hypertension
- Varices
- Refractory ascites and its complications
- Hepatic encephalopathy
- Viral hepatitis
- Auto-immune liver disease

Alcohol related- and metabolic associated fatty liver disease

- Drug induced liver disease
- Genetic liver disease
- Vascular liver disease and anticoagulation in cirrhosis
- Infiltrative liver disease
- Focal lesions of the liver
- Nutritional support in liver disease including liver transplantation • Liver disease in pregnancy

The trainee is expected to:

- Be up to date with all major specialty specific international guidelines.
- Have an understanding of scoring systems for identification of patients needing referral to specialised centres.
- Be competent in communicating relevant information of the disease process including prognosis, aims, means, and importance of specific procedures and treatments and their expected beneficial effect and potential risk of side effects, to patients and caregivers.

Liver Transplantation

The trainee should have competence in the pre-, peri- and post-transplant care of liver transplant patients. This training should take place in a liver transplant centre and the trainee should play an active role in the multidisciplinary transplant team.

The trainee should have:

- knowledge of indications for liver transplantation.
- knowledge of donor management.
- knowledge of priority, including scoring systems used in transplant assessment and management of the waiting list.
- knowledge of histological findings in the transplant.
- Competence in transplant immunology, immunosuppressant therapy, and their complications.
- competence to detect and manage primary graft non-function and acute and chronic rejection.
- competence to manage early and late complications after liver transplantation.

Acute liver Failure

The trainee should have:

- competence in diagnosing the spectrum of acute liver failure and assessment of prognosis.
- Competence in the management of the spectrum of acute liver failure in an intensive care unit.

Acute-on-Chronic Liver Failure (ACLF)

The trainee should have competencies in:

- Diagnosing ACLF and assessing prognosis.
- The management of the spectrum of ACLF.
- Managing patients with severe ACLF, in an ICU multidisciplinary setting being able to assess and treat the specific organ failures of ACLF including cardiovascular, GI, neurological, respiratory, renal, and haematological, including ventilated and dialyzed patients.

Portal hypertension (PH)

The trainee should have knowledge of the:

- Definition of clinically significant portal hypertension (CSPH) in cirrhosis, how to measure the hepatic venous pressure gradient (HVPG) and the clinical implications of CSPH.

- Evaluation and management of hepato-pulmonary syndrome, porto-pulmonary hypertension, and cirrhotic cardiomyopathy. Rescue treatments for unresponsive bleeding from oesophageal and gastric varices including glue injection, expanding stents, and indication for acute TIPSS.
- Management of ectopic varices.

In addition, they should demonstrate competence in:

- Diagnosis and management of PH.
- Prevention, diagnosis, and management of oesophageal and gastric varices including acute bleeding episodes.
- Management of refractory ascites and its complications including severe hyponatremia, spontaneous bacterial peritonitis, hepatic hydrothorax, and hepato-renal syndrome (HRS).

Hepatic encephalopathy (HE)

The trainee should have competence in:

- Management of hepatic encephalopathy including classification, severity of manifestations, clinical time course, and existence of precipitating factors.
- Conducting a focused physical examination with emphasis on neurological signs, to grade HE, including signs of cirrhosis and portal hypertension.
- Recognizing minimal HE and the relevant tests for its diagnosis.

Viral Hepatitis

The trainee should have knowledge of:

- Epidemiology, grading and staging, clinical course, and prognosis of acute and chronic viral hepatitis.
- Measures to prevent acquisition of viral hepatitis

The trainee should also demonstrate competence in managing outpatient assessment including biochemistry, virology, histopathology, and non-invasive methods for scoring fibrosis.

Auto-Immune Liver Disease (AILD)

The trainee should have competence in:

- The assessment and management of patients with autoimmune hepatitis not responding to standard therapy, primary sclerosing cholangitis, primary biliary cholangitis, IgG4 cholangiopathy, and overlap syndromes.

