INSTITUTE
OF MEDICINE

ROYAL COLLEGE OF
PHYSICIANS OF IRELAND

HIGHER SPECIALIST TRAINING IN

GASTROENTEROLOGY

Outcome Based Education Curriculum

This curriculum of training in Gastroenterology was developed and reviewed in 2022 by Prof Eoin Slattery, Dr Aoibhlinn O'Toole and Dr Orlaith Kelly, National Specialty Directors, Dr Ann O'Shaughnessy, Head of Education, and by the Gastroenterology Specialist Training Committee. The curriculum is approved by the Institute of Medicine. This document includes both the National Endoscopy Programme and the Special Interest Year Training in Hepatology.

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Introduction

A trainee in Gastroenterology must have expertise in the management and diagnosis of disease of the gastrointestinal tract, liver and pancreas and be competent in the diagnosis, and treatment of intraabdominal malignancy. Proficiency in diagnostic and therapeutic upper and lower endoscopy is also essential.
During training for basic proficiency it is envisaged that trainees may develop subspecialty expertise which would include pancreatico-biliary disease, ERCP, advanced Hepatology IBD, functional bowel disease and nutrition.
Trainees will be required to develop skills in both diagnostic and therapeutic endoscopy. These endoscopic procedures within the core training programme will include oesophago-gastro-duodenoscopy and full colonoscopy. Therapeutic skills would include oesophageal stricture dilatation, injection or banding of varices, the insertion of gastrostomy feeding tubes and colonoscopic polypectomy.

Aims

Upon satisfactory completion of specialist training in Gastroenterology, the doctor will be able to undertake comprehensive medical practice in that specialty in a professional manner, unsupervised and independently and/or within a team, in keeping with the needs of the healthcare system.

The modern ethos of training in Medicine is termed Outcomes Based Education (OBE). This is best considered by viewing the desired end-product of training (the outcomes) and working backwards to try and provide the essential training experiences to achieve those outcomes.

What are the expected skill set of a newly appointed Specialist in Gastroenterology trained in the Irish Healthcare system ?

1. Highly competent in diagnosing and managing all of the common acute and chronic Gastroenterology disorders as well as having had some exposure and proficiency in managing the less common and rare conditions
2. Highly developed communication, team-working and interpersonal skills
3. Be capable of managing junior staff, an in-patient and out-patient and consultation service, complaints and performing clinical practice review
4. Capable of independent practice
5. A capable mentor and trainer to junior colleagues

Professionalism

Being a good doctor is more than technical competence. It involves values – putting patients first, safeguarding their interests, being honest, communicating with care and personal attention, and being committed to lifelong learning and continuous improvement. Developing and maintaining values are important; however, it is only through putting values into action that doctors demonstrate the continuing trustworthiness with the public legitimately expect. According to the Medical Council, Good Professional Practice involves the following aspects:

- Effective communication
- Respect for autonomy and shared decision-making
- Maintaining confidentiality
- Honesty, openness and transparency (especially around mistakes, near-misses and errors)
- Raising concerns about patient safety
- Maintaining competence and assuring quality of medical practice

Entry Requirements

Applicants for Higher Specialist Training (HST) in Gastroenterology must have a certificate of completion Basic Specialist Training (BST) in General Internal Medicine and obtained the MRCPI.

Those who do not hold a BST certificate and MRCPI must provide evidence of equivalency.

Entry on the training programme is at year 1. Deferrals are not allowed on entry to Higher Specialist Training.

Duration & Organisation of Training

The duration of HST in Gastroenterology and General Internal Medicine is five years, one year of which may be gained from a period of full-time research.

Trainees must spend the first three years of training in clinical posts in Ireland before undertaking any period of research or Out of Clinical Programme Experience (OCPE). The earlier years of training will usually be directed towards acquiring a broad general experience of Gastroenterology under appropriate supervision. An increase in the content of hands-on experience follows naturally, and, as confidence is gained and abilities are acquired, the trainee will be encouraged to assume a greater degree of responsibility and independence.

If an intended career path would require a trainee to develop further an interest in a sub-specialty within Gastroenterology this should be accommodated as far as possible within the training period, re-adjusting timetables and postings accordingly.

Trainees on HST programme in Gastroenterology are given a rotation of posts at the start of the programme. Each rotation will provide the trainee with experience in different hospitals so as to acquire the broad range of training required. A degree of flexibility to meet the individuals' training needs is possible especially towards the end of the training programme following discussion with the NSDs.

Variation in the timescale to achieve outcomes may occur due to experience in post, but failure to make progress towards meeting these important objectives **at an early stage** would cause concern about a Specialist Registrar's suitability and ability to become independently capable as a specialist.

Training Programme

The training programme offered will provide opportunities to fulfil all the requirements of the curriculum of training for Gastroenterology in accredited training hospitals. Each post within the programme will have a named trainer/educational supervisor and programmes will be under the direction of the National Specialty Director for Gastroenterology or, in the case of GIM, the Regional Specialty Advisor. Programmes will be as flexible as possible consistent with curricular requirements, for example to allow the trainee to develop a sub-specialty interest.

The experience gained through rotation around different departments is recognised as an essential part of HST. A Specialist Registrar may not remain in the same unit for longer than 2 years of clinical training; or with the same trainer for more than 1 year.

Where an essential element of the curriculum is missing from a programme, access to it should be arranged, by day release for example, or if necessary by secondment.

Skill acquisition in training

a. Apprenticeship type learning where there is a high degree of exposure to common Gastroenterology conditions in a variety of settings under the supervision of a Gastroenterology specialist.
   Duration of apprenticeship is thought best to be 3 clinical years in Gastroenterology with an option of doing a fourth clinical year or 1 or more years in research. It is now mandatory that trainees in their first 3 years of training complete 2 Clinical years and 1 GIM year.
b. Maintaining an electronic logbook of training experiences. It is the trainees' responsibility to drive their own learning by actively seeking learning opportunities.
c. Rotating between different hospitals and Consultants allows exposure to different management approaches and specialty interests.
   Competency in managing Gastroenterology conditions is underpinned by the attainment of a high degree of specialist knowledge.
d. Personal study – reflection on clinical experiences including performing relevant literature searches and keeping up to date with new Gastroenterology publications.
e. Presenting Gastroenterology topics at the weekly institutional meetings, including journal clubs, and at grand rounds.
f. Study days and Courses – there are at least 6 study days running each year. Trainees in Gastroenterology clinical posts are expected to attend at least 5 study days per annum and all mandatory courses including communication skills, clinical audit, ethics and a ACLS course, etc. throughout their entire programme.
g. Discussing cases with senior colleagues.
h. Undergoing observed procedures, communication and teaching events by senior colleagues.
i. Conducting 1 clinical practice review (audit) per year as part of a quality improvement initiative.
j. Quarterly meetings with the assigned Trainer which are to monitor progress through the curriculum.

Dual Specialty Training

GIM training is expected to be completed in the first 3 years of the programme. One of these years is a GIM specific year. During the other 2 years trainees must complete their GIM training as per the minimum requirements.
Each post must include general medicine on-call commitment for acute unscheduled/emergency care with attendance at relevant post-take rounds.

Acute Medicine:
There must be evidence of direct supervision of the activity of the more junior members of the "on-take" team and a minimum of 10 (480 per year) new acute medical assessments and admissions during the 24-hour period are expected. In addition, the trainee will be expected to have ongoing care/responsibility for a proportion of the patients for the duration of the clinical inpatient journey as well as follow up post discharge. In this capacity you should develop skills in non-technical aspects of care including discharge planning and end of life care.

Inpatient Responsibilities:
The trainee will have front line supervisory responsibilities for general medical inpatients. This will require supervising the activities (e.g. being available for advice) of the more junior members (SHO/Intern) of the clinical team at all times. In addition to personal ward rounds, a minimum of two ward rounds with the consultant each week is expected for educational experience. Ongoing responsibility for shared care of the team's inpatients whilst in the ITU/HDU/CCU is also essential. If this is not possible in a particular hospital/training institution then a period of secondment to the appropriate unit will be required.

Outpatient Responsibilities:
The trainee is expected to have personal responsibilities for the assessment and review of general medicine outpatients with a minimum of at least one consultant led GIM clinic per week. The trainee should assess new patients; access to consultant opinion/supervision during the clinic is essential. In the event of clinics being predominantly subspecialty orientated, a trainee must attend other clinics to ensure comprehensive General Internal Medicine training.

General Education in Training:
The trainee is expected to spend four hours per week, in formal general professional education for certification of training. In the types of experience noted below, time must be fairly distributed between GIM and the other specialty in dual training programmes. Review of all these activities will form part of the training record for each trainee.

All trainees are required to undergo training in management. This will take the form of day-to-day involvement in the administration of the team/firm and must include attendance at a management course during the training period.

Trainees are expected to be actively involved in audit throughout their training and should have experience of running the unit's audit programme and presenting results of projects at audit meetings. They should also regularly attend other activities, journal clubs, X-ray conferences, pathology meetings etc.

Trainees should be expected to show evidence of the development of effective communication skills. This can be assessed from taking part in formal case presentations or in giving lectures/seminars to other staff or research/audit presentations at unit meetings.

All trainees must have a current ACLS certificate throughout their HST.

Procedures:

During training the trainee should acquire those practical skills that are needed in the management of medical emergencies, particularly those occurring out of normal working hours. Some exposure to these skills may have occurred during the period of BST but experience must be consolidated and competencies reviewed during HST. The procedures, with which the trainee must be familiar and show competencies in, either as essential to acquire, or as additional procedural skills i.e. desirable to acquire.

Essential & Additional Experience:

The trainee will be expected to have had experience of/be familiar with the management of a wide range of cases presenting to hospitals as part of an unselected acute medical emergency "take". Whilst trainees will not need to be expert in all of these areas they will be expected to be able to plan and interpret the results of immediate investigations, initiate emergency therapy and triage cases to the appropriate specialist care. These emergency situations have been considered under each specialty section and are indicative of what should be covered but are not prescriptive. It should form the basis of regular discussions between the trainee and trainers as training progresses. The various clinical situations listed for experience have been divided into those, which are considered "essential" and others, which are "additional".

Assessment Process

A critical part of any Training Curriculum, and a very challenging area, is assessing skill development.

Assessing the skills of a potential Gastroenterology Specialist requires a multi-faceted approach. The same assessment, however, can test a number of skills.

1. A critical aspect of assessing progress in training is the cumulative opinion of your trainer and their colleagues regarding your work performance. This has the advantage of assessing global performance as well as longitudinal development. Trainers issue a quarterly report, and each trainee undergoes an annual assessment by the National Specialty Directors. Remediation may be required for perceived deficiencies.

2. The e-logbook is the only permanent record of your training. Learning goals, clinical episodes, assessments, quality improvement initiatives and teaching and academic events should all be recorded. It is critical the logbook is filled out prospectively and is signed off every 3 months by your current trainer. It is the trainee's responsibility to organise the meetings with their trainer.

3. Most SPRs actually only do 3 general Gastroenterology clinical years with the 4th year in specialised training or in research.

4. It is expected that trainees achieve the outcomes in the recommended timeframe.

General Requirements Map

Activity	Requirement	ePortfolio forms names
Personal Goals Form	At the start of each post complete a Personal Goals form, agreed with your trainer	Personal Goals Form
Gain Experience on Call	Complete Specialty Call as agreed with your trainer in all Gastroenterology Years	Clinical Activities
	Record 480 Cases on GIM Call in your GIM Year (to complete within the first 3 years)	Clinical Activities
	Record 480 Cases on Call (to complete during Dual Specialty Years)	Clinical Activities
Deliver Teaching	Annually record at least 5 lectures and/or tutorials, and/or instances where you have delivered bedside teaching	Delivery of Teaching
Research	Actively participate in research, seek to publish a paper and present research at conferences or national/international meetings (desirable)	Research Activities
Publication	Complete 1 publication during the training programme (desirable)	Additional Professional Activities
Presentation	Deliver 1 oral presentation or poster per each year of training (desirable)	Additional Professional Activities
Audit	Complete and report on an audit or Quality Improvement (QI) each year, either to start, continue or complete.	Audit and QI
Assessments	Complete a Quarterly Assessment/End of post assessment with your trainer 4 times in each year. Discuss your progress and complete the form.	Quarterly Assessments/End-of-Post Assessments
End of Year Evaluation	Prepare for your end of year evaluation by ensuring your portfolio is up to date and you end of year evaluation form is initiated with your trainer.	End of Year Evaluation
National/International Meetings	Attend 1 per year of training (desirable)	Additional Professional Activities
Attendance at In-House Activities	Each month attend at least one in hospital teaching/collaborative activity	Attendance at In-House Activities
Grand Rounds	Where possible attend 2 each month and record attendance at least to 5 per year.	Attendance at In-House Activities
Journal Club	Attend 2 each month and record attendance at 20 per year.	Attendance at In-House Activities
MDT meetings, Radiology Conference, Pathology Conference,	Attend MDT meetings and/or Radiology Conferences and/or Pathology Conferences each month and record attendance at 10 per year.	Attendance at In-House Activities
Clinics and ward rounds	Attend Clinics and Ward Rounds as agreed with your trainer, record attendance for each post.	Clinics and Clinical Activities
Attend Study Days	**During GIM year** attend 6 GIM study days and 3 specialty study days. **During non-GIM years** attend 3 GIM study days and 5 specialty study days per year. **In years 4+** attend 5 specialty study days per year.	Teaching Attendance
Mandatory Courses	ACLS	Teaching Attendance
	Basic Skills – online course for GI/surgical trainees (Year 1)	Teaching Attendance
	Hands on colonoscopy	Teaching Attendance
	Management of Upper GI Bleeds practical skills (Year 4)	Teaching Attendance
	Ethics Foundation RCPI	Teaching Attendance
	Ethics for General Medicine RCPI	Teaching Attendance
	An Introduction to Health Research Methods RCPI	Teaching Attendance
	HST Leadership in Clinical Practice (year 3+) RCPI	Teaching Attendance
	Mastering Communication (Year 1) RCPI	Teaching Attendance
	NIHSS Stroke Scale	Teaching Attendance
	Performing Audit (Year 1) RCPI	Teaching Attendance
	Wellness Matters RCPI	Teaching Attendance
	Delirium Recognition and Response (online)	Teaching Attendance
Non-mandatory Courses	Endoscopic Management of Barrett's Oesophagus course (online)	Teaching Attendance
Examinations	Attempt one exam e.g., European Fellowship (desirable)	Examinations

Core Professional Skills

Partnership

Communication and interpersonal skills

- Facilitate the exchange of information, be considerate of the interpersonal and group dynamics, have a respectful and honest approach.
- Engage with patients and colleagues in a respectful manner
- Actively listen to the thoughts, concerns and opinions of others
- Consider data protection, duty of care and appropriate modes of communication when exchanging information with others

Collaboration

- Collaborate with patients, their families and your colleagues to work in the best interest of the patient, for improved services and to create a positive working environment.
- Work cooperatively with colleagues and team members to deliver an excellent standard of care
- Seek to build trust and mutual respect with patients
- Appropriately share knowledge and information, in compliance with GDPR guidelines
- Take on-board available, relevant feedback

Health Promotion

- Communicate and facilitate discussion around the effect of lifestyle factors on health and promote the ethical practice of evidence-based medicine.
- Seek up to date evidence on lifestyle factors that:
    - negatively impact health outcomes
    - increase risk of illness
    - positively impact health and decrease risk factors
- Actively promote good health practices with patients individually and collectively

Caring for patients

- Take into consideration patient's individuality, personal preferences, goals and the need to provide compassionate and dignified care.
- Be familiar with
    - Ethical guidelines
    - Local and national clinical care guidelines
- Act in the patient's best interest
- Engage in shared decision making and discuss consent

Performance

Patient safety and ethical practice

- Put the interest of the patient first in decisions and actions.
- React in a timely manner to issues identified that may negatively impact the patient's outcome
- Follow safe working practices that impact patient's safety
- Understand ethical practice and the medical council guidelines
- Support a culture of open disclosure and risk reporting
- Be aware of the risk of abuse, social, physical, financial and otherwise, of vulnerable persons

Organisational behaviour and leadership

- The activities, personnel and resources that impact the functioning of the team, hospital and health care system.
- Understand and work within management systems
- Know the impacts of resources and necessary management
- Demonstrate proficient self-management

Wellbeing

- Be responsible for own well-being and health and its potential impact on the provision of clinical care and patient outcomes.
- Be aware of signs of poor health and well-being
- Be cognisant of the risk to patient safety related to poor health and well-being of self and colleagues
- Manage and sustain your own physical and mental well-being

Practice

Continuing competence and lifelong learning

- Continually seek to learn, to improve clinical skills and to understand established and emerging theories in the practice of medicine.
- Meet career requirements including those of the medical council, your employer and your training body
- Be able to identify and optimise teaching opportunities in the workplace and other professional environments
- Develop and deliver teaching using appropriate methods for the environment and target audience

Reflective practice and self-awareness

- Bring awareness to your actions and decisions and engage in critical appraisal of own work to drive lifelong learning and improve practice.
- Pay critical attention to the practical values and theories which inform everyday practice
- Be aware of your own level of practice and your learning needs
- Evaluate and appraise your decisions and actions with consideration as to what you would change in the future
- Seek to role model good professional practice within the health service

Quality assurance and improvement

- Seek opportunities to promote excellence and improvements in clinical care through the audit of practice, active engagement in and the application of clinical research and the dissemination of knowledge at all levels and across teams.
- Gain knowledge of quality improvement methodology
- Follow best practice in patient safety
- Conduct ethical and reproducible research

General Internal Medicine Section

Objective: On completion of Higher Specialist Training the trainee will be able to identify and treat immediate life-threatening causes of common medical presentations, form a differential diagnosis for non-life threatening cases and effectively manage the patient including further investigation and appropriate referral. They will have acquired a broad range of procedural and clinical skills to manage diverse presentations.

Assessment and Learning Methods

Learning opportunities during HST are through:

- Self-Directed Learning
- Attendance at Study days
- Participation in In-house activities
- Unselected acute on call
- General Medicine outpatient clinics
- Department education sessions (black box, journal club, tutorials)
- Completion of Required courses
- Attendance at additional learning events such as recommended courses and masterclasses

Progress is assessed through:

- Case Based Discussion
- ePortfolio
- Annual assessment
- DOPS

In the Acute setting

During the course of HST the trainee will encounter common acute presentations and demonstrate the following competencies:

- Recognising and assessing urgency
- Stabilising the patient
- Prioritising
  - Tasks
  - Investigations
- Managing co-existing morbidities
- Making appropriate referrals
- Decision making and appropriate delegation

The presentations listed in this section represent the most common acute presentations and conditions currently seen in Irish hospitals, accounting for over 95% of admissions. It is expected that HST trainees in general internal medicine will have a comprehensive knowledge of, and be able to provide a differential diagnosis for, these conditions.

