

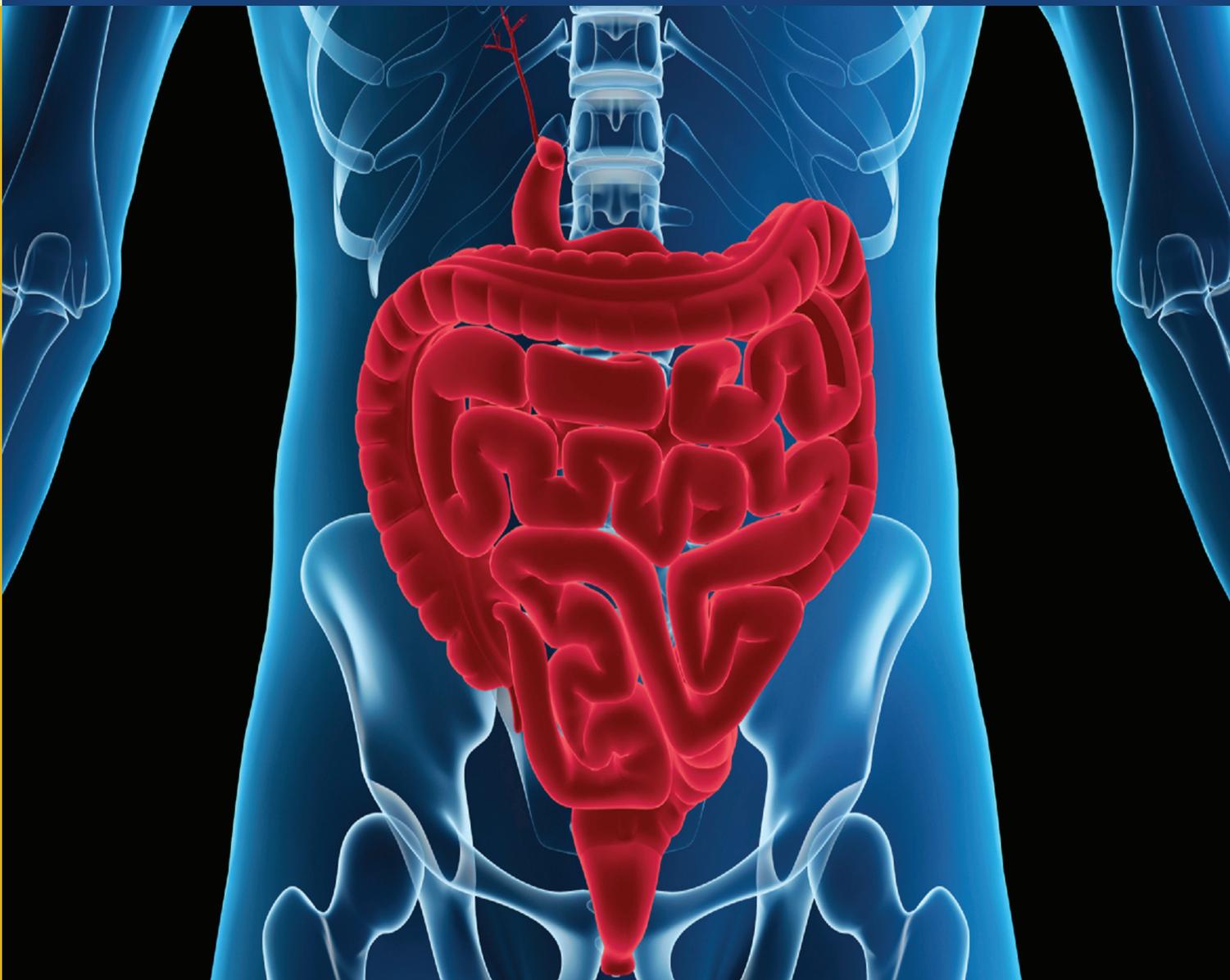


The Royal Australasian
College of Physicians

Gastroenterology

Advanced Training Curriculum

Adult Medicine Division
Paediatrics & Child Health Division





The Royal Australasian
College of Physicians

Physician Readiness for Expert Practice (PREP) Training Program

Gastroenterology Advanced Training Curriculum

TO BE USED IN CONJUNCTION WITH:

Basic Training Curriculum – Adult Internal Medicine
Basic Training Curriculum – Paediatrics & Child Health
Professional Qualities Curriculum

ACKNOWLEDGEMENTS

Fellows, trainees and RACP staff have contributed to the development of this curriculum document.

The College specifically thanks those Fellows and trainees who have generously contributed to the development of these curriculum documents, through critical comments drawn from their knowledge and experience and the donation of their time and professional expertise.