- Interpretation of liver biochemistry, autoantibodies, and histology for diagnosis of AILD including autoimmune hepatitis, primary sclerosing cholangitis, primary biliary cholangitis, IgG4 cholangiopathy, and overlap syndromes.

- The treatment and monitoring of patients with AILD including treatment options in the case of failure of standard treatments.

Alcohol related liver disease

The trainee should have:

- competence in managing alcohol related liver disease in a multidisciplinary setting

Metabolic fatty liver disease

The trainee should have competence in:

- Diagnosing and managing metabolic fatty liver disease in a multidisciplinary setting
- Scoring and risk stratification including advanced fibrosis and hepatocellular cancer (HCC).

Drug induced liver disease (DILI)

The trainee should have knowledge of:

- The different mechanisms of DILI related to drugs, supplements, and herbals.
- Frequency, dose-relation, latency, time relation, clinical manifestation (hepatocellular, cholestatic or mixed) and prognosis for the different types of DILI mechanisms.

In addition, the trainee should demonstrate competence in the initialization and follow up of treatment of DILI, including awareness of scoring systems and evaluation for liver transplantation.

Genetic and development of liver disease

The trainee should have knowledge of:

- Genetic liver diseases.
- Genetic cholestatic liver diseases including progressive familial intrahepatic cholestasis and benign recurrent intrahepatic cholestasis.
- Developmental liver disease.

The trainee should demonstrate competence in:

- Interpretation of genetic tests.
- Diagnosis and management of hemochromatosis, Wilson´s disease and alfa one antitrypsin deficiency.

- Management of fibro polycystic liver disease including congenital hepatic fibrosis, autosomal dominant polycystic kidney disease (ADPKD), biliary hamartomas, bile duct cysts, and peribiliary cysts.

Vascular liver disease (thrombotic liver disorders)

The trainee should have competence in diagnosis and management of acute and chronic thrombosis of portal- and hepatic veins (Budd-Chiari syndrome), including the need for acute TIPSS or liver transplantation in Budd-Chiari syndrome.

Anticoagulation in liver disease

The trainee should have competence to guide anticoagulation in patients with liver disease, including assessment of coagulation status and the risk for bleeding and thrombosis in portal hypertension.

Infiltrative liver disease

The trainee should have knowledge of and capability to evaluate and manage infiltrative diseases of the liver including storage diseases, granulomatous diseases, and haematological diseases.

Focal lesions of the liver

The trainee should have competence in distinguishing between benign and malignant focal lesions.

Benign lesions

The trainee should have knowledge of when and how to treat benign lesions by surgery, ablation, embolization or pharmacological techniques as appropriate.

The trainee should demonstrate competence in:

- Diagnosing benign focal solid or cystic lesions, such as haemangiomas, adenomas, and focal nodular hyperplasia (FNH).
- Management of bacterial or parasitic infectious diseases of the liver including bacterial liver abscesses, amoebic abscesses, and hydatid cysts.
- Understanding indications for surveillance and when to terminate further investigation of benign lesions.

Primary and secondary liver cancer – advanced management

The trainee should have knowledge of:

- Risk factors, causes, and prognostic factors of primary liver cancer.

- The clinical course and outcome of primary and secondary liver cancer.
- Application of surveillance for hepatocellular carcinoma in cirrhosis.

The trainee should demonstrate competence in:

- The safe, cost-effective diagnosis, and staging of primary and secondary liver cancer.
- Assessment of liver function and/or PH to guide different treatment modalities.

Nutrition in liver disease including liver transplantation

The trainee should have knowledge of the importance of nutritional status and correction of undernutrition for the clinical course and prognosis of cirrhosis and alcoholic hepatitis.

The trainee should demonstrate competence in:

- Performing baseline clinical nutritional assessment by medical history and physical examination to identify without delay the patient at nutritional risk.
- Undertaking and interpreting the established tools for screening and assessment of malnutrition
- Evaluating protein, energy, and micronutrient needs by means of established formulae.
- Prescribing enteral and parenteral nutritional therapy according to established guidelines.
- The follow-up of patients receiving nutritional therapy with modification when necessary.
- Planning long-term nutritional therapy for the cirrhotic patient.