Presentations

1. Shortness of breath
2. Cough
3. Chest Pain
4. Blackout/ Collapse/ Dizziness
5. The frail older patient in the acute setting
6. Abdominal Pain
7. Fever
8. Alcohol and substance dependence or withdrawal
9. Falls and Decreased mobility
10. Weakness and Paralysis
11. Headache
12. Limb Pain and/or Swelling
13. Nausea and Vomiting
14. Seizure
15. Diarrhoea
16. Delirium/Acute confusion
17. Acute Psychological illness
18. Palpitations
19. Hepatitis or Jaundice
20. Gastrointestinal Bleeding
21. Haemoptysis
22. Rash
23. Acute Back Pain
24. Poisoning and Drug Overdose
25. Hyper-glycaemia

Emergency management

Recognising and managing emergency cases including:

- Acute Coronary Syndrome
- Acute Kidney Injury
- Acute Respiratory Failure
- Acute Seizure
- Anaphylaxis / Angioedema
- Cardio-respiratory arrest
- Critical electrolyte abnormalities (calcium, sodium, potassium)
- Hypo- or Hyperglycaemia
- Sepsis and septic shock
- Stroke/ TIA
- The unconscious patient
- Unstable hypotensive patient

Skills and Knowledge in the General Medicine Setting

On completion of HST the trainee should know life threatening causes, clinical feature, classifications, investigations and management, including indications for urgent referral, for common general medicine presentations. The following outlines commonly associated features, causes and/or routes of investigation for these presentations, both acutely and for ongoing case management, the trainee is expected to know and the competencies they are expected to demonstrate.

When a patient presents with a general medicine complaint the trainee should demonstrate an ability to:

- Assess their signs and symptoms, formulating a differential diagnosis
    - Take history as part of an investigation
    - Undertake primary assessment
    - Recognise and assess urgency
    - Undertake secondary assessment
- Initiate appropriate investigations
    - Interpret results for common investigations
- Initiate appropriate treatment, including stabilising the patient where necessary
- Manage co-existing morbidities
- Manage on-going cases including
    - confirming a diagnosis for those not requiring urgent referral
    - assessing response to initial treatment
    - recognising signs to escalate management when needed
- Appropriately refer based on:
    - Response to treatment
    - Local guidelines
    - Culture
    - Self-awareness of their own knowledge and ability
    - Services available
- Provide ongoing management of the case

Shortness of breath

When a patient presents with shortness of breath a trainee should demonstrate knowledge of the clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for common causes.

- Life threatening causes of breathlessness
    - Airway Obstruction
    - Acute severe asthma
    - Acute exacerbation of COPD
    - Pulmonary oedema
    - Tension pneumothorax
    - Acute presentations of Ischaemic heart disease
    - Acute severe left ventricular failure
    - Dysrhythmia
    - Pulmonary embolus
    - Cardiac tamponade
    - Metabolic acidosis

Cough

When a patient presents a cough a trainee should demonstrate knowledge of the clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Common causes of acute cough
    - Viral and Pertussis type cough
    - Acute bronchitis
    - Pneumonia
    - Tuberculosis
    - Lung cancer
    - Understand the relevance of subacute and chronic cough
    - Common causes (Asthma, Upper airway, GORD)
    - When to refer for assessment of lung cancer
    - Consideration of Interstitial lung disease

Chest Pain

When a patient presents with chest pain a trainee should demonstrate knowledge of the clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for common causes.

- Life threatening causes of chest pain
    - Myocardial infarction
    - Dissecting aortic aneurysm
    - Pulmonary emboli
    - Tension pneumothorax
    - Oesophageal rupture
- Clinical features of:
    - Cardiac chest pain
    - Chest pain caused by respiratory disease and oesophageal rupture
    - Chest pain caused by gastrointestinal disease
    - Chest wall pain
    - Functional chest pain

Blackout / Collapse / Dizziness

When a patient blacks out, collapses or presents with dizziness a trainee should demonstrate that they know the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Stroke
    - Cerebral infarction
    - Primary intracerebral haemorrhage
    - Subarachnoid haemorrhage
- Syncope
    - Cardiac causes (arrhythmia, cardiogenic shock)
    - Vasovagal syncope
    - Postural hypotension (e.g., drugs, neurocardiac, autonomic)
    - Localised vascular disease (posterior circulation)
    - Metabolic causes (e.g., hypoglycaemia)
- Seizures and epilepsy

Management of the frail older patient in the acute setting

When a frail older patient presents a trainee should demonstrate knowledge of the appropriate approach to assessment, risk factors, appropriate investigations and necessary management, including indications for urgent referral, for this population.

- Understand the broad differential diagnosis and management of complex multi-morbid illness in older patients
- Approach to investigation and management of recurrent Falls
- Non-pharmacological and pharmacological management of behavioural complications of dementia
- Investigation of causes, non-pharmacological and pharmacological management of Delirium
- Polypharmacy and inappropriate prescribing in older patients (e.g. renal dose adjustment)
- Medical management of nursing home residents- identifying aspiration risk
- Palliative care and pain management in the acute setting
- Acute stroke thrombolysis delivery and criteria for referral for intravascular intervention
- Completion of NIHSS stroke scale

Abdominal Pain

When a patient presents with abdominal pain a trainee should demonstrate knowledge of the life threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Initial assessment of abdominal pain
- Differential Diagnosis:
    - Intra-abdominal
        - Gastrointestinal
        - Vascular (aneurysm, ischemia)
        - Urological
        - Gynaecological
    - Extraabdominal causes of pain
- Ability to identify and initiate management of life-threatening conditions causes of abdominal pain
- Indications for surgical consultation and urgent referral
- Identifying constipation and urinary retention in older patients

Fever

When a patient presents with fever a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Recognize the symptoms and signs of sepsis
- Identify common causes of fever
    - Infection
    - Non-infectious including PE, Drugs, vasculitis,
- Delivery of initial management of septic patient
- Knowledge of the choice of empiric and infection targeted antibiotics

Alcohol and substance dependence or withdrawal

When a patient presents with dependence or withdrawal a trainee should demonstrate that they know the classifications and necessary management, including indications for referral.

- Recognition
- Psychosocial dysfunction
- Autonomic disturbances
- Stress and panic disorders
- Insomnia and sleep disturbance
- Understand the role of psychiatrist and referral to rehabilitation services

Falls and Decreased mobility

When a patient falls or presents with decreased mobility a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Common medical and social causes of falls in medical patients
- Complications of falls
    - Fractures including the neck of the femur
    - Intracranial injury
    - Rib fracture and pneumothorax
    - Loss of mobility and independence

Weakness and Paralysis

When a patient presents with weakness or paralysis a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Stroke/ space occupying lesion
- Spinal cord injury
- Underlying neurological causes: e.g. multiple sclerosis, Guillain-Barre syndrome
- Infections and diseases causing weakness

Headache

When a patient presents with headache a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Clinical classifications of headache
- Headache with altered neurological and focal signs
- Headache with features suggestive of raised intracranial pressure
- Headache with papilloedema
- Headache with fever
- Headache with extracranial signs
- Headache with no abnormal signs
- Drugs and toxins

Limb Pain and/or Swelling

When a patient presents with limb pain or swelling a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- As a result of injury
- As a result of an underlying medical condition
    - Undifferentiated inflammatory arthritis

Nausea and Vomiting

When a patient with nausea and vomiting a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Understanding of common causes
    - Abdominal
        - Acute Gastroenteritis
        - PUD
        - Pancreatitis
        - Acute hepatitis
        - Bowel obstruction
    - Central Causes (CNS)
    - Poisoning and Medications
- Management
    - Identification of underlying cause
    - Control of symptoms
    - Treating dehydration

Seizure

When a patient presents with seizures a trainee should demonstrate knowledge of the life threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Causes
    - Unprovoked seizures/epilepsy
    - Seizures associated with metabolic, toxic and system illness
    - Cerebral hypoxia
    - Seizures associated with drugs and toxic substances
- Management
    - Emergency supportive treatment
    - Anticonvulsant treatment
    - Work up of first presentation with seizure
    - Understand driving implications for patients with seizures

Diarrhoea

When a patient presents with diarrhoea a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Classification
  - Osmotic
  - Secretary
  - Exudative
- Causes
  - Infectious
  - Inflammatory
  - Ischemic
  - Malignant
- Complications
- Management
  - Acute management
  - Knowledge of appropriate investigations
  - Recognition of associated complications
  - Role of antibiotics
  - When to refer to gastroenterology.

Delirium/Acute confusion

When a patient presents with delirium or acute confusion a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Clinical features of acute confused state- differentiating delirium, dementia, depression and psychosis
- Causes of delirium
- Use of screening instruments for delirium and/or cognitive impairment
- Clinical features of acute delirium
- Clinical features of acute functional psychosis
- Causes of confused state associated with alcohol abuse- delirium tremens, Wernicke's encephalopathy
- Drug induced/related confusion/delirium
- Bacterial meningitis, Viral encephalitis
- Subarachnoid haemorrhage/ subdural haematoma

Social issues

When a patient presents with social issues a trainee should demonstrate knowledge of the appropriate approach to assessment, risk factors, appropriate investigations and necessary management, including indications for urgent referral, for this population.

- Managing medical conditions with an uncooperative patient
- Identifying potential elder abuse
- Recognising substance abuse
- Basic principles of psychiatry
- Recognising an at risk patient

Palpitations

When a patient presents with palpitations a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Anxiety
- Exercise induced
- In relation to pre-existing conditions including
    - Thyroid disease
    - Anaemia
    - Fever
    - Dehydration
    - Low blood sugar
    - Low blood pressure
- Resulting from medications or toxins
- Hormonal changes
- After prior myocardial infarct
- Coronary artery disease
- Other heart problems including congestive heart failure, heart valve or heart muscle problems

Hepatitis or Jaundice

When a patient presents with hepatitis or jaundice a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Incubation and prodromal phase
- Virus-specific
- Toxic hepatitis
- Autoimmune
- Acute liver failure

Gastrointestinal Bleeding

When a patient presents with gastrointestinal bleeding a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Understanding of the initial assessment and stabilization of patients with GI bleeding
- Understanding of haemovigilance and blood transfusion protocols
- Upper gastrointestinal bleeding including
    - Peptic ulcer Disease
    - Gastritis
    - Esophageal varices
    - Mallory-Weiss tears
    - Gastrointestinal cancers
    - Inflammation of the gastrointestinal lining from ingested material
- Lower gastrointestinal bleeding including
    - Diverticular disease
    - Gastrointestinal cancers
    - Inflammatory bowel disease (IBD)
    - Infectious diarrhoea
    - Angiodysplasia
    - Polyps
    - Haemorrhoids and anal fissures

Haemoptysis

When a patient presents with haemoptysis a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Recognition and Management of massive Haemoptysis
- Common causes of haemoptysis
    - Acute and chronic bronchitis
    - Tuberculosis
    - Lung cancer
    - Pneumonia
    - Bronchiectasis
    - Pulmonary Embolus
    - Alveolar Haemorrhage (vasculitis)

Rash

When a patient presents with a rash a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Urticaria
- Anaphylaxis and Angio Oedema
- Erythroderma and exfoliation
- Psoriasis and seborrhaoeic/contact dermatitis
- Purpura and vasculitis
- Blistering eruptions
- Infections and the skin

Acute Back Pain

When a patient presents with acute back pain a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Non-specific acute back pain
- Causes of chronic low back pain
- Neurologic findings in back pain
- Identifying serious aetiologies of back pain e.g.,
    - Cancer
    - Fracture
    - Infection
    - Cauda equina syndrome

Poisoning and Drug Overdose

When a patient presents with poisoning or overdose a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Diagnostic clues in the assessment of overdoses
- Identification of toxic agent (paracetamol, SSRI, benzodiazepines, opiates, amphetamines, TCAD)
- Immediate management
- Mental health assessment and definitive care

Hyper-glycaemia

When a patient presents with hyper-glycaemia a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Symptoms of acute hyper-glycaemia
- Recognition and Management of diabetic ketoacidosis
- Recognition and management of Hyperosmolar non-ketotic hyperglycaemic states

Procedures

Abdominal paracentesis under ultrasound

ECG Interpretation

Emergency DC cardioversion

- Up to date ACLS training to cover:
    - Necessity of Synchronised Shock
    - Starting voltage
    - Safe use of Defibrillator

Emergency care of tracheostomy

- In cases of:
    - Cardiac arrest
    - Dealing with a compromised airway

Femoral venous lines with ultrasound guidance

- Ultrasound guided femoral venous line placement
- Anatomical markers for femoral veins
- Safe cannulation of vein
- Secure line in place/review position on X-ray

Intercostal drain under ultrasound

- Anatomical markings
- Insertion of intercostal tube (small bore seldinger)
- Connection to underwater seal and secure in place
- Assessment and management of drain
- Safe removal of the tube

Joint aspiration

- Sterile field
- Fluid analysis
- Injectable compounds

Lumbar puncture

- Anatomical markers
- Cannula selection
- Safe puncture including appropriate preparation
- Measurement of CSF pressure
- Removal of samples and interpretation of results
- Management of post lumbar puncture headache

Non-invasive Ventilation

- Principles of BIPAP and CPAP
- Monitoring and limitations
- Mask fitting
- Understanding of pressures

Pleural and ascitic fluid aspiration under ultrasound

- Safe approach and role of ultrasound guidance
- Puncture pleural / peritoneal space
- Withdrawal of fluid

General Internal Medicine Procedure Requirements Map

Activity	Requirement	ePortfolio form name
BIPAP/CPAP	Complete 10 procedures and 1 DOPS	Procedures, Skills and DOPS
Emergency DC cardioversion	Complete 10 procedures and 1 DOPS	Procedures, Skills and DOPS
ECG interpretation	Complete 50 procedures and 1 DOPS	Procedures, Skills and DOPS
Joint aspiration	Complete 4 procedures and 1 DOPS	Procedures, Skills and DOPS
Lumbar puncture	Complete 20 procedures and 1 DOPS	Procedures, Skills and DOPS
Abdominal paracentesis – under ultrasound	Complete 4 procedures and 1 DOPS	Procedures, Skills and DOPS
Femoral venous line placement – under ultrasound	Complete 1 procedure and 1 DOPS	Procedures, Skills and DOPS
Intercostal drain Insertion – under ultrasound	Complete 1 procedure	Procedures, Skills and DOPS
Communication e.g. chairing care planning meeting for complex discharge, procedure consent	Complete a DOPS	Procedures, Skills and DOPS

Specialty Section

1.Upper GI Tract

Goal

To be capable of evaluating the significance of symptoms referable to the upper GI tract and providing effective management of patients

Oesophageal diseases including Dysphagia, Reflux and Non-Cardiac Chest Pain

Objective: To be capable of assessing the significance of symptoms such as dysphagia and retrosternal pain, and arranging appropriate investigations with a view to providing effective management.

Outcomes:

1. **Diagnose the cause of chest pain**
   - Elicit history, investigate appropriately and define medical endoscopic, radiological and surgical treatment strategies
   - Recognise symptom complex

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training
- **AND/OR** Direct Observation by end of Year 3 of training

2. **Arrange appropriate investigations**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training
- **AND/OR** Direct Observation by end of Year 3 of training

3. **Be aware of Ph monitoring, motility studies and endoscopy**

Learning Opportunities:
- Teaching Attendance by end of Year 3 of training

4. **Manage cases of oesophageal dysmotility and upper GI disease**

Learning Opportunities:
- Case Based Discussion by end of Year 4/5 of training
- **AND/OR** Direct Observation by end of 4/5 of training

Upper Abdominal Pain/Dyspepsia

Objective: To be able to assess the significance of symptoms of upper abdominal pain and dyspepsia and arrange for appropriate investigation, with a view to providing effective management.

Outcomes:

1. **Identify appropriate investigations for upper abdominal pain**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

2. **Present a differential diagnosis for cases of upper abdominal pain**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training
- **AND/OR** Direct Observation by end of Year 3 of training

3. **Identify success of treatment and recognise complications such as gastric outlet obstruction, perforation and bleeding**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training
- **AND/OR** Direct Observation by end of Year 3 of training

4. **Diagnose and treat dysmotility type symptoms**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training
- **AND** Teaching Attendance by end of Year 3 of training

5. **Investigate gall bladder symptoms and signs and instigate medical or surgical treatment**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training
- **AND** Teaching Attendance by end of Year 3 of training

Nausea and Vomiting

Objective: To be able to assess the significance of symptoms such as dyspepsia, nausea and vomiting in relation to disease of the GI tract, to investigate them appropriately and to manage patients with these symptoms effectively and safely.

Outcomes:

1. **Diagnose and manage upper gastrointestinal symptoms**

Learning Opportunities:

- Case Based Discussion by end of Year 3 of training
- **AND** Minimum Number of cases as agreed with Trainer by end of Year 4/5 of training

2. **Present differential diagnoses for cases presenting with nausea and vomiting**

Learning Opportunities:

- Case Based Discussion by end of Year 3 of training

Upper GI tract Functional Disorders

Please note: information about functional disorders is available also in the subsection "Upper Abdominal Pain/Dyspepsia".

Objectives: To recognise Upper GI functional disorders and approach their treatment.

Outcomes:

1. **Diagnose functional disorders and initiate symptomatic treatment for Upper GI**

Learning Opportunities:
- Observed Practice by end of Year 3 of training
- **AND/OR** Case Based Discussion by end of Year 3 of training

2. **Knowledge of the principles of neurogastroenterology and gastrointestinal motility, including functional conditions**

Learning Opportunities:
- Teaching Attendance by end of Year 3 of training (Interpretation of Ph and motility studies)

3. **Explain psychological factors to a patient and the role of psychological/pharmacological therapies**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

Upper GI Tract Premalignant Conditions

Objectives: To manage premalignant Upper GI lesions to reduce the risk of cancer.

Outcomes:

1. **Make a timely and accurate clinical assessment of patients with premalignant conditions, select appropriate investigations and refer to the specialist multi-disciplinary team**

Learning Opportunities:
- Case Based Discussion in Year 4/5 of training
- **AND/OR** Cases as agreed with Trainer, in Year 4/5 of training

2. **Identify the risk, manage surveillance protocols and be aware of treatments in patients with:**
    - **Barrett's oesophagus**
    - **Atrophic gastritis**
    - **H. pylori infection**
    - **Previous gastric cancer**
    - **Family history of gastric cancer**
    - **Polyposis syndromes**

Learning Opportunities:
- Direct Observation in Year 4/5 of training
- **AND/OR** Cases as agreed with Trainer, in Year 4/5 of training

Gastric and Oesophageal Cancer

Objective: To be competent to recognise presenting features of upper GI cancers and to obtain evidence to confirm the diagnosis: to advise and initiate management appropriate to the patient's needs.

Outcomes:

1. **Assess, investigate and stage upper GI cancers**

Learning Opportunities:
- Direct Observation in Year 4/5 of training
- **AND/OR** Number of cases as agreed with Trainer, in Year 4/5 of training

2. **Communicate the cancer diagnoses as part of a multidisciplinary team**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training
- **AND/OR** Direct Observation by end of Year 3 of training

3. **Work with patient to make decisions regarding treatment modalities for upper GI cancers**

Learning Opportunities:
- Case Based Discussion in Year 4/5 of training
- **AND/OR** Direct Observation in Year 4/5 of training

Upper Gastrointestinal Bleeding

Objective: To be competent to determine the cause and deal with the effects of acute and chronic bleeding from sources in the upper GI tract such as hiatus hernia, peptic ulcer, varices, tumours and vascular abnormalities.