The following Fellows and trainees, in particular, deserve specific mention for their contribution:

- Dr Sally Bell, FRACP
- A/Prof Geoff Hebbard, FRACP
- Dr Michael Burt, FRACP
- Dr Charles Cock, FRACP
- Dr Paul Desmond, FRACP
- Prof Anne Duggan, FRACP
- Dr Katherine Ellard, FRACP
- A/Prof Alan Fraser, FRACP
- A/Prof Robert Fraser, FRACP
- Prof Peter Gibson, FRACP
- Dr Paul Gow, FRACP
- Prof Michael Grimm, FRACP
- Dr David Koorey, FRACP
- Dr Greta Lee, FRACP
- Dr Peter Lewindon, FRACP
- Dr Lucy Lim
- Dr David Moore, FRACP
- A/Prof Mark Oliver, FRACP
- Dr Christopher Pokorny, FRACP
- Dr Anthony Rode
- A/Prof David Russell, FRACP
- Dr Katrina Watson, FRACP
- Prof Neville Yeomans, FRACP

The RACP gratefully acknowledges the contribution of the Gastroenterological Society of Australia to the development of this curriculum.

The process was managed by the Curriculum Development Unit within the College's Education Deanery, who designed the document, drafted content material, organised and facilitated writing workshops, developed resource materials, and formatted the final document.

CONTACT DETAILS

THE ROYAL AUSTRALASIAN COLLEGE OF PHYSICIANS

AUSTRALIA

145 Macquarie Street
Sydney
NSW 2000
Australia

Tel: (+61) (2) 9256 5444
Fax: (+61) (2) 9252 3310

Email: racp@racp.edu.au
Website:
www.racp.edu.au

AOTEAROA NEW ZEALAND

Level 10
3 Hunter Street
Wellington 6011
New Zealand

Tel: (+64) (4) 472 6713
Fax: (+64) (4) 472 6718

Email: racp@racp.org.nz
Website: www.racp.edu.au

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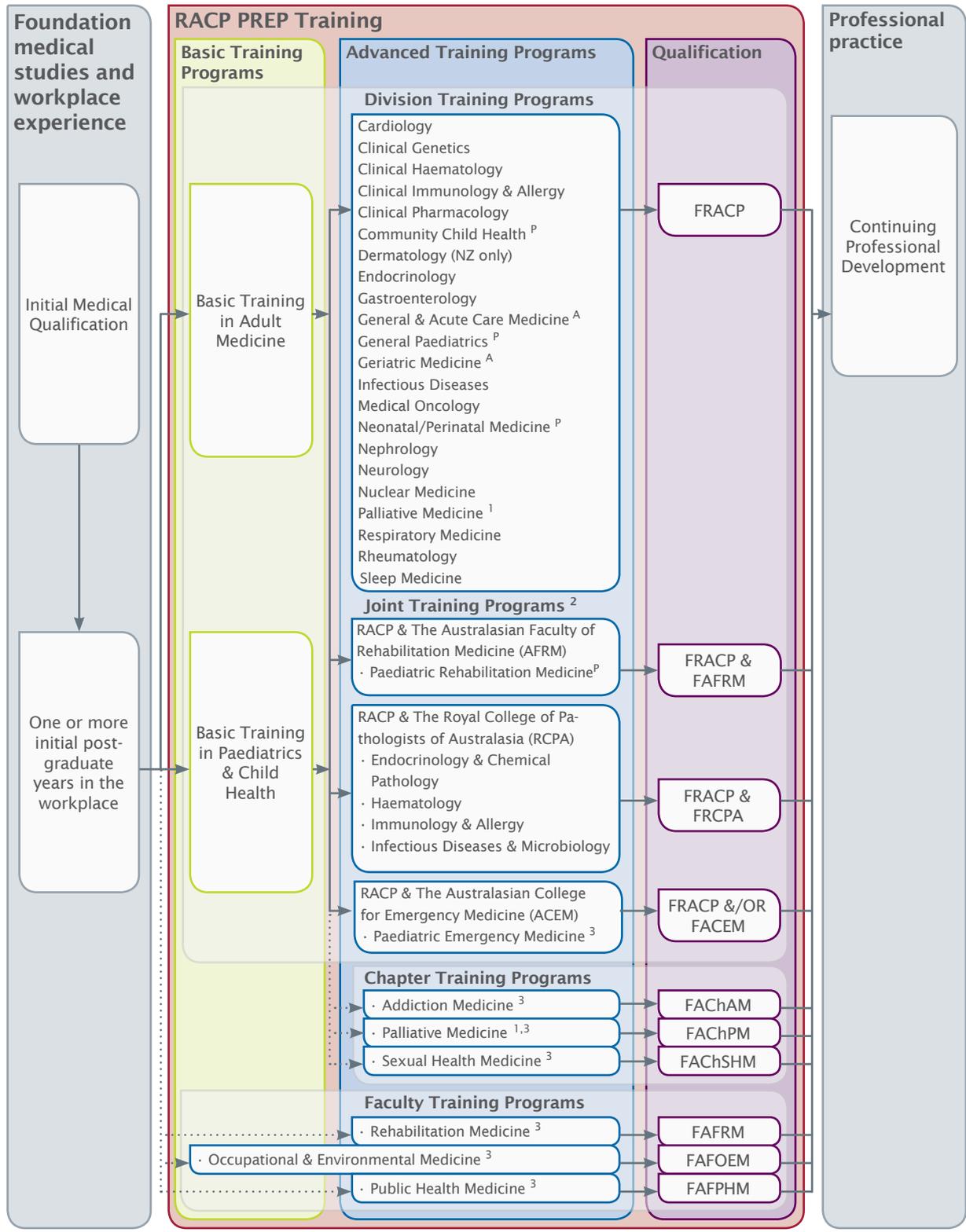
1st edition 2010 (revised 2013).