Frailty in liver disease

The trainee should have:

- Knowledge of the risk for and importance of frailty for the clinical course and prognosis of cirrhosis, including patients on the liver transplantation waiting list and for patients with alcoholic hepatitis.
- Competence to perform baseline assessment and follow up of frailty in liver disease.

Liver disease in pregnancy

The trainee should have competence to:

- Identify and manage life threatening liver disease of pregnancy
- Counsel patients with liver disease/cirrhosis who contemplate pregnancy including patients on immunosuppression due to autoimmune liver disease or liver transplantation.
- Follow up pregnant patients with chronic liver disease or liver transplantation in collaboration with the obstetrics team.

Procedural Skills

The trainee should have knowledge of the indications and where appropriate complications of:

- liver biopsy, - percutaneous and trans jugular
- insertion and management of expanding distal oesophageal stents
- insertion and management of balloon tamponade, band ligation and sclerotherapy, in the relevant clinical scenario
- management of gastric and ectopic varices
- hepatic venous and portal pressure measurements
- ERCP
- hepatobiliary ultrasonography
- liver stiffness measurement

Dual Accreditation in Gastroenterology and General/Internal Medicine

Trainees in Gastroenterology can acquire dual accreditation in Gastroenterology and General/Internal Medicine. The Malta Association of Gastroenterology and Association of Physicians have agreed that trainees in Gastroenterology can also be awarded a CCST in General Medicine if the following criteria are fulfilled:

1. One (1) year full-time training (or part-time pro rata) with a consultant/s in General Medicine who participate in unselected medical takes. Such training should take place at HST level or higher. This one year will be in addition to the full period (4 years) of training in gastroenterology, i.e. total of 5 years to achieve dual accreditation. Following 5 years of dual gastroenterology and medical training, the trainee would be eligible to apply for CCST in gastroenterology and general medicine. This 1 year of medical training shall consist of, but not exclusive to, four (4) rotations of a minimum of 3 months each, in medical specialities with unselected medical takes and will take place separately during the 4 years training in gastroenterology. One full year in general medicine during the gastroenterology training or after finishing 4 years of gastroenterology training would not be possible due to service provision of the department. The trainee doing medical rotations will be supernumerary to the HST medical pool. In cases where a trainee is asked to repeat a year of training in gastroenterology, CCST in general medicine would only be granted once gastroenterology training is finished.
2. During these medical rotations, the trainee will have 1 free day per week to pursue endoscopy training so as not to deskill from such training during the medical rotations. The weekday chosen should not be a post-take ward round or an out-patient day, as these are prerequisites for medical training.
3. At the time of writing this document (October 2025), a number of gastroenterology trainees have already started their gastroenterology and medical training. For these trainees only, caught in such a transition, will have their remaining medical training counted as pro-rata for the purpose of dual accreditation. This document shall be applied in full force with the next recruitment of new HSTs due in January 2026.
4. The trainee has to perform forty-four (44) on call out of hours duties at HST level or higher in Internal Medicine. These duties can also be performed whilst working in gastroenterology.
5. The trainee has to perform two (2) audits in General Medicine or any other medical speciality.
6. The trainee has to publish one (1) publication in General Medicine or any other medical speciality.
7. The trainee has to have a valid certificate in Advanced Life Support (ALS).
8. The trainee has to pass the Speciality Certificate Examination in Acute Medicine, MRCP (Acute Medicine), organised by the Federation of the Royal College of Physicians of the United Kingdom, or equivalent.

If a trainee pursues some of the gastroenterology training abroad in an approved centre, approved by the SAC on recommendation of the Malta Association of Gastroenterology, which would also entail seeing unselected medical patients, this training will also count as part of the one year full-time medical training, after review by the Association of Physicians. Approval for General Medical training is to be requested from the Association of Physicians prior to pursuing training abroad.

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