Outcomes:

1. **Diagnose and manage upper gastrointestinal bleeding**

Learning Opportunities:
- Direct Observation by end of Year 1 of training
- **AND** Upper GI bleeding practical skills course by end of Year 4/5 of training

2. **Recognise, assess and manage shocked patients**

Learning Opportunities:
- Direct Observation by end of Year 1 of training
- **AND** Upper GI bleeding practical skills course by end of Year 4/5 of training

3. **Refer for urgent endoscopy for diagnosis and treatment of bleeding**

Learning Opportunities:
- Direct Observation by end of Year 1 of training
- **AND** Upper GI bleeding practical skills course by end of Year 4/5 of training

4. **Perform urgent endoscopy for diagnosis and treatment of bleeding**

Learning Opportunities:
- Direct Observation by end of Year 3 of training
- **AND** Upper GI bleeding practical skills course by end of Year 4/5 of training

5. **Undertake endoscopic diagnosis and recommend treatment with thermal or other methods as appropriate for bleeding from vascular anomalies**

Learning Opportunities:
- Direct Observation by end of Year 4/5 of training
- **OR** Case Based Discussion by end of Year 4/5 of training
- **AND** Upper GI bleeding practical skills course by end of Year 4/5 of training

Clinical and Laboratory Tests of GI Structure and Function

Objective: To be competent in the selection, application and correct interpretation of tests of GI structure and their function which are appropriate to the patient's needs.

Outcomes:

1. **Chose oesophageal, gastric and anorectal function tests appropriate to the patient and interpret results**
    - **Including oesophageal pH monitoring, oesphageal and anorectal motility/manometry, gastric emptying studies**

Learning Opportunities:
- Direct Observation by end of Year 3 of training
- **AND** Teaching Attendance by end of Year 3 of training (eLearning for data analysis)

2. **Choose appropriate tests for malabsorption and interpret results**
    - **Including SeHCAT, lactose tolerance test, H2 breath test, faecal elastase**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

3. **Choose appropriate tests for inflammation and interpret results**
    - **Including serological and nuclear medicine testing e.g. Tc WBC scans, PET scans, interpretation of FCP, CRP, and other inflammatory markers**

Learning Opportunities:
- Direct Observation by end of Year 3 of training
- **OR** Case Based Discussion by end of Year 3 of training
- **AND** Patients Hours as agreed with Trainer by end of Year 3 of training

4. **Select and order appropriate radiological investigations including ultrasound**

Learning Opportunities:
- Case Based Discussion by end of Year 1 of training
- **AND** Number of cases as agreed with Trainer by end of Year 3 of training

5. **Basic interpretation of plain x-rays of abdomen, barium studies of GI tract CT, MRI and ultrasound, endoscopic ultrasound (EUS)**

Learning Opportunities:
- Direct Observation by end of Year 4/5 of training
- **OR** Case Based Discussion by end of Year 4/5 of training
- **AND** Teaching Attendance by end of Year 4/5 of training

Pancreas and Biliary Tree

Please note: further training experience in Pancreas is available in the Hepatology, Hepatology SIY and Endoscopy sections of this curriculum.

Objectives: Diagnose and manage acute and chronic pancreatitis.

Outcomes:

1. **Investigate pancreatic structure and function and instigate medical or surgical treatment**

Learning Opportunities:
- Teaching Attendance in Year 1 of training
- **AND** Case Based Discussion by end of Year 3 of training

2. **Investigate a patient with severe abdominal pain and increased amylase**

Learning Opportunities:
- Direct Observation by end of Year 1 of training
- **AND/OR** Case Based Discussion by end of Year 1 of training

3. **Assess the severity of acute pancreatitis and its potential complications**

Learning Opportunities:
- Direct Observation by end of Year 3 of training
- **AND/OR** Case Based Discussion by end of Year 3 of training

4. **Manage acute pancreatitis, including indications for urgent endoscopic retrograde cholangiopancreatography (ERCP)**

Learning Opportunities:
- Direct Observation in Year 4/5 of training
- **AND/OR** Cases as agreed with Trainer, in Year 4/5 of training

5. **Diagnose and manage recurrent acute and chronic pancreatitis**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training
- **AND/OR** Cases as agreed with Trainer, by end of Year 3 of training

6. **Assess the appropriateness and timing of ERCP and associated procedures and alternatives e.g. Endoscopic Ultrasound**

Learning Opportunities:
- Teaching Attendance in Year 4/5 of training
- **AND** Case Based Discussion in Year 4/5 of training

7. **Diagnose and initiate management of a patient presenting with a pancreatic mass**

Learning Opportunities:

- Direct Observation in Year 4/5 of training
- **AND/OR** Case Based Discussion in Year 4/5 of training

8. Discuss the management options for treatment of pancreatic adenocarcinoma

Learning Opportunities:

- Case Based Discussion in Year 4/5 of training

Assessment Map for *Upper GI Tract* Goal

UPPER GI TRACT			
Sections and Outcomes	***Learning Opportunity/ Assessment Method***	***Assessment Period***	***ePortfolio forms names***
Oesophageal Diseases including Dysphagia, Reflux and Non-Cardiac Chest Pain			
Diagnose the cause of chest pain	CBD **AND/OR** Direct Observation	By end of year 3	CBD, Feedback Opportunity
Arrange appropriate investigations	CBD **AND/OR** Direct Observation	By end of year 3	CBD, Feedback Opportunity
Be aware of Ph monitoring, motility studies and endoscopy	Teaching Attendance	By end of year 3	Teaching Attendance
Manage cases of oesophageal dysmotility and upper GI disease	CBD **AND/OR** Direct Observation	In year 4-5	CBD, Feedback Opportunity
Upper Abdominal Pain/Dyspepsia			
Identify appropriate investigations for upper abdominal pain	CBD	By end of year 3	CBD
Present a differential diagnosis for cases of upper abdominal pain - Identify success of treatment and recognise complications such as gastric outlet obstruction, perforation and bleeding	CBD **AND/OR** Direct Observation	By end of year 3	CBD, Feedback Opportunity
Identify success of treatment and recognise complications such as gastric outlet obstruction, perforation and bleeding	CBD **AND/OR** Direct Observation	By end of year 3	CBD, Feedback Opportunity
Diagnose and treat dysmotility type symptoms	CBD **AND** Teaching Attendance	By end of year 3	CBD, Teaching Attendance
Investigate gall bladder symptoms and signs and instigate medical or surgical treatment	CBD **AND** Teaching Attendance	By end of year 3	CBD, Teaching Attendance
Nausea and Vomiting			
Diagnose and manage upper gastrointestinal symptoms	CBD **AND** Number of Cases	By end of Year 3 **AND** by year 4-5	CBD, Cases
Present differential diagnoses for cases presenting with nausea and vomiting	CBD	By end of year 3	CBD
Upper GI Tract Functional Disorders			
Diagnose functional disorders and initiate symptomatic treatment for Upper GI	Direct Observation **AND/OR** CBD	By end of year 3	Feedback Opportunity, CBD
Knowledge of the principles of neurogastroenterology and gastrointestinal motility, including functional conditions	Teaching Attendance	By end of year 3	Teaching Attendance
Explain psychological factors to a patient and the role of psychological/pharmacological therapies	CBD	By end of year 3	CBD
Upper GI Tract Premalignant Conditions			
Make a timely and accurate clinical assessment of patients with premalignant conditions, select appropriate investigations and refer to the specialist multi-disciplinary team	CBD **AND/OR** Number of Cases	In year 4-5	CBD, Cases
Identify the risk, manage surveillance protocols and be aware of treatments in patients with: • Barrett's oesophagus • Atrophic gastritis • H. pylori infection • Previous gastric cancer • Family history of gastric cancer • Polyposis syndromes	Direct Observation **AND/OR** Number of Cases	In year 4-5	Feedback Opportunity, Cases
Gastric and Oesophageal Cancer			
Assess, investigate and stage upper GI cancers	Number of Cases **AND/OR** Direct Observation	In year 4-5	Cases, Feedback Opportunity
Communicate the cancer diagnoses as part of a multidisciplinary team	CBD **AND/OR** Direct Observation	By end of year 3	CBD, Feedback Opportunity
Work with patient to make decisions regarding treatment modalities for upper GI cancers	CBD **AND/OR** Direct Observation	In year 4-5	CBD, Feedback opportunity
Upper Gastrointestinal Bleeding			
Diagnose and manage upper gastrointestinal bleeding	Direct Observation **AND** teaching attendance	By end of year 1 **AND** In year 4-5	Feedback opportunity, Teaching Attendance
Recognise, assess and manage shocked patients	Direct Observation **AND** teaching attendance	By end of year 1 **AND** In year 4-5	Feedback opportunity, Teaching Attendance
Refer for urgent endoscopy for diagnosis and treatment of bleeding	Direct Observation **AND** teaching attendance	By end of year 1 **AND** In year 4-5	Feedback opportunity, Teaching Attendance
Perform urgent endoscopy for diagnosis and treatment of bleeding	Direct Observation **AND** teaching attendance	By end of year 3 **AND** In year 4-5	Feedback opportunity, Teaching Attendance

Undertake endoscopic diagnosis and recommend treatment with thermal or other methods as appropriate for bleeding from vascular anomalies	Direct Observation **AND/OR** CBD **AND** teaching attendance	In year 4-5	Feedback opportunity, CBD, Teaching Attendance
Clinical and Laboratory Tests of GI and Function			
Chose oesophageal, gastric and anorectal function tests appropriate to the patient and interpret results - Including oesophageal pH monitoring, oesphageal and anorectal motility/manometry, gastric emptying studies	Direct Observation **AND** Teaching Attendance	By end of year 3	Feedback opportunity, Teaching Attendance
Choose appropriate tests for malabsorption and interpret results - Including SeHCAT, lactose tolerance test, H2 breath test, faecal elastase	CBD	By end of year 3	CBD
Choose appropriate tests for inflammation and interpret results - Including serological and nuclear medicine testing e.g. Tc WBC scans, PET scans, interpretation of FCP, CRP, and other inflammatory markers	CBD **AND/OR** Direct Observation **AND** Min Patients Hrs	By end of year 3	CBD, Feedback Opportunity, Clinical Activities
Select and order appropriate radiological investigations including ultrasound	CBD **AND** Number of Cases	By end of year 1 **AND** by end of year 3	CBD, Cases
Basic interpretation of plain x-rays of abdomen, barium studies of GI tract CT, MRI and ultrasound, endoscopic ultrasound (EUS)	CBD **AND/OR** Direct Observation **AND** Teaching Attendance	In year 4-5	CBD, Feedback Opportunity Teaching Attendance
Pancreas and Biliary tree			
Investigate pancreatic structure and function and instigate medical or surgical treatment	Teaching attendance **AND** CBD	By end of year 1 **AND** by end of year 3	Teaching attendance, CBD
Investigate a patient with severe abdominal pain and increased amylase	Direct Observation **AND/OR** CBD	Year 1	Feedback opportunity, CBD
Assess the severity of acute pancreatitis and its potential complications	Direct Observation **AND/OR** CBD	By end of year 3	Feedback opportunity, CBD
Manage acute pancreatitis, including indications for urgent endoscopic retrograde cholangiopancreatography (ERCP)	Direct Observation **AND/OR** Number of Cases	In year 4-5	Feedback opportunity, Cases
Diagnose and manage recurrent acute and chronic pancreatitis	CBD **AND/OR** Number of Cases	By end of year 3	CBD, Cases
Assess the appropriateness and timing of ERCP and associated procedures and alternatives e.g. Endoscopic Ultrasound	Teaching attendance **AND** CBD	In year 4-5	Teaching attendance, CBD
Diagnose and initiate management of a patient presenting with a pancreatic mass	Direct Observation **AND/OR** CBD	In year 4-5	Feedback opportunity, CBD
Discuss the management options for treatment of pancreatic adenocarcinoma	CBD	In year 4-5	CBD

2.Absorption and Nutrition

Goals

To understand the anatomy and physiology of digestion and intestinal absorption, and the pathological processes that may interfere.

To be competent to recognise, assess and manage the underlying cause, and of providing an appropriate response to the patient's needs.

Malabsorption, Anorexia and Weight Loss

Objective: To be able to recognise the potential significance of steatorrhoea and other features of malabsorption, anorexia and weight loss; to investigate the cause and to plan management which is appropriate.

Outcomes

1. **Investigate symptom patterns in weight loss**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

2. **Diagnose and manage patients with malabsorption, anorexia and weight loss**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

3. **Recognise anorexia nervosa and eating disorders and arrange appropriate investigations**

Learning Opportunities:
- Teaching Attendance by end of Year 4/5 of training

Short Bowel Syndrome Ileostomy and Intestinal Failure

Objective: To understand the fluid, electrolyte and metabolic consequences and to be capable of providing appropriate supporting measures

Outcomes

1. **Detect fluid and electrolyte deficiency, malnutrition and micronutrient deficiency**

Learning Opportunities:

- Number of cases as agreed with Trainer by end of Year 3 of training

2. **Investigate malnutrition and plan treatment**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Management of ileostomy complications**

Learning Opportunities:

- Case Based Discussion by end of Year 3 of training

Evaluation of Anaemia

Objective: To recognise different types of anaemia, understand their pathogenesis and be capable of determining the cause and arranging treatment

Outcomes

1. **Diagnose and manage anaemia**

Learning Opportunities:

- Case Based Discussion by end of Year 3 of training

2. **Recognise iron deficiency, plan appropriate GI investigations, and give necessary treatment**

Learning Opportunities:

- Number of cases as agreed with Trainer by end of Year 3 of training

3. **Be able to recognise alternative causes of anaemia, confirm by investigation and take necessary action**

Learning Opportunities:

- Case Based Discussion by end of Year 3 of training

Nutritional Support

Objective: To understand energy homeostasis, under nutrition and be capable of determining nutritional status, applying that knowledge and appropriate skills to providing additional nutritional support, when that is in the patients' best interests

Outcomes

1. **Be able to assess malnutrition**

Learning Opportunities:
- Direct Observation by end of Year 3 of training

2. **Choose appropriate route for nutritional support, insert appropriate feeding lines, supervise their use and prescribe appropriate IV and enteral feeding regime**

Learning Opportunities:
- Number of cases as agreed with Trainer by end of Year 3 of training

3. **Determine when insert PEG tube is appropriate**
    - **Manage PEG and its complications**

Learning Opportunities:
- Direct Observation by end of Year 4/5 of training

Assessment Map for *Absorption and Nutrition* Goal

ABSORPTION AND NUTRITION			
Sections and Outcomes	***Learning Opportunity/ Assessment Method***	***Assessment Period***	***ePortfolio forms names***
Malabsorption, Anorexia and Weight Loss			
Investigate symptom patterns in weight loss	CBD	By end of year 3	CBD
Diagnose and manage patients with malabsorption, anorexia and weight loss	CBD	By end of year 3	CBD
Recognise anorexia nervosa and eating disorders and arrange appropriate investigations	Teaching Attendance	In year 4-5	Teaching Attendance
Investigate symptom patterns in weight loss			
Detect fluid and electrolyte deficiency, malnutrition and micronutrient deficiency	Number of Cases	By end of year 3	Cases
Investigate malnutrition and plan treatment	Number of Cases	By end of year 3	Cases
Management of ileostomy complications	CBD	By end of year 3	CBD
Evaluation of Anaemia			
Diagnose and manage anaemia	CBD	By end of year 3	CBD
Recognise iron deficiency, plan appropriate GI investigations, and give necessary treatment	Number of Cases	By end of year 3	Cases
Be able to recognise alternative causes of anaemia, confirm by investigation and take necessary action	CBD	By end of year 3	CBD
Nutritional Support			
Be able to assess malnutrition	Direct Observation	By end of year 3	Feedback Opportunity
Choose appropriate route for nutritional support, insert appropriate feeding lines, supervise their use and prescribe appropriate IV and enteral feeding regime	Number of Cases	By end of year 3	Cases
Determine when inserting PEG feeding tube is appropriate – Manage PEG and its complications	Direct Observation	In year 4-5	Feedback Opportunity

3.Lower GI Tract

Goal

To be capable of evaluating the significance of symptoms referable to the lower GI tract and providing effective management of patients.

Abdominal Pain

Objective: To be able to differentiate the various causes of acute, recurrent and chronic abdominal pains; to arrange and interpret investigations appropriately and interpret the results and to recommend treatment

Outcomes

1. **Investigate, diagnose, and manage abdominal pain**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

2. **Elicit and interpret abdominal signs including an acute abdomen, order investigations correctly and recommend medical or surgical treatment**

Learning Opportunities:
- Direct Observation by end of Year 1 of training

3. **Treat and refer abdominal pain**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

4. **Engage in a multidisciplinary approach to pain**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

Change in Bowel Habit and related Functional Disorders

Objective: To recognise symptoms of colonic dysfunction and be able to differentiate between the potential causes using appropriate examinations and investigations, in order to arrange or recommend treatment.

Outcomes

1. **Investigate and differentiate functional and non-functional causes of change in bowel habits**

Learning Opportunities:
- Cases by end of Year 3 of training

2. **Advice on use of diet, laxatives and biofeedback as necessary**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

3. **Investigate with blood tests, stool examination, endoscopy and radiology as appropriate**

Learning Opportunities:
- Direct Observation by end of Year 3 of training

4. **Differentiate infective diarrhoea (viral, bacterial and protozoal) from secretory and osmotic diarrhoea (inflammatory bowel disease, neoplasia)**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

5. **Order and interpret investigations and give appropriate specific or symptomatic treatment including use of antispasmodics, dietary fibre and constipating agents**

Learning Opportunities:
- Cases by end of Year 3 of training

6. **Explain IBS and discuss the role of symptomatic treatments for IBS to a patient**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

7. **Describe dietary precipitants of symptoms to a patient and prescribe dietary changes**

Learning Opportunities:

- Case Based Discussion by end of Year 3 of training

8. Explain psychological factors to a patient and the role of psychological/pharmacological therapies

Learning Opportunities:

- Case Based Discussion by end of Year 3 of training

Rectal Bleeding, Perianal Fistulae and Anorectal Disorders

Objective: To recognise different causes of rectal bleeding and of perianal fistulae, understand their pathogenesis, arrange appropriate investigation and treatment.