Please note: No Domains, Themes or Learning Objectives have been updated for this edition; design changes ONLY.

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RACP FELLOWSHIP TRAINING PATHWAYS AND THE CONTINUUM OF LEARNING



P Trainees must complete Basic Training in Paediatrics & Child Health to enter this program.
 A Trainees must complete Basic Training in Adult Medicine to enter this program.
 1 Trainees who have entered Advanced Training in Palliative Medicine via a RACP Basic Training Program will be awarded FRACP upon completion and may subsequently be awarded FACHPM. Trainees who have NOT entered Advanced Training in Palliative Medicine via a RACP Basic Training Program will only be awarded FACHPM upon completion.
 2 The Child & Adolescent Psychiatry Joint Training Program with the Royal Australian and New Zealand College of Psychiatrists (RANZCP) is currently under review by the RACP and RANZCP and closed to new entrants at present.
 3 Alternative entry requirements exist for these training programs; please see the corresponding PREP Program Requirements Handbook for further information.
 NB1: This diagram only depicts training programs that lead to Fellowship. Please see the RACP website for additional RACP training programs.
 NB2: For further information on any of the above listed training programs, please see the corresponding PREP Program Requirements Handbook.

OVERVIEW OF THE SPECIALTY

Gastroenterology and hepatology are branches of internal medicine, usually practised together, that are concerned with prevention, investigation, treatment of and research into illnesses involving the gastrointestinal tract and liver.

Gastroenterologists have a sound knowledge of general internal medicine or paediatrics and an appreciation and understanding of the close relationship that often exists between diseases of the gastrointestinal tract and of other organ systems. In common with other clinicians they have a critical and analytical approach to effective clinical management and a positive approach to health service management, teaching and research.

Most gastroenterology in Australia and New Zealand is practised in the private setting, often with a fractional public hospital appointment. The conditions seen in this setting differ substantially in frequency from those seen in public hospitals which is where most gastroenterology training occurs and this needs to be taken into account by both trainees and supervisors during training.

CURRICULUM OVERVIEW

Gastroenterology – Advanced Training Curriculum

This curriculum outlines the broad concepts, related learning objectives and the associated theoretical knowledge, clinical skills, attitudes and behaviours required and commonly used by gastroenterology and hepatology physicians within Australia and New Zealand.

The purpose of Advanced Training is to build on the cognitive and practical skills acquired during Basic Training, focussing on a specific specialty. At the completion of Advanced Training in Gastroenterology, trainees should be competent to provide unsupervised comprehensive medical care in gastroenterology at consultant level.

The 'prototypical gastroenterologist', for whom this curriculum defines the level of knowledge and competencies, is that of an independent practitioner in suburban/rural practice with a fractional public hospital appointment including outpatient and service/emergency endoscopy responsibilities (see below).

Attaining competency in all aspects of this curriculum is expected to take three years of training. Most experience will be obtained within the two core years, but many trainees will have residual training requirements at the end of the core years that will need to be addressed within the elective year. It is expected that most teaching, learning and assessment associated with the gastroenterology curriculum will be undertaken within the context of the trainee's everyday clinical practice. As such it will need to be implemented within the reality of current workplace and workforce issues and the needs of health service provision. Additional learning will occur through attendance at conferences and other meetings and trainees are encouraged to take advantage of all learning opportunities, including Gut Clubs and talks given on a one off basis by visiting experts. Some learning will require the trainee to engage in self-directed study.

It is important for trainees to understand that there are a variety of approaches to management of common conditions within gastroenterology and hepatology. The appreciation of the diversity of opinions and practices requires exposure to a range of clinicians and is unlikely to be achieved within a single hospital. Trainees should therefore aim to experience a variety of hospitals during their training, including both large central metropolitan tertiary/quaternary hospitals with patients suffering from complex and rare conditions, as well as outer metropolitan/non-metropolitan hospitals which see a more 'unfiltered' range of gastroenterology/hepatology conditions. If possible, a period of time in a private practice setting is also advised, particularly if that is the likely career path of the trainee. Trainees need to be aware that the majority of gastroenterology as practised in Australia and New Zealand involves the management of a range of common conditions, e.g. functional gastrointestinal diseases, that are not well represented in the training environment of large public hospitals. In order to gain adequate experience in the management of these conditions, trainees need to discuss with their supervisors how they can access settings where these conditions are likely to be seen.

Learning objectives in this curriculum may have Suggested Teaching and Learning Methods. It should be noted that these are suggestions rather than requirements and that there will be other ways to gain the knowledge and skills required. In most cases however, other than esoteric conditions, merely reading a textbook will not suffice and it is preferable for learning activities to be based on actual cases and/or patients where the trainee is involved directly in

assessment and/or decision making. In many sections the Suggested Teaching and Learning Methods are not described, which indicates that it is expected that these conditions will be encountered during the normal course of clinical work, inpatient, outpatient and emergency, over the training period.

Learning and assessment is highly dependent on the quality of supervision, the frequency of contact with and feedback skills of the supervisor. Supervisors and trainees need to develop a close working and teaching relationship to achieve this. Supervisors and trainees should meet within the first week of the trainee commencing the term to define learning objectives for the term, and then regularly during the term, at least every 12 weeks in a formal meeting to review progress.