Outcomes

1. **Manage rectal bleeding**
    - **be able to examine patients with rectal bleeding, flexible sigmoidoscopy, colonoscopy and undertake appropriate action**

Learning Opportunities:

- Number of cases as agreed with Trainer, by end of Year 3 of training

2. **Manage perianal fistula, hemorrhoids, fissures**
    - **be able to investigate including use of MRI, give medical treatment and liaise with surgical colleagues when necessary**

Learning Opportunities:

- Case Based Discussion by end of Year 3 of training

Colorectal Cancer and Premalignant lesions in Lower GI

Objective: To be competent to recognize presenting features of lower GI cancers and to obtain evidence to confirm the diagnosis: to advise and initiate treatment which is appropriate to the patient's needs

Outcomes

1. **Assess, investigate and stage lower GI cancers and make appropriate decisions regarding treatment**

Learning Opportunities:
- Cases as agreed with Trainer, by end of Year 3 of training

2. **Diagnose and manage colonic polyps**

Learning Opportunities:
- Cases as agreed with Trainer, in Year 4/5 of training

3. **Diagnose and manage familial variants of colon cancer, including surveillance for extracolonic malignancies**

Learning Opportunities:
- Case Based Discussion, in Year 4/5 of training

4. **Identify potential genetic cancer syndrome and appropriate referral for genetic testing and surveillance**

Learning Opportunities:
- Case Based Discussion, in Year 4/5 of training

5. **Participate in a multidisciplinary meeting to develop a management plan**

Learning Opportunities:
- Cases as agreed with Trainer, by end of Year 3 of training

Assessment Map for *Lower GI Tract* Goal

LOWER GI TRACT			
Sections and Outcomes	***Learning Opportunity/ Assessment Method***	***Assessment Period***	***ePortfolio forms names***
Abdominal Pain			
Investigate, diagnose, and manage abdominal pain	CBD	By end of year 3	CBD
Elicit and interpret abdominal signs including an acute abdomen, order investigations correctly and recommend medical or surgical treatment	Direct Observation	Year 1	Feedback Opportunity
Treat and refer abdominal pain	CBD	By end of year 3	CBD
Engage in a multidisciplinary approach to pain	CBD	By end of year 3	CBD
Change in Bowel Habits and related Functional Disorders			
Investigate and differentiate functional and non-functional causes of change in bowel habits	Number of Cases	By end of year 3	Cases
Advice on use of diet, laxatives and biofeedback as necessary	CBD	By end of year 3	CBD
Investigate with blood tests, stool examination, endoscopy and radiology as appropriate	Direct Observation	By end of year 3	Feedback Opportunity
Differentiate infective diarrhoea (viral, bacterial and protozoal) from secretory and osmotic diarrhoea (inflammatory bowel disease, neoplasia)	CBD	By end of year 3	CBD
Order and interpret investigations and give appropriate specific or symptomatic treatment including use of antispasmodics, dietary fibre and constipating agents	Number of Cases	By end of year 3	Cases
Explain IBS and discuss the role of symptomatic treatments for IBS to a patient	CBD	By end of year 3	CBD
Describe dietary precipitants of symptoms to a patient and prescribe dietary changes	CBD	By end of year 3	CBD
Explain psychological factors to a patient and the role of psychological/pharmacological therapies	CBD	By end of year 3	CBD
Rectal Bleeding, Perianal Fistulae and Anorectal Disorders			
Manage rectal bleeding - be able to examine patients with rectal bleeding, flexible sigmoidoscopy, colonoscopy and undertake appropriate action	Number of Cases	By end of year 3	Cases
Manage perianal fistula, haemorrhoids, fissures - be able to investigate including use of MRI, give medical treatment and liaise with surgical colleagues when necessary	CBD	By end of year 3	CBD
Colorectal Cancer and Premalignant Lesions			
Assess, investigate and stage lower GI cancers and make appropriate decisions regarding treatment modalities	Number of Cases	By end of year 3	Cases
Diagnose and manage colonic polyps	Number of Cases	In year 4-5	Cases
Diagnose and manage familial variants of colon cancer, including surveillance for extracolonic malignancies	CBD	In year 4-5	CBD
Identify potential genetic cancer syndrome and appropriate referral for genetic testing and surveillance	CBD	In year 4-5	CBD
Participate in a multidisciplinary meeting to develop a management plan	Number of Cases	By end of year 3	Cases
Assess, investigate and stage lower GI cancers and make appropriate decisions regarding treatment modalities	Number of Cases	By end of year 3	Cases

4.Inflammatory Bowel Disease (IBD)

Goal

To have an applied knowledge of the aetiology of IBD, diagnosis and differentials, and wide experience of management strategies available for IBD including knowledge of medical therapies, surgical options, and the importance of a multidisciplinary patient care.

General Understanding of IBD and its diagnosis

Objective: to understand the pathogenesis and natural history of IBD and the principles underlying diagnosis and management

Outcomes

1. **Diagnose UC and CD**

Learning Opportunities:
- Number of cases as agreed with Trainer, by end of Year 3 of training
- **AND/OR** Case Based Discussion by end of Year 3 of training

2. **Order and interpret different diagnostic modalities including serology, endoscopy, histopathology, stool analysis and radiology for establishing a diagnosis of IBD and providing assessments of patients throughout their disease course**

Learning Opportunities:
- Number of cases as agreed with Trainer, by end of Year 3 of training
- **AND/OR** Case Based Discussion by end of Year 3 of training

3. **Communicate effectively with patients, educating them about their disease course and potential treatments**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

4. **Actively engage with the multi-disciplinary team (MDT) and involves members of the MDT including IBD nurse and surgeon in a timely manner to maximize patient care.**

Learning Opportunities:
- Number of cases as agreed with Trainer, by end of Year 3 of training
- **AND/OR** Cases presented at MDT Meeting by end of Year 3 of training

Treatment Options and individualised care

Objective: to understand and discuss the various treatment options with patients and provide individualised patient care

Outcomes

1. **Prescribe appropriate therapy, demonstrating an applied knowledge of up-to-date evidence and guidelines**

Learning Opportunities:
- Number of cases as agreed with Trainer, by end of Year 3 of training

2. **Recognise the need for, and make appropriate changes to, treatment escalation or stopping medical therapy**

Learning Opportunities:
- Number of cases as agreed with Trainer, by end of Year 3 of training

3. **Recognise the urgency of treating acutely sick patients, including early multidisciplinary team involvement, particularly surgeons**

Learning Opportunities:
- Direct Observation by end of Year 3 of training

4. **Clearly communicate the clinical situation and treatment options to patients and family**

Learning Opportunities:
- Case Based Discussion in Year 4/5 of training

5. **Regularly screen for and manage disease and treatment related side effects including infections, bone mineralisation and the psychosocial complications of IBD and its treatments**

Learning Opportunities:
- Case Based Discussion in Year 4/5 of training

IBD Multidisciplinary Team

Objective: to understand the importance of the MDT in decision making to maximise the quality of patient care

Outcomes

1. **Discuss cases with other specialties including surgeons, and other healthcare professionals**

Learning Opportunities:
- Direct Observation by end of Year 3 of training

2. **Participate in an IBD MDT effectively**

Learning Opportunities:
- Number of cases as agreed with Trainer, by end of Year 3 of training

3. **Demonstrate effective teamwork in IBD patient care**

    - **Relates well with all other healthcare professionals involved in IBD patient care, especially the IBD Nurse Specialist**
    - **Shows commitment to team-working and shows understanding of the roles of other healthcare professionals with courtesy**
    - **Explains the role of the MDT and the decision-making process to the patient clearly and sympathetically**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

Surgery and IBD

Objective: to understand the indications for surgery in IBD and the importance of medical-surgical liaison in good decision-making

Outcomes

1. **Make surgical referrals for the appropriate operation**

Learning Opportunities:

- Number of cases as agreed with Trainer, by end of Year 3 of training

IBD and Nutrition

Objective: to be aware of the nutritional considerations relating to patients with IBD.

Outcomes

1. **Elicit a dietary history in a patient with IBD**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

2. **Liaise with dieticians and other healthcare professionals to ensure that all patients have appropriate nutritional support**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

3. **Be able to use enteral and parenteral nutrition appropriately to support patients with IBD**

Learning Opportunities:
- Case Based Discussion in Year 4/5 of training

Reproductive Health, Sexual Health, Pregnancy and Lactation

Objective: to understand the effect of IBD and its treatment on sexual health, reproductive health, pregnancy and lactation.

Outcomes

1. **To describe treatment amendments required during pregnancy and lactation**

Learning Opportunities:

- Number of cases as agreed with Trainer in Year 4/5 of Training

2. **To provide appropriate counselling regarding the impact of disease activity, treatment and surgery on fertility, pregnancy and lactation for IBD patients and their partner**

Learning Opportunities:

- Number of cases as agreed with Trainer in Year 4/5 of Training

Psychosocial Aspects of IBD

Objective: to understand the psychosocial impact of living with IBD

Outcomes

1. **To demonstrate patient interview skills to ascertain the psychosocial impact for patients living with IBD and supports patients appropriately to minimize interruptions to their IBD care**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

2. **To refer for psychological assessments where indicated**

Learning Opportunities:
- Case Based Discussion by end of Year 3 of training

Transitional IBD care -site dependent (desirable)

Objective: to understand the issues facing adolescents with IBD and the transition to adult services.

Outcomes

1. **Discuss the treatment of IBD with the patient and parents in an approachable and appropriate way, respecting the primary duty to the patient**

Learning Opportunities:

- Number of cases as agreed with trainer in Year 4/5 of training

2. **Take over from pediatricians the care of young people with IBD and manage their ongoing IBD care**

Learning Opportunities:

- Case Based Discussion in Year 4/5 of training

Assessment Map for *Inflammatory Bowel Disease* Goal

Inflammatory Bowel Disease (IBD)			
Sections and Outcomes	***Learning Opportunity/ Assessment Method***	***Assessment Period***	***ePortfolio forms names***
General Understanding of IBD and its Diagnosis			
Diagnose UC and CD	Number of Cases **AND/OR** CBD	By end of year 3	Cases, CBD
Order and interpret different diagnostic modalities including serology, endoscopy, histopathology, stool analysis and radiology for establishing a diagnosis of IBD and providing assessments of patients throughout their disease course	Number of Cases **AND/OR** CBD	By end of year 3	Cases, CBD
Communicate effectively with patients, educating them about their disease course and potential treatments	CBD	By end of year 3	CBD
Actively engage with the multi-disciplinary team (MDT) and involve members of the MDT including IBD nurse and surgeon in a timely manner to maximize patient care.	Number of Cases **AND/OR** Cases presented at MDT	By end of year 3	Cases
Treatment Options and Individualised Care			
Prescribe appropriate therapy, demonstrating an applied knowledge of up to date evidence and guidelines	Number of Cases	By end of year 3	Cases
Recognise the need for, and make appropriate changes to, treatment escalation or stopping medical therapy	Number of Cases	By end of year 3	Cases
Recognise the urgency of treating acutely sick patients, including early multidisciplinary team involvement, particularly surgeons	Direct Observation	By end of year 3	Feedback Opportunity
Clearly communicate the clinical situation and treatment options to patients and family	CBD	In year 4-5	CBD
Regularly screen for and manage disease and treatment related side effects including infections, bone mineralisation and the psychosocial complications of IBD and its treatments	CBD	In year 4-5	CBD
IBD and Multidisciplinary Team			
Discuss cases with other specialties including surgeons, and other healthcare professionals	Direct Observation	By end of year 3	Feedback Opportunity
Participate in an IBD MDT effectively	Number of Cases	By end of year 3	Cases
Demonstrate effective teamwork in IBD patient care _Relates well with all other healthcare professionals involved in IBD patient care, especially the IBD Nurse Specialist_Shows commitment to team-working and shows understanding of the roles of other healthcare professionals with courtesy_Explains the role of the MDT and the decision making process to the patient clearly and sympathetically	CBD	By end of year 3	CBD
Surgery and IBD			
Make surgical referrals for the appropriate operation	Number of Cases	By end of year 3	Cases
IBD and Nutrition			
Elicit a dietary history in a patient with IBD	CBD	By end of year 3	CBD
Liaise with dieticians and other healthcare professionals to ensure that all patients have appropriate nutritional support	CBD	By end of year 3	CBD
Be able to use enteral and parenteral nutrition appropriately to support patients with IBD	CBD	In year 4-5	CBD
Reproductive Health, Sexual Health, Pregnancy and Lactation			
To describe treatment amendments required during pregnancy and lactation	Number of Cases	In year 4-5	Cases
To provide appropriate counselling regarding the impact of disease activity, treatment and surgery on fertility, pregnancy and lactation for IBD patients and their partner	Number of Cases	In year 4-5	Cases
Psychosocial Aspects of IBD			
To demonstrate patient interview skills to ascertain the psychosocial impact for patients living with IBD and supports patients appropriately to minimize interruptions to their IBD care	CBD	By end of year 3	CBD
To refer for psychological assessments where indicated	CBD	By end of year 3	CBD
Transitional IBD Care - Site dependent (desirable)			
Discuss the treatment of IBD with the patient and parents in an approachable and appropriate way, respecting the primary duty to the patient	Number of Cases	In year 4-5	Cases
Take over from pediatricians the care of young people with IBD and manage their ongoing IBD care	CBD	In year 4-5	CBD

5.Hepatology

Goal

To understand the pathophysiology of hepatic dysfunction, its investigation, assessment, differential diagnosis, likely cause and contributing factors (see also Hepatology – Special Interest Year)

Cirrhosis

Objective: Be able to care for patients with compensated and decompensated cirrhosis in the community, outpatient and hospital setting

Outcomes

1. **Know how to follow up patients with compensated cirrhosis, screen for complications such as HCC and adjust care and advice according to disease progression**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training
- **AND/OR** Case Based Discussion by end of Year 3 of training

2. **Identify patients with ascites and know when to institute a low salt diet, diuresis, paracentesis and shunt procedures or transplant as required**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training
- **AND/OR** Case Based Discussion by end of Year 3 of training

3. **Know how to recognise, diagnose and treat spontaneous bacterial peritonitis**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

4. **Know when to screen for varices and be familiar with up to date primary and secondary prophylaxis of bleeding**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

5. **Recognise early symptoms and signs of hepatic encephalopathy and work with the patient and family to treat appropriately and give advice with regard to lifestyle such as not driving**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

Portal Hypertension and Complications

Objective: To understand the pathophysiology and management of portal hypertensive complications

Outcomes

1. **To understand the pathophysiology, natural history and prognosis of portal hypertension**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **To evaluate and diagnose portal hypertension, including interpretation of HVPG measurements**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **To know the appropriate therapeutic management of portal hypertension and its complications, including common complications such as ascites, encephalopathy, bleeding varices and HRS but also less common complications such as hepatopulmonary and portopulmonary syndromes**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

NAFLD

Objective: To be able to assess, investigate, and diagnose patients with NAFLD and determine suitability for treatment and further management

Outcomes:

1. **Demonstrate an ability to take a relevant history, perform examination and organise appropriate investigations**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Use and interpret non-invasive algorithms to assess hepatic fibrosis**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Select appropriate techniques for evaluation of NASH and fibrosis**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

4. **Select appropriate monitoring to assess disease progression**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

5. **Discuss when liver biopsy is appropriate**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

6. **Identify patients who are appropriate candidates for liver transplant assessment**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

7. **Provide advice and education to families, showing an appreciation of the potential difficulties that may arise**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

Hepatitis B

Objective: To be able to assess, investigate, diagnose, and treat patients with chronic HBV infection.

Outcomes:

1. **Identify patients with acute hepatitis B and ascertain the severity of their illness and appropriate intervention**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

2. **Discuss the different phases of chronic hepatitis B infection with a clear understanding of serological results**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

3. **Advise on the risks of transmission to close contacts**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

4. **Understand and discuss the indications for therapy in both HBeAg positive and HBeAg negative hepatitis and the potential influence of viral load on decision to treat**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

Hepatitis C

Objective: To be able to assess, investigate, diagnose, and treat patients with chronic HCV infection.

Outcomes

1. **Define chronic hepatitis C and describe its natural history and prognosis**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Demonstrate the ability to take a relevant history and organise appropriate investigations**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Appreciates the social stigma attached to hepatitis C and the psychosocial problems often encountered in considering therapy and makes appropriate referral to psychiatric and addiction services**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

Hepatitis A and E

Objective: To consider these diagnoses in patients who present with acute jaundice, investigate and interpret serology and advise appropriate follow up.

Outcomes

1. **Diagnose and advise with regard to acute hepatitis A and E infections**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Liase with public health as appropriate to enable them to contact trace and advise**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Recognise and advise of the treatment of prolonged cholestatis which can be associated with hepatitis A**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

4. **Be familiar with the role of and indications for vaccination against hepatitis A**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

5. **Understand the importance of Hepatitis E infection in vulnerable populations**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

6. **Recognise chronic manifestations of HEV infection and how this may require therapy in certain Number of cases**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

Alcohol related liver disease

Objective: To be able to recognise patients with liver disease due to alcohol, be able to assess the severity of alcohol related liver disease, advise and treat appropriately.

Outcomes

1. **Demonstrate ability to take a detailed alcohol history, perform examination and organise appropriate investigations**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

2. **Understand and demonstrate the clinical evidence and results of investigations for the range of liver disease due to alcohol, including fatty liver, alcoholic hepatitis and cirrhosis**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

3. **Demonstrate ability to look after inpatients with alcoholic hepatitis and manage complications such as kidney injury and need for escalation of therapy**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

4. **Select appropriate patients for liver transplant assessment**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

5. **Know when to refer patients with ALD to other disciplines such as liaison psychiatry, social work and other medical disciplines as may be required, e.g., neurology or cardiology**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

6. **Understand how alcohol can impact and be a cofactor with other liver diseases and know how to advise and treat accordingly**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

7. **Work with patients and their supports to devise a personalised plan for their care including appropriate medical care if they were to deteriorate**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

Haemochromatosis

Objective: To be able to assess, investigate, and diagnose patients with haemochromatosis and determine requirement for venesection and further management.

Outcomes

1. **Identify patients who fulfil the criteria for a diagnosis of HH**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

2. **Know when it is appropriate to request genetics for haemochromatosis**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

3. **Discuss the prevalence of haemochromatosis and the clinical significance of inherited mutations**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

4. **Investigate for liver disease, diabetes, cardiac and joint disease**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

5. **Recognise that patients with cirrhosis due to HH require life-long follow up and screening for HCC and other complications of cirrhosis**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

6. **Perform venesection safely and effectively, and identify patients who are appropriate candidates for phlebotomy**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

7. **Devise local protocols and referral pathways for safe and effective venesection and follow up of patients with HH**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

8. **Recognise the many causes of a high ferritin in patients who may not have underlying liver disease and order appropriate investigations and iron studies to differentiate hyperferritinaemia due to inflammation, or other liver diseases or causes**

Learning Opportunities:
- Number of cases as agreed with trainer by end of Year 3 of training

9. Know how to advise patient and relatives about appropriate diet and alcohol intake

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

10. Demonstrate an ability to explain requirement for family screening

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

Autoimmune Liver Disease

Objective: Be able to accurately investigate, diagnose and treat patients with autoimmune hepatitis (AIH) and overlap syndromes.

Outcomes

1. **Interpret results of antibody and other serological tests consistent with a diagnosis of AIH**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Know when to biopsy patients and how to interpret histology consistent with AIH**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Treat patients with AIH for their liver disease and other common complications such as fatigue, joint pains and osteoporosis**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

4. **Have a knowledge of and know side effects of all drugs commonly prescribed for AIH especially steroids, including budesonide, azathioprine, MMF, and tacrolimus**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

Cholestatic Liver Disease

Objective: To recognize patients with biliary tract pathology and generate an appropriate diagnostic and therapeutic plan for patients with PBC and PSC, and other biliary disease, and treat both the disease and complications

Outcomes

1. **Discuss what investigations are required to diagnose PBC: serology, imaging and when biopsy may be required**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Discuss with medical therapy with ursodeoxycholic acid, how to optimise dosage and when to move to alternative options such as obetocholic acid or fibrates if response to ursodeoxycholic acid alone is unsatisfactory**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Know when to request MRCP and liver biopsy in the diagnosis of PSC and subsequent imaging follow up for these patients because of the higher risk of liver and biliary malignancy**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

4. **Interpret the results of MRCP, EUS and ERCP and recognise the limitations and complications of common diagnostic procedures**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

5. **Advise patients with regard to different agents for itch due to cholestasis such as topical agents, cholestyramine, rifampicin and naltrexone**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

6. **Monitor for complications such as osteoporosis and know when to use calcium, vitamin D and other therapies for bone disease**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

7. **Be aware of fat malabsorption and take necessary steps to engage dietetic advice and treat with vitamin replacement**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

8. Know when patients with PBC and PSC are likely to benefit from liver transplantation

Learning Opportunities:

- Number of cases as agreed with trainer in Year 4/5 of training

Drug Induced Liver Disease

Objective: Be aware of the many presentations of drug induced liver disease and be able to take a comprehensive drug history and investigate for liver injury due to prescribed medications and over the counter preparations.

Outcomes

1. **Maintain a high index of suspicion for DILI and know how to rule out other causes of liver disease**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Recognise the importance of a comprehensive drug history in any patient with liver disease and ask with regard to all prescribed medications, over the counter preparations and remedies and the timing with regard to liver injury**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Keep up to date on commonly used substances that can cause DILI e.g. slimming pills, body building preparations and the specific damages these can cause**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

4. **Know what investigations are required, including the need for timely liver biopsy, antidotes where available e.g. N-acetlycysteine and when referral for transplantation is necessary**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

5. **Understand the medical and licensing importance of and how to report adverse drug reactions to the Health Products Regulatory Authority (HPRA)**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

Benign Liver Tumours

Objective: To understand the imaging methods, role of biopsy and oral contraceptive agents in hepatic adenomas.

Outcomes

1. **Discuss the epidemiology, pathology, clinical presentation and natural history of benign tumours of the liver**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Define a programme of investigation and characterisation of benign liver lesions including haemangioma, focal modular hyperplasia and adenoma**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Demonstrate the ability to make an appropriate differential diagnosis**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

4. **Demonstrate the ability to make an appropriate plan of management**

Learning Opportunities:

- Number of cases as agreed with trainer in Year 4/5 of training

Malignant Liver Tumours: HCC

Objective: To understand the importance of HCC screening in cirrhosis, diagnosis and treatment.

Outcomes

1. **Understand the epidemiology, risk factors, pathology, prevalence and range of presentations of HCC**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Discuss the appropriate investigation and staging of disease with reference to international criteria**

Learning Opportunities:

- Teaching Attendance in Year 4/5 of training

3. **Knowledge of treatment options for when to refer to centres for specialised treatment (ie transplant, locoregional treatment, systemic chemo/immunotherapy, etc).**

Learning Opportunities:

- Number of cases as agreed with trainer in Year 4/5 of training

Malignant Liver Tumours: Cholangiocarcinoma

Objective: To understand the investigation and treatment options for bile duct tumours.

Outcomes:

1. **Discuss the epidemiology, pathology and clinical presentation of bile duct tumours**

Learning Opportunities:

- Number of cases as agreed with trainer in Year 4/5 of training

2. **Recognise the presentation of biliary tumours arising de novo or in the context of PSC**

Learning Opportunities:

- Number of cases as agreed with trainer in Year 4/5 of training

3. **Plan a programme of investigations including CT, MRI scanning, brush cytology, intra ductal cholangioscopy and biopsy**

Learning Opportunities:

- Teaching Attendance in Year 4/5 of training

4. **Awareness of referral for treatment to appropriate centres (i.e. surgical resection, chemo/radiation therapy, and in some instances consideration for transplant).**

Learning Opportunities:

- Teaching Attendance in Year 4/5 of training

Liver Transplantation

Objective: To understand the role of liver transplantation in the management of both chronic and acute liver disease and the management and complications of immunosuppression.

Outcome

1. **Discuss the indications for liver transplantation, appropriate timing of referral for assessment, and outcomes after transplantation**

Learning Opportunities:

- Teaching Attendance in Year 4/5 of training

Acute Liver Failure

Objective: To recognise, investigate, and instigate ward based and ICU management of patients with acute liver failure who would benefit from transplantation, and to understand the importance of timing of referral/transfer to specialist unit.

Outcomes

1. **Discuss the causes and pathophysiology of acute liver failure**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Identify those patients with acute liver failure potentially suitable for emergency liver transplantation**

Learning Opportunities:

- Teaching Attendance by end of Year 3 of training

Pregnancy-associated liver diseases

Objective: To recognise the spectrum of liver diseases of pregnancy with respect to the stage of pregnancy and the timing of obstetric intervention

Outcomes

1. **Discuss the spectrum of liver diseases that can complicate pregnancy**

Learning Opportunities:

- Teaching Attendance by end of Year 3 of training

2. **Demonstrate awareness of the various manifestations of pregnancy-associated liver disease including obstetric cholestasis**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Management of pregnancy in chronic liver disease patients (e.g. pre-natal counselling, optimisation of disease control, discussion regarding family planning – including when too high risk, e.g. portal hypertension) and safety profile of medications in pregnancy.**

Learning Opportunities:

- Teaching Attendance by end of Year 3 of training
- **AND** Number of cases as agreed with trainer by end of Year 3 of training

Vascular liver Disease

Objective: To understand the implications of vascular abnormalities and thrombosis in the territory of the liver and their clinical consequences

Outcomes

1. Recognise and investigate Budd Chiari syndrome, including imaging, coagulation abnormalities and work with other colleagues to organise best therapy including anticoagulation, shunt procedures or transplantation

Learning Opportunities:

- Teaching Attendance in Year 4/5 of training

2. Demonstrate knowledge of the causes of portal vein thrombosis and appropriate investigations to explore these e.g. intra-abdominal sepsis, tumours including HCC, and coagulation abnormalities

Learning Opportunities:

- Teaching Attendance in Year 4/5 of training

Nutrition and liver disease

Objective: To understand the importance of malnutrition and the consequences with regard to outcome and prognosis in liver disease including liver transplant outcome.

Outcomes

1. **Identify and assess patients accurately for malnutrition**

Learning Opportunities:

- Teaching Attendance by end of Year 3 of training

2. **Refer appropriately to community or hospital dietician**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 1 of training

3. **Have a knowledge of dietary requirements for patients with active liver disease, while stable and while recovering from decompensation**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

4. **Understand the importance of certain diets e.g. low salt diet and be able to advise patients appropriately**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

Palliative Care

Objective: To understand the role of palliative care in chronic liver disease.

Outcomes

1. **Identify patients who would benefit from palliative care intervention**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

2. **Understand which symptoms and conditions are helped by the introduction of palliative care measures esp. pain, cough, and dyspnoea**

Learning Opportunities:

- Number of cases as agreed with trainer by end of Year 3 of training

3. **Demonstrate skill in discussing with patient and family when palliative care is appropriate and how it will help them with their quality of life**

Learning Opportunities:

- Teaching Attendance by end of Year 3 of training

4. **Recognise when patients are unlikely to recover from a complication of liver disease and plans care with colleagues in other disciplines**

Learning Opportunities:

- Teaching Attendance by end of Year 3 of training

5. **Work with colleagues in palliative care to help address issues together such as distress from dyspnoea, abdominal distension, pain and confusion**

Learning Opportunities:

- Teaching Attendance by end of Year 3 of training

Assessment Map for *Hepatology* Goal

HEPATOLOGY			
Sections and Outcomes	***Learning Opportunity/ Assessment Method***	***Assessment Period***	***ePortfolio forms names***
Cirrhosis			
Know how to follow up patients with compensated cirrhosis, screen for complications such as HCC and adjust care and advice according to disease progression	Number of Cases **AND/OR** CBD	By end of year 3	Cases, CBD
Identify patients with ascites and know when to institute a low salt diet, diuresis, paracentesis and shunt procedures or transplant as required	Number of Cases **AND/OR** CBD	By end of year 3	Cases, CBD
Know how to recognise, diagnose and treat spontaneous bacterial peritonitis	Number of Cases	By end of year 3	Cases
Know when to screen for varices and be familiar with up to date primary and secondary prophylaxis of bleeding	Number of Cases	By end of year 3	Cases
Recognise early symptoms and signs of hepatic encephalopathy and work with the patient and family to treat appropriately and give advice with regard to lifestyle such as not driving	Number of Cases	By end of year 3	Cases
Portal Hypertension and Complications			
To understand the pathophysiology, natural history and prognosis of portal hypertension	Number of Cases	By end of year 3	Cases
To evaluate and diagnose portal hypertension, including interpretation of HVPG measurements	Number of Cases	By end of year 3	Cases
To know the appropriate therapeutic management of portal hypertension and its complications, including common complications such as ascites, encephalopathy, bleeding varices and HRS but also less common complications such as hepatopulmonary and portopulmonary syndromes	Number of Cases	By end of year 3	Cases
NAFLD			
Demonstrate an ability to take a relevant history, perform examination and organise appropriate investigations	Number of Cases	By end of year 3	Cases
Use and interpret non-invasive algorithms to assess hepatic fibrosis	Number of Cases	By end of year 3	Cases
Select appropriate techniques for evaluation of NASH and fibrosis	Number of Cases	By end of year 3	Cases
Select appropriate monitoring to assess disease progression	Number of Cases	By end of year 3	Cases
Discuss when liver biopsy is appropriate	Number of Cases	By end of year 3	Cases
Identify patients who are appropriate candidates for liver transplant assessment	Number of Cases	By end of year 3	Cases
Provide advice and education to families, showing an appreciation of the potential difficulties that may arise	Number of Cases	By end of year 3	Cases
Hepatitis B			
Identify patients with acute hepatitis B and ascertain the severity of their illness and appropriate intervention	Number of Cases	By end of year 3	Cases
Discuss the different phases of chronic hepatitis B infection with a clear understanding of serological results	Number of Cases	By end of year 3	Cases
Advise on the risks of transmission to close contacts	Number of Cases	By end of year 3	Cases
Understand and discuss the indications for therapy in both HBeAg positive and HBeAg negative hepatitis and the potential influence of viral load on decision to treat	Number of Cases	By end of year 3	Cases
Hepatitis C			
Define chronic hepatitis C and describe its natural history and prognosis	Number of Cases	By end of year 3	Cases
Demonstrate the ability to take a relevant history and organise appropriate investigations	Number of Cases	By end of year 3	Cases
Appreciates the social stigma attached to hepatitis C and the psychosocial problems often encountered in considering therapy and makes appropriate referral to psychiatric and addiction services	Number of Cases	By end of year 3	Cases
Hepatitis A and E			
Diagnose and advise with regard to acute hepatitis A and E infections	Number of Cases	By end of year 3	Cases
Liaise with public health as appropriate to enable them to contact trace and advise	Number of Cases	By end of year 3	Cases
Recognise and advise of the treatment of prolonged cholestatis which can be associated with hepatitis A	Number of Cases	By end of year 3	Cases
Be familiar with the role of and indications for vaccination against hepatitis A	Number of Cases	By end of year 3	Cases

Understand the importance of Hepatitis E infection in vulnerable populations	Number of Cases	By end of year 3	Cases
Recognise chronic manifestations of HEV infection and how this may require therapy in certain cases	Number of Cases	By end of year 3	Cases
Alcohol-related Liver Diseases			
Demonstrate ability to take a detailed alcohol history, perform examination and organise appropriate investigations	Number of Cases	By end of year 3	Cases
Understand and demonstrate the clinical evidence and results of investigations for the range of liver disease due to alcohol, including fatty liver, alcoholic hepatitis and cirrhosis	Number of Cases	By end of year 3	Cases
Demonstrate ability to look after inpatients with alcoholic hepatitis and manage complications such as kidney injury and need for escalation of therapy	Number of Cases	By end of year 3	Cases
Select appropriate patients for liver transplant assessment	Number of Cases	By end of year 3	Cases
Know when to refer patients with ALD to other disciplines such as liaison psychiatry, social work and other medical disciplines as may be required, eg neurology or cardiology	Number of Cases	By end of year 3	Cases
Understand how alcohol can impact and be a cofactor with other liver diseases and know how to advise and treat accordingly	Number of Cases	By end of year 3	Cases
Work with patients and their supports to devise a personalised plan for their care including appropriate medical care if they were to deteriorate	Number of Cases	By end of year 3	Cases
Haemochromatosis			
Identify patients who fulfil the criteria for a diagnosis of HH	Number of Cases	By end of year 3	Cases
Know when it is appropriate to request genetics for haemochromatosis	Number of Cases	By end of year 3	Cases
Discuss the prevalence of haemochromatosis and the clinical significance of inherited mutations	Number of Cases	By end of year 3	Cases
Investigate for liver disease, diabetes, cardiac and joint disease	Number of Cases	By end of year 3	Cases
Recognise that patients with cirrhosis due to HH require life-long follow up and screening for HCC and other complications of cirrhosis	Number of Cases	By end of year 3	Cases
Perform venesection safely and effectively, and identify patients who are appropriate candidates for phlebotomy	Number of Cases	By end of year 3	Cases
Devise local protocols and referral pathways for safe and effective venesection and follow up of patients with HH	Number of Cases	By end of year 3	Cases
Recognise the many causes of a high ferritin in patients who may not have underlying liver disease and order appropriate investigations and iron studies to differentiate hyperferritinaemia due to inflammation, or other liver diseases or causes	Number of Cases	By end of year 3	Cases
Know how to advise patient and relatives about appropriate diet and alcohol intake	Number of Cases	By end of year 3	Cases
Demonstrate an ability to explain requirement for family screening	Number of Cases	By end of year 3	Cases
Autoimmune Liver Disease			
Interpret results of antibody and other serological tests consistent with a diagnosis of AIH	Number of Cases	By end of year 3	Cases
Know when to biopsy patients and how to interpret histology consistent with AIH	Number of Cases	By end of year 3	Cases
Treat patients with AIH for their liver disease and other common complications such as fatigue, joint pains and osteoporosis	Number of Cases	By end of year 3	Cases
Have a knowledge of and know side effects of all drugs commonly prescribed for AIH especially steroids, including budesonide, azathioprine, MMF, and tacrolimus	Number of Cases	By end of year 3	Cases
Cholestatic Liver Disease			
Discuss what investigations are required to diagnose PBC: serology, imaging and when biopsy may be required	Number of Cases	By end of year 3	Cases
Discuss with medical therapy with ursodeoxycholic acid, how to optimise dosage and when to move to alternative options such as obetocholic acid or fibrates if response to ursodeoxycholic acid alone is unsatisfactory	Number of Cases	By end of year 3	Cases
Know when to request MRCP and liver biopsy in the diagnosis of PSC and subsequent imaging follow up for these patients because of the higher risk of liver and biliary malignancy	Number of Cases	By end of year 3	Cases
Interpret the results of MRCP, EUS and ERCP and recognise the limitations and complications of common diagnostic procedures	Number of Cases	By end of year 3	Cases
Advise patients with regard to different agents for itch due to cholestasis such as topical agents, cholestyramine, rifampicin and naltrexone	Number of Cases	By end of year 3	Cases
Monitor for complications such as osteoporosis and know when to use calcium, vitamin D and other therapies for bone disease	Number of Cases	By end of year 3	Cases
Be aware of fat malabsorption and take necessary steps to engage dietetic advice and treat with vitamin replacement	Number of Cases	By end of year 3	Cases

Know when patients with PBC and PSC are likely to benefit from liver transplantation	Number of Cases	In year 4-5	Cases
Benign Liver Tumours			
Maintain a high index of suspicion for DILI and know how to rule out other causes of liver disease	Number of Cases	By end of year 3	Cases
Recognise the importance of a comprehensive drug history in any patient with liver disease and ask with regard to all prescribed medications, over the counter preparations and remedies and the timing with regard to liver injury	Number of Cases	By end of year 3	Cases
Keep up to date on commonly used substances that can cause DILI e.g. slimming pills, body building preparations and the specific damages these can cause	Number of Cases	By end of year 3	Cases
Know what investigations are required, including the need for timely liver biopsy, antidotes where available e.g. N-acetlycysteine and when referral for transplantation is necessary	Number of Cases	By end of year 3	Cases
Malignant Liver Tumours: HCC			
Understand the epidemiology, risk factors, pathology, prevalence and range of presentations of HCC	Number of Cases	By end of year 3	Cases
Discuss the appropriate investigation and staging of disease with reference to international criteria	Formal Teaching	In year 4-5	Teaching Attendance
Knowledge of treatment options for when to refer to centres for specialised treatment (ie transplant, locoregional treatment, systemic chemo/immunotherapy, etc).	Number of Cases	In year 4-5	Cases
Malignant Liver Tumours: Cholangiocarcinoma			
Discuss the epidemiology, pathology and clinical presentation of bile duct tumours	Number of Cases	In year 4-5	Cases
Recognise the presentation of biliary tumours arising de novo or in the context of PSC	Number of Cases	In year 4-5	Cases
Plan a programme of investigations including CT, MRI scanning, brush cytology, intra ductal cholangioscopy and biopsy	Formal Teaching	In year 4-5	Teaching Attendance
Awareness of referral for treatment to appropriate centres (i.e. surgical resection, chemo/radiation therapy, and in some instances consideration for transplant).	Formal Teaching	In year 4-5	Teaching Attendance
Liver Transplantation			
Discuss the indications for liver transplantation, appropriate timing of referral for assessment, and outcomes after transplantation	Formal Teaching	In year 4-5	Teaching Attendance
Acute Liver Failure			
Discuss the causes and pathophysiology of acute liver failure	Number of Cases	By end of year 3	Cases
Identify those patients with acute liver failure potentially suitable for emergency liver transplantation	Formal Teaching	By end of year 3	Teaching Attendance
Pregnancy-Associated Liver Disease			
Discuss the spectrum of liver diseases that can complicate pregnancy	Formal Teaching	By end of year 3	Teaching Attendance
Demonstrate awareness of the various manifestations of pregnancy-associated liver disease including obstetric cholestasis	Number of Cases	By end of year 3	Cases
Management of pregnancy in chronic liver disease patients (e.g. pre-natal counselling, optimisation of disease control, discussion regarding family planning – including when too high risk, e.g. portal hypertension) and safety profile of medications in pregnancy.	Formal Teaching **AND** number of cases	By end of year 3	Teaching Attendance, Cases
Vascular Liver Disease			
Recognise and investigate Budd Chiari syndrome, including imaging, coagulation abnormalities and work with other colleagues to organise best therapy including anticoagulation, shunt procedures or transplantation	Formal Teaching	In year 4-5	Teaching Attendance
Demonstrate knowledge of the causes of portal vein thrombosis and appropriate investigations to explore these e.g. intra-abdominal sepsis, tumours including HCC, and coagulation abnormalities	Formal Teaching	In year 4-5	Teaching Attendance
Nutrition and Liver Disease			
Identify and assess patients accurately for malnutrition	Formal Teaching	By end of year 3	Teaching Attendance
Refer appropriately to community or hospital dietician	Number of Cases	Year 1	Cases
Have a knowledge of dietary requirements for patients with active liver disease, while stable and while recovering from decompensation	Number of Cases	By end of year 3	Cases
Understand the importance of certain diets e.g. low salt diet and be able to advise patients appropriately	Number of Cases	By end of year 3	Cases
Palliative Care			
Identify patients who would benefit from palliative care intervention	Number of Cases	By end of year 3	Cases
Understand which symptoms and conditions are helped by the introduction of palliative care measures esp. pain, cough, and dyspnoea	Number of Cases	By end of year 3	Cases

Demonstrate skill in discussing with patient and family when palliative care is appropriate and how it will help them with their quality of life	Formal Teaching	By end of year 3	Teaching Attendance
Recognise when patients are unlikely to recover from a complication of liver disease and plans care with colleagues in other disciplines	Formal Teaching	By end of year 3	Teaching Attendance
Work with colleagues in palliative care to help address issues together such as distress from dyspnoea, abdominal distension, pain and confusion	Formal Teaching	By end of year 3	Teaching Attendance

6.Hepatology – Special Interest Year Training

Hepatology is a subspeciality area of enhanced competence within Gastroenterology that deals with the study, investigation, diagnosis, prevention and medical management of liver disease and its complications. Currently the practice of hepatology is not recognised as a separate speciality in Ireland and comes under the remit of gastroenterology. It is clear, however, that there is a need to recognise hepatology as a stand-alone speciality for the purposes of training, work force planning and patient care. The Increasing burden of liver disease and its complications nationally and globally in the last two to three decades has led to an urgent need for a structured programme focused on quality care and standards for patients with liver disease. The National Clinical Programme in Gastroenterology and Hepatology (NCPGH) led by Prof Colm O'Morain recognises the need for the urgent expansion of liver services in Ireland within a hub and spoke model of care, so that every patient has equal access to speciality care when required. Using international standards as quality norms, it is not acceptable for patients with liver disease to be cared for in centres without hepatology expertise or resources. The historical model where general gastroenterologists looked after patients with liver disease requires urgent updating. The aim is for Hepatology centres (hubs) led by Consultants with an interest in hepatology to support and work with local hepatology expertise (spokes). The aim of this new curriculum is to detail the training requirements of those gastroenterologists who wish to specialise in hepatology and provide expert care to patients with liver disease.