Trainees should familiarise themselves with the core curriculum at the commencement of their core training and reassess their level of knowledge against the curriculum regularly during training. The Learning Needs Analysis tool should be completed at the commencement of each term with the outcome of that process discussed with the supervisor and used to set learning goals for the term. An analysis at the end of the second core year defines which areas will need to be addressed during the elective year.

Assessment of most of the aspects of the curriculum will be covered in the interaction between the trainee and supervisor, the four Case-based Discussions cannot cover the range of conditions seen in gastroenterology and hepatology, but provides a general guide to the trainee and supervisor as to progress. Each of the Case-based Discussion formative assessments should cover different underlying types of disease, with a balance of luminal gastroenterology and hepatology, inpatient and outpatient conditions covered.

There may be learning objectives that overlap with other domains; however, to avoid repetition, these have been assigned to only one area. In practice, it is anticipated that within the teaching/learning environment, all aspects of each learning objective would be explored.

Note: The curricula should always be read in conjunction with the relevant College Training Handbook available on the College website.

Professional Qualities Curriculum

The Professional Qualities Curriculum (PQC) outlines the range of concepts and specific learning objectives required and used by all physicians and paediatricians, regardless of their specialty or area of expertise. It spans both the Basic and Advanced Training Programs and is also a key component of the Continuing Professional Development (CPD) program.

Together with the various Basic and Advanced Training Curricula, the PQC integrates and fully encompasses the diagnostic, clinical, and educative-based aspects of the physician's/paediatrician's daily practice.

Each of the concepts and objectives within the PQC will be taught, learnt and assessed within the context of everyday clinical practice. It is important, therefore, that they be aligned with, and fully integrated into, the learning objectives within this curriculum.

EXPECTED OUTCOMES AT THE COMPLETION OF TRAINING

At the completion of the Advanced Training Program in Gastroenterology, as defined by this curriculum, it is expected that a new Fellow will have developed the clinical skills and have acquired the theoretical knowledge for competent gastroenterology practice. It is expected that a new Fellow will:

- have a thorough knowledge and understanding of basic physiological and anatomical principles
- have a thorough knowledge and understanding of the normal structure and function of the gastrointestinal tract and associated organs
- have a comprehensive clinical knowledge of gastroenterology and hepatology disease processes and their effect on gastrointestinal and liver function
- be competent and confident in the use and interpretation of the range of specialised diagnostic processes, imaging techniques, tests and procedures employed in clinical assessment
- be fully competent in the diagnosis, treatment and management of gastroenterology and liver disorders and the interactions of these with other diseases

- be able to encourage, lead and participate in a harmonious team approach to patient care
- have developed and be able to apply appropriate management, communication and patient advocacy skills
- have developed a capacity to audit their own practice and engage in quality improvement activities
- be able to contribute to the education of colleagues, students, junior medical officers, and other health care workers, through teaching and professional leadership
- have the skills required to process new knowledge through actively participating in clinical and/or basic research and through a commitment to continuing medical education.

The level of performance at the end of the core years of gastroenterology and hepatology training is that required for independent unsupervised practice at a consultant level. The levels of knowledge and skill detailed in this document have therefore been based on those required for a consultant in an office-based suburban/rural practice comprising:

- patients referred by general practitioners with a full range of gastroenterological and hepatology conditions
- upper gastrointestinal endoscopy and colonoscopy lists in a private hospital/day care facility
- inpatient management at a private hospital, including perioperative management of gastroenterology and hepatology problems in patients undergoing surgical procedures
- an appointment at a suburban teaching hospital as a gastroenterologist with inpatient, outpatient, endoscopy and teaching responsibilities.

Thus the requirements are for detailed knowledge of common and important gastroenterology and hepatology conditions, and background knowledge of less common conditions that need to be recognised, but not necessarily treated directly by the practitioner.

The document describes the base level of knowledge and performance required and it is expected that many trainees will go on to acquire more detailed knowledge of specific areas with ongoing training.

CURRICULUM THEMES AND LEARNING OBJECTIVES

Each of the curriculum documents has been developed using a common format, to ensure consistency of approach across the spectrum of training.

Domains

The Domains are the broad fields which group common or related areas of learning.

Themes

The Themes identify and link more specific aspects of learning into logical or related groups.

Learning Objectives

The Learning Objectives outline the specific requirements of learning. They provide a focus for identifying and detailing the required knowledge, skills and attitudes. They also provide a context for specifying assessment standards and criteria and for identifying teaching and learning strategies that may be helpful to acquire the skills and knowledge required.

Colour coding in the learning objective tables

The various components within the learning objective tables have been shaded to differentiate between common, adult and paediatric specific material as follows.