The RCPI, forum for PGT, NSDs in gastroenterology and the NCPGH are in agreement that hepatology medicine will develop as a stand-alone speciality in Ireland and will work with the Irish Medical Council to achieve this aim. Hepatology subspeciality training can be delivered in Ireland as part of the current training programme in gastroenterology and general medicine, and this curriculum acts as a blueprint for programme development.

In order to receive a sub-specialty certificate in hepatology, the trainee must spend a total of two years training in liver disease having previously enrolled in the gastroenterology training programme. All training must be completed within the set duration of the training programme (4 or 5 years depending on whether or not the trainee will also be seeking certification in general internal medicine). The two years of the hepatology programme must be spent at one or more level 4 hepatology specialist centres and the trainee will be appointed by a competitive application process. Ideally all of the training should occur within level 4 centres but if this is not possible, a maximum of six months may be spent in a level 3 centre.
Inevitably there will be some overlap with earlier training but this should be seen as consolidation of the training in that first year. In addition to the exposure to a greater breadth and depth of knowledge of liver disease and the management of complex liver disease, trainees would be expected to gain additional skill sets.

Trainees in hepatology will gain experience in practical procedures which are commonly, although not exclusively, arranged for patients with advanced liver disease. Trainees will be expected to have a sound understanding of the indications, complications, nature and performance of these procedures and in some cases may become personally skilled in the performance of these procedures, depending upon the nature of the specific training site. These would include: ultrasound and ultrasound guided liver biopsy, transient elastography (Fibroscan), contrast enhanced ultrasonography (CEUS), trans-jugular liver biopsy, measurement of portal pressure, ERCP, endoscopic ultrasound (application to both biliary disease portal hypertension), and placement of trans-jugular intrahepatic portal systemic shunts (TIPSS).

Trainees will gain experience in the management of unstable patients with liver disease needing care within a High Dependency Unit (HDU) or Intensive care unit (ICU). The ICU is an integrated part of the

care pathway for patients with acute liver failure, and for those undergoing liver transplantation or extensive hepatic resection. It is accepted practice for all patients with acute liver failure to be referred to units offering specialist liver ICU expertise. ICU also plays a role in the management of patients with acute exacerbations of chronic liver disease such as those with encephalopathy, variceal bleeding, sepsis and hepatorenal dysfunction. All gastroenterologists with an interest in hepatology should be familiar with the indications for transfer to ICU settings and have an understanding of the outcomes. They should also advocate for patients with liver disease when access to ICU is competitive within an institution. They should also understand which patients would benefit from transfer to specialist liver ICU units. This is particularly true for acute liver failure. The trainee would be expected to gain the requisite experience by spending either a period of one month in a dedicated ICU setting or more commonly in a unit that regularly admits patients with liver disease to an ICU setting providing specific expertise in liver disease.

Liver transplantation is integrated into the management plans for both acute and chronic liver failure, selected patients with hepatocellular carcinoma, metabolic disease and a range of unusual indications. Two levels of familiarity with liver transplantation will be required for gastroenterologists working outside liver transplant units. The basic level will deliver an understanding of the role of liver transplantation in the management of patients with liver disease as well as basic understanding of acute intervention required in liver transplant recipients. The higher level will deliver a skill set to contribute to the integrated care pathways with the liver transplant centres. All trainees must be familiar with the indications for liver transplantation and the appropriate times to refer patients for assessment. Familiarity with the UKELD system and recognised exceptions is pertinent. The same is true for emergency transplantation (for acute liver failure) but in these cases the decision making is often urgent and occurs outside normal working hours. A basic understanding of the acute medical needs of a liver transplant recipient is required by all trainees. The immediate actions and investigative pathways for presentations such as fever or jaundice need to be understood. After successful liver transplantation, an increasing part of the follow-up will be undertaken outside liver transplant centres. This will require an understanding of the evaluation of liver function tests on a time dependent basis after liver transplantation. There will also be a need to understand immunosuppression regimens and the monitoring of individual drugs. It is also important to have an understanding of recurrent diseases and in some cases this may involve participation in treatment strategies e.g. hepatitis B or hepatitis C.

Rationale Purpose of this section

The purpose of this curriculum is to define the process of training and the competencies needed for the award of:

- Sub-specialty recognition in hepatology for those who have completed the advanced training programme.

After completion of this curriculum trainees should be competent in:

- the study, investigation, diagnosis, prevention and medical management of acute liver conditions
- the study, investigation, diagnosis, prevention and medical management of chronic liver conditions
- identification and management of cirrhosis, including appropriate surveillance
- identification and timely referral of patients who may benefit from transplantation, and knowledge of immunosuppression and the common long-term complications associated with transplant recipients
- evaluation and management of liver lesions
- promotion/development of public health strategies, including education, to reduce the national burden of liver disease
- advancement of the discipline of hepatology through teaching, education and research

The unequivocal aim of the curriculum is to deliver a programme of training which, when completed, will enable the successful individual to practise independently as a gastroenterologist with a special interest in hepatology trained to the level of a consultant physician. There will be recognition of the enhanced skills which will enable trainees who complete that programme to deliver a specialised clinical service in liver disease. It is expected that trainees following the gastroenterology plus hepatology curriculum to CCST level will be doing so in parallel with the training programme in general internal medicine.

The primary purpose of the curriculum is to provide a programme of training which, when successfully completed, will have armed the trainee with specialist skills in hepatology. Trainees will have acquired the skills to pass on their experience to the next generation be they undergraduate or postgraduate medical trainees. Trainees will have acquired a portfolio of generic skills particularly those including leadership and management crucial not only to running a clinical service but also to developing that service. Finally, the hepatology specialty training will serve as a platform for Continued Professional Development in the context of life-long learning.

Training in hepatology will normally take place in designated teaching hospitals (Level 4) for 12 months at each institution.
The final award of a CSCST will be dependent on the achievement of competencies as evidenced by the successful completion of assessments set out in the curriculum.

The sequence of training should ensure appropriate progression in experience and responsibility. The training to be provided at each training site is defined to ensure that, during the programme, the entire curriculum is covered and also that unnecessary duplication and educationally unrewarding experiences are avoided. However, the sequence of training should ideally be flexible enough to allow the trainee to develop a special interest. All training in gastroenterology and hepatology should be conducted in institutions with appropriate standards of clinical governance and which meet the relevant Health and Safety standards for clinical areas. Training placements must comply with the European Working Time Directive for junior doctors. Training posts must provide the necessary clinical exposure but also evidence that the required supervision and assessments can be achieved.

Teaching and Learning Methods

The curriculum will be delivered through a variety of learning experiences. Trainees will learn from practice, clinical skills appropriate to their level of training and to their attachment within the department. Trainees will achieve the competencies described in the curriculum through a variety of learning methods. There will be a balance of different modes of learning from formal teaching programmes to experiential learning 'on the job'. The proportion of time allocated to different learning methods may vary depending on the nature of the attachment within a rotation.

This section identifies the types of situations in which a trainee will learn.

Learning with Peers - There are many opportunities for trainees to learn with their peers. Local postgraduate teaching opportunities allow trainees of varied levels of experience to come together for small group sessions. Examination preparation encourages the formation of self-help groups and learning sets.

Work-Based Experiential Learning - The content of work-based experiential learning is decided by the local faculty for education but includes active participation in:

- Specialty clinics. The degree of responsibility taken by the trainee will increase as competency

increases. As experience and clinical competence increase trainees will assess 'new' and 'review' patients and present their findings to their clinical supervisor
- Endoscopy lists including diagnostic/therapeutic gastroscopy
- Specialty-specific on-call
- Personal ward rounds and provision of on-going clinical care whilst on specialist medical ward attachments. Every patient seen, on the ward or in out-patients, provides a learning opportunity, which will be enhanced by following the patient through the course of their illness: the experience of the evolution of patients' problems over time is a critical part both of the diagnostic process as well as management. Patients seen should provide the basis for critical reading and reflection of clinical problems.
- Consultant-led ward rounds. Every time a trainee observes another doctor, consultant or fellow trainee, seeing a patient or their relatives there is an opportunity for learning. Ward rounds, including those post-takes, should be led by a consultant and include feedback on clinical and decision-making skills.
- Multi-disciplinary team meetings. There are many situations where clinical problems are discussed with clinicians in other disciplines. These provide excellent opportunities for observation of clinical reasoning.

Trainees have supervised responsibility for the care of in-patients. This includes day- to-day review of clinical conditions, note keeping, and the initial management of the acutely ill patient with referral to and liaison with clinical colleagues as necessary.
The degree of responsibility taken by the trainee will increase as competency increases. There should be appropriate levels of clinical supervision throughout training with increasing clinical independence and responsibility as learning outcomes are achieved (see Section 5: Feedback and Supervision).

Formal Postgraduate Teaching
The content of these sessions are determined by the local faculty of medical education and will be based on the curriculum. There are many opportunities throughout the year for formal teaching in the local teaching sessions and at regional, national and international meetings. Suggested activities include:
- A programme of formal bleep-free regular teaching sessions
- Case presentations
- Journal clubs
- Research and audit projects
- Lectures and small group teaching
- Grand Rounds
- Clinical skills demonstrations and teaching
- Critical appraisal and evidence-based medicine and journal clubs
- Joint specialty meetings

Independent Self-Directed Learning -Trainees will use this time in a variety of ways depending upon their stage of learning. Suggested activities include:
- Reading, including web-based material
- Maintenance of personal portfolio (self-assessment, reflective learning, personal development plan).

Hepatitis B

Objective: To be able to assess, investigate, diagnose, and treat patients with chronic HBV infection.

Outcomes

1. **Selects the most appropriate treatment and plan to monitor patient response.**
2. **Identify patients where prophylaxis is required to prevent HBV reactivation and vertical transmission.**
3. **Discuss management and surveillance plans for those patients without cirrhosis.**
4. **Determine an appropriate surveillance programme for those patients with varices and/or cirrhosis.**
5. **Selects appropriate imaging techniques for evaluation of abnormal results.**
6. **Identify patients who are appropriate candidates for liver transplant assessment.**
7. **Discuss the impact of hepatitis D in relation to HBV infection, and discuss the treatment options for HDV-infected patients.**

Hepatitis C

Objective**:** To be able to assess, investigate, diagnose, and treat patients with chronic HCV infection.

Outcomes

1. **Demonstrate the knowledge to assess patients' pre-exposure to DAA and how to assess potential drug-drug interactions and understands the contribution of genotype and viral load to therapy.**
2. **Understands the requirement for collaboration with specialist ID in treating HCV in the co-infected patient.**
3. **Select appropriate monitoring to assess response to therapy.**
4. **Discuss the potential adverse effects of therapy in advanced liver disease and has an awareness of the unpredictable effects in patients with higher MELD scores.**
5. **Describe a programme of appropriate surveillance for patients with oesophageal varices and hepatocellular carcinoma.**
6. **Identify patients who are appropriate candidates for liver transplant assessment.**

Autoimmune Liver Disease

Objective: Be able to accurately investigate, diagnose and treat patients with autoimmune hepatitis (AIH) and overlap syndromes.

Outcomes

1. **Know how to interpret response to therapy and be able to adjust medications accordingly to achieve remission and maintain remission**
2. **Know if repeat liver biopsy is appropriate and when to recommend and based on results advise on continuation or withdrawal of medication**

3. **Know how to monitor patients with blood tests, fibroscan, imaging and when biopsy necessary**
4. **Demonstrate knowledge of other common symptoms experienced by patients such as fatigue, joint pains and advise accordingly**

Malignant Liver Tumours: HCC

Objective: To understand the importance of HCC screening in cirrhosis, diagnosis and treatment.

Outcomes

1. **Discuss the treatment options including trans-arterial chemoembolisation (TACE), radiofrequency ablation (RFA), and surgery including liver transplantation.**
2. **Appreciate the indications and contraindications of each treatment modality and how the most appropriate treatment is selected.**
3. **Identify patients who are appropriate candidates for liver resection and liver transplant assessment.**

Malignant Liver Tumours: Cholangiocarcinoma

Objective: To understand the investigation and treatment options for bile duct tumours.

Outcomes:

1. **Discuss treatment options including biliary drainage, surgery, chemotherapy, photodynamic therapy, and endoscopic management**
2. **Discuss cases within the specialist MDT framework**

Liver Transplantation

Objective: To understand the role of liver transplantation in the management of both chronic and acute liver disease and the management and complications of immunosuppression.

Outcomes

1. **Understand the long-term management of liver transplant recipients including complications of immunosuppression and management of recurrent disease**
2. **Identify potential candidates for liver transplantation, as well as demonstrating an understanding of why patients with end-stage liver disease are not appropriate candidates for liver transplantation**

Acute Liver Failure

Objective: To recognise, investigate, and instigate ward based and ICU management of patients with acute liver failure who would benefit from transplantation, and to understand the importance of timing of referral/transfer to specialist unit.

Outcomes

1. **Demonstrate an ability to evaluate patients with liver failure at the stage of initial presentation**
2. **Deliver management plan, appropriately evaluate changes in patient's condition, and react accordingly**
3. **Understands the criteria for referral to specialist transplant centre**
4. **Communicate effectively with family and close friends of patients**

Pregnancy-associated liver diseases

Objective: To recognise the spectrum of liver diseases of pregnancy with respect to the stage of pregnancy and the timing of obstetric intervention.

Outcomes

1. **Manage the more severe pregnancy-associated liver diseases including eclampsia and acute fatty liver of pregnancy.**
2. **To liaise and respond urgently to rapidly escalating severity of pregnancy-associated liver disease.**
3. **Communicate effectively with concerned patients and relatives about the needs of the foetus and the overriding need to preserve the health of the mother.**

Childhood-onset liver disease in adults

Objective: To be aware of the spectrum of liver disease with onset in childhood and the needs of young adults with chronic liver disease transitioning to adult services.

Outcomes:

1. **Demonstrate a knowledge of the various childhood-onset liver diseases e.g. Biliary atresia, Alagille syndrome, Progressive Familial Intrahepatic Cholestasis, inborn errors of metabolism, CFLD, alpha 1 antitrypsin deficiency and potential differences in the clinical course of childhood onset versus adult onset autoimmune liver disease and NAFLD.**
2. **Understand the differences in paediatric versus adult liver transplantation including indications for transplant, the use of split grafts, roux-en-Y biliary anastomosis and the approach to managing complications in these grafts**
3. **Recognise the importance of the developmental and psychosocial needs of young people with chronic liver disease transitioning from family-based care to self-directed care in an adult centre.**

Vascular Liver Disease

Objective: To understand the implications of vascular abnormalities and thrombosis in the territory of the liver and their clinical consequences.

Outcomes

1. **Know when it is appropriate to treat PVT to prevent worsening symptoms of portal hypertension and be familiar with ways of reducing the risk of bleeding due to portal hypertension (medication and endoscopic).**
2. **Be able to identify hepatic ischaemia as a consequence of hypotension, usually in the ICU setting and liaise with colleagues as to best patient management**.

Nutrition and liver disease

Objective: To understand the importance of malnutrition and the consequences with regard to outcome and prognosis in liver disease including liver transplant outcome.

Outcomes

1. **Know how to address sarcopenia in those preparing for liver transplantation**
2. **Be aware of barriers to nutritional intake such as poor appetite and ascites and how this can be overcome**
3. **Understand the different modes of nutritional replacement that are safe to use in liver disease such as ONS, tube feeding and parenteral feeding and the advantages and complications of same**
4. **Know when to address nutritional deficits with appropriate replacement therapy eg IV thiamine**
5. **Be able to investigate for and recommend treatment for other common important complications of malnutrition such as bone disease**

Rare Liver Diseases

Objective: To understand the presentation, pathology and treatment of rare liver diseases as early therapy can be lifesaving and diagnosis may have implications for screening family members.

Outcomes

1. **Demonstrates knowledge of the different hepatological and neurological presentations of Wilson's disease, be able to investigate biochemically and order genetic studies as appropriate**
2. **Can discuss the frequency of Cystic Fibrosis related Liver disease and work with respiratory colleagues to treat this disease and complications if they arise**
3. **Demonstrates knowledge of α1-antitrypsin related liver disease, understand the different phenotypes and genotypes, and advise when further investigation and screening of family members is appropriate.**
4. **Understand how the liver can be involved in systemic disease such as sarcoidosis, amyloidosis, porphyrias, and lymphoproliferative diseases**

Community Care

Objective**:** To know how patients can access and will benefit from community services

Outcomes

1. **Understand the benefits of care in the community and how it can complement care received in the outpatient or hospital setting**
2. **Demonstrate knowledge of the range of care in the local community e.g. dietetic and physiotherapy services.**
3. **Work with community colleagues e.g. GP, PHN, ANP to enhance and improve patient care and safety patient in a multidisciplinary setting to the benefit of the patient.**

Transient elastography (TE)

Objective: To be able to use transient elastography to assess, investigate, and stage patients with chronic liver disease.

Outcomes:

1. **Discuss the use of TE in the diagnostic pathway for chronic liver disease**
2. **Can identify, refer, and/or perform TE for patients suitable for TE assessment**
3. **Can identify those patients for whom TE assessment is inappropriate**
4. **Recognises contraindications to TE assessment: acute cholestasis, hepatic congestion**
5. **Can interpret results of TE, evaluate prognosis, and construct a management plan**
6. **Can identify when a liver biopsy is appropriate**

Assessment Map for *Hepatology – Special Interest Year* Goal

HEPATOLOGY – Special Interest Year (SIY)			
Sections and Outcomes	***Learning Opportunity/ Assessment Method***	***Assessment Period***	***ePortfolio forms names***
Hepatitis B – SIY			
Selects the most appropriate treatment and plan to monitor patient response.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Identify patients where prophylaxis is required to prevent HBV reactivation and vertical transmission.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Discuss management and surveillance plans for those patients without cirrhosis.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Determine an appropriate surveillance programme for those patients with varices and/or cirrhosis.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Selects appropriate imaging techniques for evaluation of abnormal results.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Identify patients who are appropriate candidates for liver transplant assessment.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Discuss the impact of hepatitis D in relation to HBV infection and discuss the treatment options for HDV-infected patients.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Hepatitis C – SIY			
Demonstrate the knowledge to assess patient's pre-exposure to DAA and how to assess potential drug-drug interactions and understands the contribution of genotype and viral load to therapy.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Understands the requirement for collaboration with specialist ID in treating HCV in the co-infected patient.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Select appropriate monitoring to assess response to therapy.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Discuss the potential adverse effects of therapy in advanced liver disease and has an awareness of the unpredictable effects in patients with higher MELD scores.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Describe a programme of appropriate surveillance for patients with oesophageal varices and hepatocellular carcinoma.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Identify patients who are appropriate candidates for liver transplant assessment.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Autoimmune Liver Disease – SIY			
Know how to interpret response to therapy and be able to adjust medications accordingly to achieve remission and maintain remission	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Know if repeat liver biopsy is appropriate and when to recommend and based on results advise on continuation or withdrawal of medication	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Know how to monitor patients with blood tests, fibroscan, imaging and when biopsy necessary	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Demonstrate knowledge of other common symptoms experienced by patients such as fatigue, joint pains and advise accordingly	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Malignant Liver Tumours: HCC – SIY			
Discuss the treatment options including trans-arterial chemoembolisation (TACE), radiofrequency ablation (RFA), and surgery including liver transplantation.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Appreciate the indications and contraindications of each treatment modality and how the most appropriate treatment is selected.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Identify patients who are appropriate candidates for liver resection and liver transplant assessment.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Malignant Liver Tumours: Cholangiocarcinoma – SIY			
Discuss treatment options including biliary drainage, surgery, chemotherapy, photodynamic therapy, and endoscopic management	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Discuss cases within the specialist MDT framework	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Liver Transplantation – SIY			

Understand the long-term management of liver transplant recipients including complications of immunosuppression and management of recurrent disease	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Identify potential candidates for liver transplantation, as well as demonstrating an understanding of why patients with end-stage liver disease are not appropriate candidates for liver transplantation	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Acute Liver Failure – SIY			
Demonstrate an ability to evaluate patients with liver failure at the stage of initial presentation	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Deliver management plan, appropriately evaluate changes in patient's condition, and react accordingly	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Understands the criteria for referral to specialist transplant centre	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Communicate effectively with family and close friends of patients	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Pregnancy-Associated Liver Disease – SIY			
Manage the more severe pregnancy-associated liver diseases including eclampsia and acute fatty liver of pregnancy.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
To liaise and respond urgently to rapidly escalating severity of pregnancy-associated liver disease.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Communicate effectively with concerned patients and relatives about the needs of the foetus and the overriding need to preserve the health of the mother.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Childhood-onset liver disease in adults – SIY			
Demonstrate a knowledge of the various childhood-onset liver diseases e.g. Biliary atresia, Alagille syndrome, Progressive Familial Intrahepatic Cholestasis, inborn errors of metabolism, CFLD, alpha 1 antitrypsin deficiency and potential differences in the clinical course of childhood onset versus adult onset autoimmune liver disease and NAFLD.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Understand the differences in paediatric versus adult liver transplantation including indications for transplant, the use of split grafts, roux en Y biliary anastomosis and the approach to managing complications in these grafts	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Recognise the importance of the developmental and psychosocial needs of young people with chronic liver disease transitioning from family-based care to self-directed care in an adult centre.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Vascular Liver Disease – SIY			
Know when it is appropriate to treat PVT to prevent worsening symptoms of portal hypertension and be familiar with ways of reducing the risk of bleeding due to portal hypertension (medication and endoscopic).	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Be able to identify hepatic ischaemia as a consequence of hypotension, usually in the ICU setting and liaise with colleagues as to best patient management.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Nutrition and Liver Disease – SIY			
Know how to address sarcopenia in those preparing for liver transplantation	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Be aware of barriers to nutritional intake such as poor appetite and ascites and how this can be overcome	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Understand the different modes of nutritional replacement that are safe to use in liver disease such as ONS, tube feeding and parenteral feeding and the advantages and complications of same	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Know when to address nutritional deficits with appropriate replacement therapy eg IV thiamine	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Be able to investigate for and recommend treatment for other common important complications of malnutrition such as bone disease	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Rare Liver Disease – SIY			
Demonstrates knowledge of the different hepatological and neurological presentations of Wilson's disease, be able to investigate biochemically and order genetic studies as appropriate	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Can discuss the frequency of Cystic Fibrosis related Liver disease and work with respiratory colleagues to treat this disease and complications if they arise	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Demonstrates knowledge of α1-antitrypsin related liver disease, understand the different phenotypes and genotypes, and advise	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity

when further investigation and screening of family members is appropriate.			
Understand how the liver can be involved in systemic disease such as sarcoidosis, amyloidosis, porphyrias, and lymphoproliferative diseases	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Community Care – SIY			
Understand the benefits of care in the community and how it can complement care received in the outpatient or hospital setting	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Demonstrate knowledge of the range of care in the local community e.g. dietetic and physiotherapy services.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Work with community colleagues e.g. GP, PHN, ANP to enhance and improve patient care and safety patient in a multidisciplinary setting to the benefit of the patient.	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Transient Elastography (TE) – SIY			
Discuss the use of TE in the diagnostic pathway for chronic liver disease	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Can identify, refer, and/or perform TE for patients suitable for TE assessment	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Can identify those patients for whom TE assessment is inappropriate	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Recognises contraindications to TE assessment: acute cholestasis, hepatic congestion	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Can interpret results of TE, evaluate prognosis, and construct a management plan	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity
Can identify when a liver biopsy is appropriate	As agreed with trainer – recommended Observed Practice	In year 4	Depending on assessment - recommended Feedback Opportunity

7.Competency Model for Skills Training in Gastro-Intestinal Endoscopy in Ireland

Final Draft Document

Developed by the National Endoscopy Training Committee

June 2021

Executive summary

The purpose of this document is to describe a common 'outcomes based' approach to skills acquisition in upper and lower gastro-intestinal endoscopy suitable for adoption by gastroenterology and surgical specialty training programmes in Ireland. The model emphasizes the primary importance of a training model that focuses predominantly on the acquisition and validation of competency in endoscopy skills rather than the evaluation of numbers of endoscopy procedures.

This competency model proposes an initial period of training (phase one) during which a specialist trainee should receive direct supervision in the relevant procedures by a competent endoscopist. This should continue until such time as the trainee has developed skills which allow them to perform procedures independently. A summative DOPS evaluation (based on direct observation of procedural skills) and assessment of the training record will then be performed to document **'provisional approval'**, allowing the relevant procedure to be performed without direct supervision. This provisional approval is granted at a local level and will facilitate the trainee to enter a second stage (phase two) of training during, during which they continue to enjoy support from a consultant trainer. The emphasis on direct supervision will switch to one of hands-on skills training particularly focused on therapeutic endoscopy and more challenging or difficult procedures. Trainees during this phase will perform diagnostic procedures independently but with close scrutiny of key performance indicators. If issues arise with key performance indicators (KPIs) during the provisional approval period, this may be temporarily suspended to facilitate more a detailed re-assessment.

A **final certification** will then occur towards the end of the training programme, using a similar framework but with an additional focus on advanced skills (relevant therapeutic techniques and polypectomy skills). The final certification is granted by the relevant training body (RCPI/RCSI).

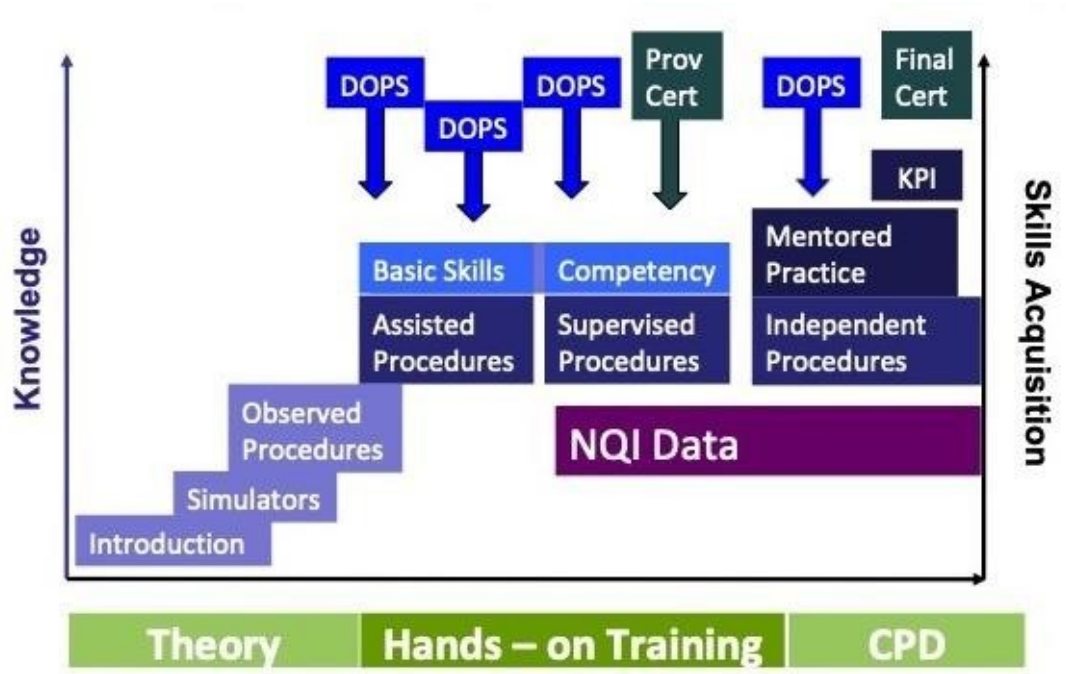

Fig. 1 Summary of pathway to competency in gastro-intestinal endoscopy

Background information

Current training landscape

Training to perform and achieve competency in upper and lower gastro-intestinal endoscopy is a key component of specialist training in Gastroenterology, which is currently administered by the Irish Committee on Higher Medical Training at the Royal College of Physicians of Ireland (RCPI) and in General Surgery, as part of the Higher Surgical Training Schemes. In addition, a large number of medical and surgical NCHDs

to coordinate several activities to improve endoscopy services. The Endoscopy Programme is housed within the Acute Operations Division of the HSE and the programme is overseen by the National Endoscopy Steering Group.

undertake endoscopy training outside of a structured training programme. The current model of training in endoscopy has significant limitations as endoscopy trainees undertake hands-on training with variable levels of support and supervision. A final competency assessment is not always completed. The final level of skills achieved may differ significantly between trainees. The feedback from trainees is that they often feel underequipped to undertake the full range of procedures necessary for independent practice in Ireland with the skills obtained during their training.

HSE Acute Operations Endoscopy Programme

A national endoscopy programme was established in mid-2016

The aim of the programme is to improve the delivery of endoscopy services across all Hospital Groups.

The objectives of the programme are to:

1. Strengthen clinical governance for endoscopy services across Hospital Groups
2. Increase the capacity of endoscopy services to meet current and future demand
3. Develop and deliver additional training courses in endoscopy
4. Support improvements to validation and scheduling of endoscopy procedures
5. Support the roll out of referral pathways for endoscopy including eReferral
6. Support endoscopy units to engage with the JAG accreditation process
7. Support the development and expansion of BowelScreen – The National Bowel ScreeningProgramme in public hospitals

Members of the working group include representatives from the Irish Society for Endoscopy Nurses, BowelScreen, the National Treatment Purchase Fund, the Gastrointestinal Endoscopy National Quality Improvement Programme, the Irish Cancer Society and the seven Hospital Group Clinical Leads for Endoscopy. The National Endoscopy Working Group is responsible for coordinating and progressing a number of inter-dependent activities to achieve the objectives of the programme.
For further information visit the programme website at
www.hse.ie/eng/about/who/acute-hospitals-division/clinical-programmes/endoscopy-programme/

National Endoscopy Training Committee

The National Endoscopy Training Committee was established in 2018 under the auspices of the HSE Acute Operations Endoscopy Programme. The role of the committee is to make recommendations about gastro-intestinal endoscopy education and training in Ireland and develop gastro-intestinal endoscopy training programmes. The committee is working with both the Royal College of Physicians of Ireland (RCPI) and the Royal College of Surgeons in Ireland (RCSI) to deliver a unified approach to gastro-intestinal endoscopy training.

The objectives of the committee are to:

- develop a faculty of trainers and agree terms for provision of endoscopy training courses within a defined timeframe.
- proactively support and facilitate the work of the committee and Training Lead as the nationally agreed strategic model for the development of continuing medical education in endoscopy.
- provide a forum for strategic vision and clinical input into the deliverables associated with the role of Training Lead with the HSE Acute Operations Endoscopy Programme
- develop an online training facility to record procedures, provide feedback and allow access to educational material will be developed in collaboration with and supported by the RCSI and the RCPI.

Members of the National Endoscopy Training Committee

Committee member	Role on the Committee
Prof Glen Doherty, Consultant Gastroenterologist, St Vincent's University Hospital	Committee Chair & Training Lead, HSE Acute Operations Endoscopy Programme
Dr Jan Leyden, Consultant Gastroenterologist, Mater Misericordiae Hospital	Chair, NEQI Programme Working Group & Clinical Lead, HSE Acute Operations Endoscopy Programme
Mr Fiachra Cooke, Consultant General & Colorectal Surgeon, Waterford University Hospital	Consultant Surgeon representative
Mr Paul McCormick, Consultant General & Colorectal Surgeon, St. James' Hospital	Consultant Surgeon representative
Prof Deborah McNamara, Consultant General & Colorectal Surgeon, Beaumont Hospital	The RCSI colorectal and general surgical training programme representative
Prof Deirdre McNamara, Consultant Gastroenterologist Tallaght University Hospital	Irish Society of Gastroenterology representative
Dr Aoibhlinn O'Toole, Consultant Gastroenterologist, Beaumont Hospital	National Specialty Director for Gastroenterology Training
Dr Eoin Slattery, Consultant Gastroenterologist Galway University Hospital	National Specialty Director for Gastroenterology Training
Prof Barbara Ryan, Consultant Gastroenterologist Tallaght University Hospital	Physician representative
Dr Danny Cheriyan, Consultant Gastroenterologist, Beaumont Hospital	Physician representative
Grace O'Sullivan, Programme Manager, HSE Acute Operations Endoscopy Programme	Observer

National Gastrointestinal Endoscopy Quality Improvement Programme

The Conjoint Board of the RCPI and the RCSI launched a clinician led National Gastrointestinal (GI) Endoscopy Quality Improvement (NEQI) Programme in October 2011 in collaboration with the National Cancer Control Programme. As of 2014 the NEQI Programme has been funded by the HSE Quality Improvement Team. This programme is managed by the RCPI. It has the following objectives:

- Improve patient care by minimising diagnostic errors in Gastrointestinal Endoscopy
- Develop a standardised national quality improvement system for Gastrointestinal Endoscopy
- Enable individual endoscopy units to review their performance against national target
- Identify good practice and areas for improvement and share findings with other participating units
- Improve communication within and between participating institutions

All public hospitals in Ireland participate in the programme and have agreed to implement practical quality improvement measures, as outlined in the Guidelines for the National GI Endoscopy Quality Improvement Programme.

Endoscopy units upload their quality improvement data to the National Quality Assurance and Improvement System for Endoscopy (NQAIS-Endoscopy) on a quarterly basis. NQAIS-Endoscopy is an online quality information system which allows the NEQI Programme to generate national reports on the key quality indicators in endoscopy in Ireland. Endoscopy units can monitor, review and improve the quality of their work in the context of national norms as well as share best practice with other participants. Individual endoscopists can access their own data and benchmark their performance again the national data.

The NEQI Programme has defined key quality indicators that are used to assess the performance of an endoscopy unit. Key quality indicators include median sedation dosages, caecal intubation rates and polyp detection rates. This information is recorded in NQAIS-Endoscopy.
For further information visit the programme website at
www.rcpi.ie/quality-improvement-programmes/gastrointestinal-endoscopy/

What falls within the scope of the competency model?

The model offers a framework for delivery and certification of competency based training in GI endoscopy within accredited training programmes operated by a recognised training body such as RCPI / RCSI. It covers training in upper and lower gastro-intestinal endoscopy, both the diagnostic and core therapeutic aspects (i.e. endoscopic haemostasis and polypectomy). Both Colleges have a defined curriculum for training within their own specialty (outlined below). Training in GI endoscopy is only one aspect of the overall training offered in Gastroenterology (RCPI) or General Surgery (RCSI) and implementation of this competency model should be aligned with the broader training programme. Trainees should use their training records (logbooks/portfolios) to record training and progress. The relevant training body should assess and certify trainees in accordance with the framework offered by this model.

RCPI – Institute of Medicine (IOM) Higher Specialist Training Programme in Gastroenterology

The curriculum for HST in Gastroenterology is updated regularly and is available for download at https://www.rcpi.ie/training/our-specialties/. It defines the number of supervised endoscopy procedures and the competency level required to complete the HST programme (see Appendix 9).

RCSI – Intercollegiate Surgical Curriculum Programme (ISCP)

An updated curriculum for surgical training will be introduced in August 2021. This introduces an outcomes based approach including new assessments called the multiple consultant report (MCR) encompassing the new concepts of the generic professional capabilities (GPCs) and capabilities in practice (CiPs). The new curriculum uses the level of supervision required for a procedure as a key determinant of when a trainee is ready for independent practice and includes recommendations on indicative numbers of procedures (See Appendix 10).

What falls outside the scope of the competency model?

It is recognised that there are doctors in training who undertake some or all of their endoscopy training outside of a specialty training programme. These individuals should be encouraged to keep a

logbook of training undertaken and the NDTP now offers an electronic logbook to facilitate this (http://www.nchder.ie/). This competency model serves as a useful tool for local units to provide structure and oversight of all of the training in GI endoscopy that they deliver. There is, however, no structure at present that permits a formal final certification of endoscopy skills outside of a formal structured training programme.