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY
Theme	Anatomy and Physiology
Learning Objective	Describe normal and abnormal physiology and anatomy of the gastrointestinal tract and associated organs
Knowledge	Skills
White: Common material	White: Common material
Grey: Adult specific material	Grey: Adult specific material
Green: Paediatric specific material	Green: Paediatric specific material

LEARNING OBJECTIVES TABLES

DOMAIN 1	
BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.1	Anatomy and Physiology
Learning Objectives	
1.1.1	Describe normal and abnormal physiology and anatomy of the gastrointestinal tract and associated organs
1.1.2	Describe the histology and pathology of the gastrointestinal tract and liver
1.1.3	Explain the basic physiological processes underlying digestion, absorption and metabolism
Theme 1.2	Pharmacotherapy
Learning Objectives	
1.2.1	Describe the principles of pharmacology
Theme 1.3	Principles of Molecular and Cellular Physiology and Genetics
Learning Objectives	
1.3.1	Describe the principles of molecular physiology
1.3.2	Explain the principles of genetic counselling and testing
Theme 1.4	Gastrointestinal Cancer
Learning Objectives	
1.4.1	Explain the general principles of oncology relevant to the gastrointestinal tract and liver
1.4.2	Describe the principles of screening and surveillance
Theme 1.5	Developmental Gastroenterology
Learning Objectives	
1.5.1	Assess and manage congenital and early onset disorders
1.5.2	Describe management issues related to adolescent transition medicine
1.5.3	Assess and manage older people with gastrointestinal and liver conditions
Theme 1.6	Quality Assurance and Research Methodology
Learning Objectives	
1.6.1	Identify and apply the methods used in research and quality improvement
1.6.2	Explain basic epidemiological concepts and their application to gastroenterology and hepatology

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS
Theme 2.1	Common Presentations
Learning Objectives	
2.1.1	Assess and manage dysphagia
2.1.2	Assess and manage abdominal pain
2.1.3	Assess and manage abdominal bloating and gas
2.1.4	Assess and manage diarrhoea
2.1.5	Assess and manage weight loss
2.1.6	Assess and manage constipation
2.1.7	Assess and manage incontinence
2.1.8	Assess and manage anaemia
2.1.9	Assess and manage abnormal liver function tests
2.1.10	Assess and manage obstructive jaundice
2.1.11	Assess and manage rectal bleeding
2.1.12	Assess and manage nausea and vomiting
Theme 2.2	Gastrointestinal Emergencies
Learning Objectives	
2.2.1	Assess and manage acute upper and lower gastrointestinal bleeding
2.2.2	Assess and manage patients with food bolus obstruction or ingested foreign bodies
2.2.3	Assess and manage acute abdomen
2.2.4	Assess and manage fulminant and subfulminant liver failure
2.2.5	Assess and manage fulminant colitis
2.2.6	Assess and manage cholangitis
2.2.7	Assess and manage paracetamol poisoning
DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease
Learning Objectives	
3.1.1	Assess and manage gastro-oesophageal reflux disease
3.1.2	Assess and manage non-malignant dysphagia and odynophagia

3.1.3	Assess and manage peptic ulcer disease
3.1.4	Assess and manage small bowel disease
3.1.5	Manage pre-malignant lesions to reduce the risk of cancer
3.1.6	Diagnose and manage oesophageal cancer
3.1.7	Diagnose and manage gastric cancer
3.1.8	Diagnose and manage neuroendocrine tumours of the gastrointestinal tract
3.1.9	Diagnose and manage small bowel tumours
Theme 3.2	Lower Gastrointestinal Luminal and Anal Conditions
Learning Objectives	
3.2.1	Diagnose and manage diverticular disease
3.2.2	Diagnose and manage colonic angiodysplasia
3.2.3	Diagnose and manage colonic polyps
3.2.4	Diagnose and manage colorectal carcinoma
3.2.5	Diagnose and manage anorectal disease
Theme 3.3	Functional and Neurogastroenterological Disorders
Learning Objectives	
3.3.1	Diagnose and manage functional dyspepsia
3.3.2	Diagnose and manage non-cardiac chest pain and functional heart burn
3.3.3	Diagnose, manage and treat irritable bowel syndrome
3.3.4	Diagnose and manage pelvic floor dysfunction
3.3.5	Diagnose and manage neurogastroenterological disorders
Theme 3.4	Inflammatory Bowel Disease
Learning Objectives	
3.4.1	Diagnose and manage inflammatory bowel disease
3.4.2	Assess and manage the dietary requirements of patients with inflammatory bowel disease
Theme 3.5	Gastrointestinal Immunology and Infections
Learning Objectives	
3.5.1	Explain the principles of immunology and the gastrointestinal system
3.5.2	Describe the presentation, investigation and management of gastrointestinal infections in immune competent and immune deficient individuals

3.5.3	Explain the diagnosis and management of food allergy
3.5.4	Explain the diagnosis and management of autoimmune disorders affecting the gastrointestinal tract and liver
Theme 3.6	Congenital, Neonatal and Inherited Disorders
Learning Objectives	
3.6.1	Diagnose and manage congenital and inherited disorders of metabolism
Theme 3.7	Nutrition
Learning Objectives	
3.7.1	Describe the principles of nutritional assessment and investigation
3.7.2	Describe the consequences of gut failure and methods of nutritional support
3.7.3	Manage obesity and its complications
3.7.4	Identify eating disorders
3.7.5	Assess and manage food intolerance due to non-absorbed carbohydrates
DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.1	Liver Disease
Learning Objectives	
4.1.1	Diagnose, manage and treat viral hepatitis
4.1.2	Manage patients with alcoholic liver disease
4.1.3	Describe the clinical features, investigation and management of cholestatic liver diseases
4.1.4	Diagnose and manage fatty liver disease
4.1.5	Diagnose and manage drug induced liver injury
4.1.6	Investigate and manage autoimmune liver disease
4.1.7	Diagnose, investigate and manage cirrhosis, portal hypertension and ascites
4.1.8	Investigate and manage benign hepatic lesions
4.1.9	Assess and manage patients with hepatocellular carcinoma
4.1.10	Investigate and manage vascular disorders of the liver
4.1.11	Describe the principles of management of patients for liver transplantation
4.1.12	Recognise and describe the presentation, investigation and management of unusual liver infections
4.1.13	Describe the presentation, investigation and management of pregnancy related liver disease

4.1.14	Manage inherited and metabolic liver diseases
4.1.15	Describe the presentation, pathophysiology, investigation and management of neonatal liver diseases
Theme 4.2	Pancreatic Disease
Learning Objectives	
4.2.1	Diagnose and manage acute and chronic pancreatitis
4.2.2	Describe the investigation of a pancreatic mass/cystic lesion
4.2.3	Diagnose and manage malignant pancreatic pathology
Theme 4.3	Biliary Disease
Learning Objectives	
4.3.1	Diagnose and manage malignant biliary obstruction
4.3.2	Describe the clinical approach to a paediatric patient with biliary pathology
4.3.3	Diagnose and manage gallstone disease
4.3.4	Diagnose and manage acute and chronic cholecystitis
DOMAIN 5	INTERFACES WITH GASTROINTESTINAL MEDICINE
Theme 5.1	Systemic Illness
Learning Objectives	
5.1.1	Assess the impact of systemic disease on gastrointestinal and hepatic structure and function
Theme 5.2	Psychosocial Aspects of Gastrointestinal Medicine
Learning Objectives	
5.2.1	Describe the psychosocial aspects of gastrointestinal medicine
Theme 5.3	Principles of Gastrointestinal Surgery
Learning Objectives	
5.3.1	Describe the principles of upper gastrointestinal, lower gastrointestinal, hepatobiliary, endoscopic gastrointestinal surgery
Theme 5.4	Public Health Issues
Learning Objectives	
5.4.1	Explain the delivery of gastrointestinal services to the population
5.4.2	Manage gastrointestinal disease in Aboriginal and Torres Strait Islander and Māori and Pacific Islander populations

Theme 5.5	Intensive Care
Learning Objectives	
5.5.1	Manage gastrointestinal complications of critical illness
DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS
Theme 6.1	Gastrointestinal Endoscopy
Learning Objectives	
6.1.1	Describe principles and methods of obtaining informed consent
6.1.2	Describe the general principles of gastrointestinal endoscopy
6.1.3	Explain the principles of upper gastrointestinal endoscopy and its application to patient management
6.1.4	Explain the role of therapeutic upper endoscopy
6.1.5	Explain the principles of colonoscopy and its application to patient management
6.1.6	Explain the principles of endoscopic retrograde cholangio-pancreatography and its role in management
6.1.7	Interpret endoluminal imaging of the small intestine
6.1.8	Explain the principles and role of endoscopic ultrasound
Theme 6.2	Gastrointestinal Imaging
Learning Objectives	
6.2.1	Initiate and interpret gastrointestinal imaging
Theme 6.3	Functional Investigations
Learning Objectives	
6.3.1	Initiate and interpret physiological gastrointestinal investigations

DOMAIN 1		BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.1		Anatomy and Physiology	
Learning Objective 1.1.1		Describe normal and abnormal physiology and anatomy of the gastrointestinal tract and associated organs	
Knowledge		Skills	
<ul style="list-style-type: none"> explain the normal anatomy of the gastrointestinal (GI) tract and liver, including the gross anatomical relationships and macroscopic structure of tubular and solid organs identify GI and associated organs on cross sectional and three dimensional imaging, including common anatomical variations describe the blood supply and venous drainage of the GI tract and liver, including the clinical importance describe the lymphatic drainage of the gut and liver and the relevance of this to GI oncology describe the wall structure of a typical tubular organ and the relevance of this to function describe the innervation of the gut and liver describe normal and abnormal development of the GI tract, pancreas and associated organs recognise common variations in structure, e.g. duplication cysts, pancreas divisum outline the embryological relationship between the GI system and other systems, particularly the respiratory and urogenital systems describe abnormalities in embryological development of the GI system that may lead to disease 		<ul style="list-style-type: none"> explain knowledge points to patients. 	
<ul style="list-style-type: none"> describe the developmental abnormalities involved in common congenital anomalies involving the GI system, e.g. fistulae, atresias, duplications and neural abnormalities. 			
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> attendance at radiology and histopathology sessions. 			

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.1	Anatomy and Physiology	
Learning Objective 1.1.2	Describe the histology and pathology of the gastrointestinal tract and liver	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the normal microscopic structure of the GI tract and associated organs recognise the macroscopic and microscopic pathology of common diseases affecting the GI tract, pancreas and associated organs. 	<ul style="list-style-type: none"> identify normal regions of the gut from histopathological sections explain the processes of inflammation, healing and neoplasia to a patient. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attendance at pathology sessions. 		