Training in specialist endoscopic techniques such as endoscopic ultrasound (EUS), endoscopic retrograde cholangiopancreatography (ERCP), small bowel enteroscopy and other forms of therapeutic luminal endoscopy fall outside the scope of this competency framework.

In both gastroenterology and surgical specialties, trainees should have the opportunity to train in either upper and / or lower gastrointestinal endoscopy. The expectation is that most gastroenterologists and general surgeons will undertake training in both upper and lower gastrointestinal endoscopy, including colonoscopy. Gastroenterology trainees who decide to focus on hepatology may be permitted to only train in diagnostic and therapeutic upper gastrointestinal endoscopy. Surgical trainees in non-colorectal disciplines may be allowed to train solely in upper gastrointestinal endoscopy and sigmoidoscopy. In all cases, a focus on emergency endoscopy / therapeutics and the management of gastrointestinal bleeding should be incorporated as these are likely to form part of the on-call skills requirements for general surgeons and gastroenterologists into the future. Trainees should decide which option best suits their training needs early in their training programme (i.e. by the end of the second year of specialist training) but should seek advice from and follow the requirements of their own specialty training programme.

Option 1	**Upper gastro-intestinal endoscopy only** • including diagnostic gastroscopy and therapeutic haemostasis
Option 2	**Upper gastro-intestinal endoscopy with flexible sigmoidoscopy** • including diagnostic gastroscopy and therapeutic haemostasis • including basic polypectomy skills (removal of polyps up to 1cm)

Option 3	**Upper gastro-intestinal endoscopy with full colonoscopy** • including diagnostic gastroscopy and therapeutic haemostasis • including basic and advanced polypectomy skills

Table 1. Options for training in gastro-intestinal endoscopy

Phase one of training

During phase one, prior to obtaining provisional approval, trainees should only undertake endoscopic procedures with supervision by their consultant trainer or another competent endoscopist. All endoscopy trainers should register as a user with NQAIS Endoscopy allowing them to view both their own and their trainees NQI data. Direct supervision is necessary during the initial phase to ensure that trainees acquire the necessary technical skills for safe and timely insertion and scope withdrawal. In addition, it is vital that they receive adequate support in the recognition of pathology and appropriate training in the appropriateness of biopsy and pre and post procedural management of the patient. During phase one the trainee should undertake at least a basic endoscopy skills course and undergo regular formative DOPS evaluation (minimum one per quarter). Examples of suitable DOPS forms are set out in appendices 1 – 9.

Once a trainee has completed the required minimum number of procedures and is deemed competent
/ independent by their trainer they can seek 'provisional approval'. For this the trainee is required to complete an additional summative upper and / or lower GI DOPS form, signed by their named consultant trainer. The applicant must score 'competent for independent practice' for all the summative DOPS procedures (deemed equivalent to Supervision Level III or above in the new surgical curriculum; Appendix 11). Once completed, the trainee submits copies of the their quarterly NQAIS reports to date and completed DOPS forms in a portfolio to their Unit Training Lead who will then issue a *Provisional Approval Certificate in GI Endoscopy* to the trainee. The requirements for provisional approval are primarily based on competency but include a minimum number of directly supervised procedures as defined by the curriculum of the specialist training programmes (Appendix
10 and 11). A minimum of 200 procedures is recommended in both upper and / or lower gastrointestinal endoscopy prior to 'provisional approval'. This figure is based on international data and represents the average number of procedures required to achieve independent competence (See references). It should be recognised that some trainees will need to undertake a greater number of procedures to attain the necessary levels of skill. If trainees undertake between 2 – 4 procedures each week it is envisaged that provisional approval can be completed 9during or by the end of the year two of endoscopy training. Training programmes and individual posts should be

structured to prevent / minimise interruptions in endoscopy skills acquisition. Each trainee should have access to a minimum of one endoscopy session per week throughout their endoscopy training programme.

The provisional approval summative DOPS should be performed by the named consultant trainer during the training year in question with independent verification by a second named trainer (ideally from a different discipline). The two trainers undertaking the certification process will review in detail the training records to ensure that an adequate number of procedures have been undertaken and that skills acquisition has occurred to a satisfactory degree. The certification DOPS evaluation will involve two directly observed procedures in either upper gastro-intestinal endoscopy (option one) and/or lower gastrointestinal endoscopy. The trainee should receive a grade in the DOPS evaluation of 'competent for independent practice' across all domains, for all of the procedures evaluated. If a procedure performed as part of the certification DOPS evaluation is terminated by the trainer because of specific difficulties with the procedure (e.g. patient factors), an additional procedure should then be performed with certification to the required level of competency.

If a trainee does not successfully complete the evaluation for provisional approval at first attempt an additional training plan should be agreed and completed and the process can then be repeated. There is no limit on the number of times the process can be repeated.

1) Registration as a user on NQAIS Endoscopy
2) NQAIS reports documenting completion of a suggested minimum number of 200 of each procedure (upper and / or lower) with satisfactory KPI (minimum D2 intubation ≥ 95%; caecal intubation rate ≥ 90%, unassisted physically i.e. the trainer does not take the scope)
3) Four most recent (within last three months) formative upper and / or lower GI DOPS scoring overall 'competent for independent practice'. No individual item in the last four DOPS can be scored 'maximum supervision' or 'significant supervision'
4) Endoscopy Basic Skills course attended (mandatory)
5) Hands on Colonoscopy Course (recommended, unless only training in upper GI endoscopy)

Phase two of training

Once a trainee is successful in obtaining provisional approval, they may then be permitted to perform endoscopy independently as long as there is a consultant trainer immediately available in the unit. The precise scope of practice and supervision arrangements of each trainee remain at the discretion and approval of their named consultant trainer.

During phase two trainees will continue to require a named supervising consultant for all procedures, but not necessarily require direct supervision at all times. It is important that during phase two trainees continue to enjoy direct hands-on training in order to develop skills, particularly in endoscopic haemostasis, polypectomy techniques and other therapeutic modalities relevant to their subspecialty interest.

During phase two trainees should also undertake additional mandatory training courses relevant to their subspecialty interest. Advanced training courses in polypectomy skills and GI bleeding / endoscopic haemostasis should be completed by the end of the training programme.

During phase two, monitoring of the key performance indicators of trainees is especially important. This should be undertaken by quarterly analysis of the endoscopist's NQAIS reports by the named consultant trainer and unit training lead. In addition, within the

structured training programme, these reports should be reviewed in detail at each annual training evaluation (EYA – end of year assessment in RCPI programme / ARCP – Annual Review of Competence Progression in RCSI programmes) in the relevant college in order to ensure satisfactory progress. If trainees fail to meet the minimum standards defined for key performance indicators (as defined NQI endoscopy guidelines) the training lead within each endoscopy unit may recommend that their provisional approval be suspended. A variable period of direct supervision will usually then be required and summative DOPS evaluation repeated before provisional approval is re-instated.

Final certification

Final evaluation and certification will again be performed by the named consultant trainer during the training year in question with independent verification by a second named trainer (ideally from a different discipline). It is suggested that this be performed in the penultimate year of the training programme to allow a period for remediation of any outstanding skills deficits identified prior to the end of the programme.

The trainee will apply to the relevant speciality training programme for a *Final Certificate of Competence in GI Endoscopy* which documents competency to perform gastroscopy and / or sigmoidoscopy or full colonoscopy independently. Provisional approval does not expire (but may be suspended) and there is no time limit between provisional approval and final certification. It is suggested that applicants complete a minimum of 100 additional procedures after provisional approval in order to demonstrate competency and to be eligible for final certification.

The two trainers undertaking the certification process will review in detail the training record to ensure that NQAIS reports show satisfactory performance metrics, that further formative DOPS for polypectomy and haemostasis skills have been undertaken and that skills acquisition has occurred to a satisfactory degree.

1) Maintain registration as a user on NQAIS Endoscopy
2) Completed provisional approval
3) NQAIS reports documenting completion of a suggested number of 100 (additional) of each procedure (upper and / or lower) with satisfactory KPI
4) Completion of relevant final summative DOPS (scoring 'competent for independent practice')
5) Completion GI Bleeding DOPS (minimum x4) demonstrating ability to perform endoscopic haemostasis (scoring 'competent for independent practice')
6) Completion of DOPyS evaluation (minimum x4) demonstrating ability to remove stalked and sessile polyps <2cms in size (scoring 'competent for independent practice')
7) Endoscopy Basic Skills course attended (mandatory)
8) Hands on Colonoscopy Skills Course (mandatory)
9) GI Bleeding and /or Polypectomy Skills course (highly recommended)

Annual appraisal (EYA / ARCP)

An endoscopy focused annual appraisal as part of the EYA / ARCP remains a core aspect of training. The annual review involves

examining KPIs based on the reports generated by the NQI programme, DOPS evaluations and an appraisal of progress in skills acquisition. The importance of this is manifold but will assist in early identification of trainees with a need for additional support and training. It will allow specific training goals to be defined for the next training year and ensure the training post to which a trainee is allocated is aligned with these training goals and targets.

Appendix 1 Record of performance for issuing a ProvisionalApproval Certificate in GI Endoscopy

IMCRN (or NMBI PIN) _____

Number of procedures to date (NQI Record) - _____ (NQI report appended)

Completed Formative DOPS (minimum four) - Yes/No (overall – 'competent for independent practice')

Completed Summative DOPS - Yes/No (appended - 'competent for independent practice')

Number of procedures to date (NQI Record) - _____ (NQI report appended)

Completed Formative DOPS (minimum four) - Yes/No (overall – 'competent for independent practice')

Completed Summative DOPS - Yes/No (appended - 'competent for independent practice')

	Signature	**Date**
Trainee – I have submitted copies of the NQI Records and Summative DOPS evaluations and wish to receive provisional approval for GI endoscopy		
Trainer – I have assessed the above-named trainee and confirm that they now have satisfied the requirements for provisional approval		
Unit Training Lead I have reviewed the documentation submitted and confirm that the requirements for provisional approval have been satisfied		

Provisional approval is subject to maintenance of satisfactory KPI and may be suspended at any time by the Unit Training Lead

Appendix 2 Record of performance for applying for a FinalCertificate of Competence in GI Endoscopy

Name of Trainee _____

IMCRN (or NMBI PIN) ___

1.) GASTROSCOPY (Delete as appropriate)

Number of procedures to date (NQI Record) - _____
(NQI summary report appended)

Completed FINAL Summative DOPS - Yes/No
(appended - 'competent for independent practice')

2.) FLEXIBLE SIGMOIDOSCOPY (Delete as appropriate)

Number of procedures to date (NQI Record) - _____
(NQI report appended)

Completed Summative DOPS - Yes/No
(appended - 'competent for independent practice')

3.) COLONOSCOPY (Delete as appropriate)

Number of procedures to date (NQI Record) - _____
(NQI report appended)

Completed FINAL Summative DOPS/DOPYS - Yes/No
(appended - 'competent for independent practice')

	Signature	**Date**
Trainee – I have submitted copies of the NQI Records and Summative DOPS evaluations and wish to receive final certification in GI endoscopy		
Trainer – I have assessed the above-named trainee and confirm that they now have satisfied the requirements for final certification		
Training Programme Director – I have reviewed the documentation submitted and confirm that the requirements for final certification have been satisfied		

TRAINEE DETAILS	Date of appraisal –
Name	National Training Number - IMCRN - NMBI PIN -
Programme (Tick) RCPI – HST in Gastroenterology RCSI – HST in Surgery UCD – MSc Advanced Nursing Practice	Year of Training Date of Provisional Skills Approval - Date of Final Endoscopy Certification -

CHECKLIST	Tick to indicate completion or add comment
Review of goals/ areas for improvement arising from previous year's structured appraisal	
Review of NQI reports for current training year DOPS completed (minimum 1 per quarter) Courses Completed	
Review of progress towards provisional skills approval and/or final certification	
Feedback on endoscopy trainer(s)	
Agree learning goals/areas for improvement for coming training year (please list below) 1.) 2.) 3.)	Additional Comments by Trainee

Signature of Trainee Signature(s) of Appraisal Panel

Date:_____ Date: _____

Date of procedure			
Trainee name		**IMC Registration no. (or NMBI PIN)**	
Trainer name		**IMC Registration no. (or NMBI PIN)**	
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					
Assess Indication					
Risk Assessment					
Confirms Consent					
Preparation inc. PPE					
Equipment Checks					
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	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				

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
Preparation	• Ensures appropriate pre-procedure checks and PPE use 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 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

Appendix 5 Formative DOPS for colonoscopy and flexible sigmoidoscopy

Date of procedure			
Trainee name		**IMC Registration no. (or NMBI PIN)**	
Trainer name		**IMC Registration no. (or NMBI PIN)**	
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	**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	**Minimal supervision** Trainee undertakes tasks requiring occasional supervisor input and verbal	**Competent for independent practice** no supervision required	**Not applicable**
Pre-procedure					
Indication					
Risk					
Confirms consent					
Preparation Inc PPE					
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					

DOPS form descriptors

Level of supervision	Maximal supervision	Significant supervision	Minimal supervision	Competent for independent	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** Supervisorundertakes 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 requiringoccasional supervisor input and verbal prompts	**Competent for independent practice** no supervision required
Please tick appropriate box				

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 appropriate pre-procedure checks and PPE use 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
	• **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
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 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

Appendix 6 Certification (summative) DOPS for gastroscopy

Date of procedure			
Trainee name		**IMC Registration no. (or NMBI PIN)**	
Assessor name		**IMC Registration no. (or NMBI PIN)**	
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	**Not competent for independent practice** supervision required	**Competent for independent practice** no supervision required
Pre-procedure		
Indication		
Risk		
Confirms consent		
Preparation/PPE		
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		IMC Registration no. (or NMBI PIN)	
Assessor signature			

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
Preparation	• Ensures appropriate pre-procedure checks and PPE use 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
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
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

Appendix 7 Certification (Summative) DOPS for colonoscopy and flexible sigmoidoscopy

Date of procedure			
Trainee name		**IMC Registration no. (or NMBI PIN)**	
Assessor name		**IMC Registration no. (or NMBI PIN)**	
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	**Not competent for independent practice** supervision required	**Competent for independent practice** no supervision required
Pre-procedure		
Indication		
Risk		
Confirms consent		
Preparation/PPE		
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	Not 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	Not competent for independent practice supervision required	Competent for independent practice no supervision required
Please tick appropriate box		

Assessor name		IMC Registration no. (or NMBI PIN)	
Assessor signature			

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
Preparation	• Ensures appropriate pre-procedure checks and PPE use 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
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
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
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

Appendix 8 Formative DOPyS for colonoscopy and sigmoidoscopy

Date of procedure			
Trainee name		**IMC Registration no. (or NMBI PIN)**	
Trainer name		**IMC Registration no. (or NMBI PIN)**	
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	**Minimal supervision** Trainee undertakes tasks requiring occasional supervisor input and verbal	**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 **Level of supervision**					
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 & 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				

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	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	emonstrates 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 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. 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

Appendix 9: Formative DOPS for upper GI bleeding

Date of procedure					
Trainee name			**Membership no. (eg. GMC/NMC)**		
Trainer name			**Membership no. (eg. GMC/NMC)**		
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 criteria	**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					
Prioritisation					
Setting & resources					
Safe airway					
Iv access					
Consent					
Monitoring					
Sedation					
Comments					
INTUBATION AND ASSESSMENT OF LESION					
Intubation					
Visualisation of lesion • Suction • Flush • Clot removal					
Characterisation of lesion					
Comments					
MANAGEMENT OF BLEEDING LESIONS					
Treatment decision re: therapy					
Adrenaline injection: • Needle handling • Dose/volume					
Clips: • Check functioning • Deployment					
Banding: • Kit set up • Deployment					

Level of supervision	Maximal supervision	Significant supervision	Minimal supervision	Competent for independent practice	Not applicable
Thermal therapy: • Setting • Use					
Other endotherapy					
Maximal haemostasis achieved					
POST ENDOSCOPY MANAGEMENT					
Documentation of case					
Post endoscopy management					
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	
Prioritisation	• Procedure prioritized and undertaken at appropriate time of day (in/out of hours) • Patient stability & safety of the procedure has been assessed
Setting & preparation	• Appropriate for case: Theatres/Endoscopy Unit/ITU • Appropriately trained staff present • Appropriate pre-procedure checks are performed as per local policies • Appropriate endotherapy equipment available • All assisting staff are fully appraised of the current case • All medications and accessories likely to be required for this case are available
Safe airway	• Intubated if appropriate • Suction & positioning
Iv access	• 2 x large bore IV cannula
Informed consent	• Purpose of endoscopy/alternatives • Risks specific to bleeding e.g. aspiration and failure to cessate • Discussion with colleagues & relatives if patient lacks capacity
Monitoring	• Oxygen saturations, pulse, BP and cardiac monitor
Sedation	• Appropriate dose
INTUBATION AND ASSESSMENT OF LESION	
Intubation	• Maintains luminal view
Visualisation of lesion	• Inspects all areas thoroughly
- Suction	• Correct channel positioning • Enables good views • Decreases aspiration risk
- Flush	• Adequate flush used • Scope handling
- Clot removal	• Appropriate method used • Injection 1st if appropriate
Characterisation of lesion	• Correct description of lesion • Identifies stigmata of recent haemorrhage • Identifies stigmata associated with re bleeding risk • Correct description of location (+ photo)
MANAGEMENT OF BLEEDING LESIONS	

Treatment decision re: therapy	• Chooses appropriate therapy
	  ○ For lesion & setting
	  ○ For level of experience

ADRENALINE INJECTION: Needle handling **- Dose/Volume**	• Clear instructions to assistant • Appropriate area/depth injected • Appropriate dose injected • Correct concentration of adrenaline used
CLIPS: Check functioning Deployment	• Knowledge of clips used • Clip function checked, clear instructions • Correct targeted placement • Correct & timely deployment • Appropriate number of clips used

BANDING: Kit set up Deployment	• Correct scope/kit set up • Safe re intubation • Appropriate selection of 1st varix • Distal suction positioning • Red out obtained • Band deployed accurately/smoothly • Repeat banding as appropriate

THERMAL THERAPY: Setting **Use**	Heater Probe, APC • Knowledge of local equipment available • Safety considered/grounding pad attached • Correct probe selected • Appropriate settings selected • Clear instructions to assistant • Correct targeted placement
OTHER ENDOTHERAPY:	List details in comments box • Variceal Glue Injection • Haemospray • Sclerotherapy
MAXIMAL HAEMOSTASIS ACHEIVED	• Haemostasis achieved if possible • Combination haemostasis used
POST ENDOSCOPY MANAGEMENT	
DOCUMENTATION OF CASE	• Indications and pre procedure risk scoring • Accurate description of lesions identified • Location documented with photographs • Description of re bleeding stigmata • Description of endotherapy used • Problems encountered • Post endoscopy management plan *(below)*
POST ENDOSCOPY MANAGEMENT PLAN	• Re bleeding risk • Specific treatments to be initiated • Plan for refractory bleeding • Repeat OGD instructions • Verbal handover to nursing & medical staff • Re assesses patient stability before movement for ongoing care.
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

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