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.1	Anatomy and Physiology	
Learning Objective 1.1.3	Explain the basic physiological processes underlying digestion, absorption and metabolism	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the biochemistry of and physiological processes controlling gastric, biliary and pancreatic secretion describe the processes by which carbohydrate, protein, fat and micronutrients are digested and absorbed outline the amount and content of fluid secreted and absorbed by the GI tract and where this occurs describe the normal patterns of GI motility in the fasting and fed states outline the normal range for the transit time of GI contents explain the effects of physiological variables such as stress on GI motor, sensory and secretory function identify the major proteins produced by the liver and the effects of deficiencies of these identify the major metabolic functions of the liver and the effects of a reduction in these 	<ul style="list-style-type: none"> explain knowledge points to patients. 	

DOMAIN 1		BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.1		Anatomy and Physiology	
Learning Objective 1.1.3		Explain the basic physiological processes underlying digestion, absorption and metabolism	
<ul style="list-style-type: none"> identify the major excretory functions of the liver and the effects of a reduction of these describe the biochemical basis of the tests used to assess liver damage and hepatic function, including changes with age and the effects of physiological processes, e.g. pregnancy 			
<ul style="list-style-type: none"> describe changes in the above functions over the infant/paediatric age range. 			

DOMAIN 1		BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.2		Pharmacotherapy	
Learning Objective 1.2.1		Describe the principles of pharmacology	
Knowledge		Skills	
<ul style="list-style-type: none"> outline the concepts of pharmacokinetics and pharmacodynamics and how these are affected by physiological and pathological states recognise the effects of GI and liver disease on the absorption, metabolism and excretion of drugs describe the use of drug formulations to deliver medications to specific regions of the GI tract outline the safety profile of common GI drugs, including interactions with other drugs, foods and alternative medicines recognise the interaction between individual genetic makeup and response to/toxicity of drugs recognise changes in drug pharmacokinetics and pharmacodynamics with age describe the uses, potential benefits and risks of alternative medicines recognise the importance of cost-benefit and risk-benefit analyses in decisions to prescribe expensive or potentially toxic drugs describe the GI and hepatological side effect profiles of drugs commonly prescribed for non-GI diseases 		<ul style="list-style-type: none"> individualise drug doses based on age, body size and pharmacogenetics recognise when a patient is at risk of side effects and drug interactions explain the mechanisms of action and side effects of medication to patients interact with hospital and community pharmacists report on adverse drug reactions, including to the relevant national committee review a list of drugs for likely causes of symptoms/toxicity. 	

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.2	Pharmacotherapy	
Learning Objective 1.2.1	Describe the principles of pharmacology	
	<ul style="list-style-type: none"> recognise the mechanisms of hepatic toxicity of drugs and treatments for hepatotoxicity identify drugs commonly implicated in causing nausea, diarrhoea, constipation and hepatic toxicity, and the mechanism of those effects. 	

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.3	Principles of Molecular and Cellular Physiology and Genetics	
Learning Objective 1.3.1	Describe the principles of molecular physiology	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the structure of genetic information and the mechanisms by which replication of DNA occurs describe common forms of DNA damage and repair, and the potential effects of these on protein synthesis outline the mechanisms by which gene expression is controlled describe the basic mechanisms by which abnormalities in genes or gene expression may lead to disease describe the mechanisms by which proteins are produced and secreted recognise the differences between germline and epigenetic changes in the pathogenesis of disease describe the concept of biomarkers for disease, including concepts of sensitivity, specificity and the importance of changes over time discuss issues in the interpretation of biomarkers in the assessment of disease 	<ul style="list-style-type: none"> explain the mechanism by which a genetic abnormality leads to disease identify some common GI biomarkers. 	
<ul style="list-style-type: none"> recognise changes in biomarkers with age. 		
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attendance at meetings and genetic clinics, e.g. familial cancer. 		

DOMAIN 1		BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.3		Principles of Molecular and Cellular Physiology and Genetics	
Learning Objective 1.3.2		Explain the principles of genetic counselling and testing	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the principles of genetic counselling, including privacy and informed consent for genetic testing describe the forms of increased genetic risk and patterns of inheritance describe the principles of penetrance and the relationship between genotype and phenotype identify the forms of genetic testing available, e.g. full sequencing/testing for a limited range of mutations, and the differences between them describe the principles of prenatal genetic diagnosis and the relevance of this for inherited GI diseases explain the social and economic implications for an individual found to have a significant genetic abnormality. 		<ul style="list-style-type: none"> perform pre- and post-test counselling in patients at risk of genetic conditions. 	
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> attend a genetic clinic with a focus on GI conditions, e.g. familial cancer. 			

DOMAIN 1		BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.4		Gastrointestinal Cancer	
Learning Objective 1.4.1		Explain the general principles of oncology relevant to the gastrointestinal tract and liver	
Knowledge		Skills	
<ul style="list-style-type: none"> describe molecular events in carcinogenesis describe the principles of prevention of GI cancers describe therapeutic actions of common treatments for GI malignancies, including surgery, cytotoxic chemotherapy, hormonal therapies, radiotherapy, and molecularly targeted biological therapies describe the principles of cancer staging and the use of staging systems in patient management and research 		<ul style="list-style-type: none"> participate in multidisciplinary meetings to plan the management of patients with GI malignancy counsel patients about preventative lifestyle measures, such as smoking, alcohol, diet and exercise discuss a patient with a palliative care team. 	

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.4	Gastrointestinal Cancer	
Learning Objective 1.4.1	Explain the general principles of oncology relevant to the gastrointestinal tract and liver	
	<ul style="list-style-type: none"> outline the importance of a multidisciplinary approach to the management of GI malignancy, including: <ul style="list-style-type: none"> nutrition psychosocial support advanced directives and legal issues end of life decisions recognise the general principles of palliative care in GI cancer explain the principles of cancer follow-up including long-term complications of cancer therapies and their management. 	
Suggested Teaching and Learning Methods		
	<ul style="list-style-type: none"> attendance at multidisciplinary meetings attend a medical oncology clinic with a focus on gastrointestinal malignancies attendance at long term survivor clinics, e.g. 'late effects clinic'. 	

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.4	Gastrointestinal Cancer	
Learning Objective 1.4.2	Describe the principles of screening and surveillance	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the principles of screening for disease in individuals at average and increased risk, and in specific targeted populations discuss the potential biases in the assessment of the efficacy of population screening in altering the natural history of a disease explain current recommendations for screening/ surveillance in patients at risk of colorectal cancer, oesophageal adenocarcinoma and hepatoma 	<ul style="list-style-type: none"> discuss the risks and benefits of surveillance of patients with colorectal polyps/cancer, cirrhosis and Barrett's oesophagus. 	
<ul style="list-style-type: none"> describe the successes and challenges of the National Bowel Cancer Screening program. 		

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY
Theme 1.5	Developmental Gastroenterology
Learning Objective 1.5.1	Assess and manage congenital and early onset disorders
Knowledge	
<ul style="list-style-type: none"> describe the presentation and principles of management of: <ul style="list-style-type: none"> tracheo-oesophageal fistula oesophageal and other atresias malrotation hypertrophic pyloric stenosis duplications and cysts. 	

DOMAIN 1	BASIC PRINCIPLES OF GASTROENTEROLOGY
Theme 1.5	Developmental Gastroenterology
Learning Objective 1.5.2	Describe management issues related to adolescent transition medicine
Knowledge	
<ul style="list-style-type: none"> describe transition of care issues for adolescents with GI and liver conditions explain the management principles of conditions expected to transfer to adult practice, such as: <ul style="list-style-type: none"> cystic fibrosis (CF) chronic liver disease metabolic and storage diseases motility and feeding disorders intestinal failure and inflammatory bowel disease (IBD). 	
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> attend a transition clinic. 	

DOMAIN 1		BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.5		Developmental Gastroenterology	
Learning Objective 1.5.3		Assess and manage older people with gastrointestinal and liver conditions	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the changes in presentation of common GI and liver conditions with age explain the management of GI conditions common in older patients, e.g. dysphagia, anorexia, weight loss, incontinence and constipation discuss the forms and management of GI disease/symptoms with a high prevalence in institutionalised patients describe age related changes in physiology and the effects of age on the approach to management of conditions recognise the impact of common conditions on GI tract and liver function in older people recognise the impact of age related comorbid conditions on preparation for therapeutic procedures and post procedure care recognise the adverse effects of polypharmacy recognise the importance of coordinated management describe management principles and issues in end-of-life care. 		<ul style="list-style-type: none"> assess mental and functional status manage aspiration risk manage constipation in older and institutionalised patients perform a nutritional assessment assess when investigation, diagnostic, and screening approaches need to be tailored to individual patients in an aged care population explain GI conditions to patients/relatives/carers organise medical power of attorney or guardianship as appropriate discuss appropriateness of percutaneous endoscopic gastrostomy (PEG) feeding in patients with dementia with staff/relatives, and alternative options. 	
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> attend aged care ward round/outpatients clinic. 			

DOMAIN 1		BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.6		Quality Assurance and Research Methodology	
Learning Objective 1.6.1		Identify and apply the methods used in research and quality improvement	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the strengths and weaknesses of the various research study designs and data evaluation tools identify the process of clinical audit and quality assurance/improvement describe the principles of statistics to critically evaluate gastroenterology and hepatology literature. 		<ul style="list-style-type: none"> critically evaluate a research paper use online databases and search strategies write well structured and succinct letters to referring doctors and colleagues maintain comprehensive and accurate patient medical records. 	
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> presenting at journal clubs statistical evaluation of own data with assistance of a statistician statistics course review own letters to referring doctors and colleagues with supervisor read supervisor's letters to referring doctors and colleagues. 			

DOMAIN 1		BASIC PRINCIPLES OF GASTROENTEROLOGY	
Theme 1.6		Quality Assurance and Research Methodology	
Learning Objective 1.6.2		Explain basic epidemiological concepts and their application to gastroenterology and hepatology	
Knowledge		Skills	
<ul style="list-style-type: none"> define the terms incidence and prevalence of a disease outline the difference between causation and association describe the concepts of 'random error' and 'confounding' outline strategies to control for confounding outline the difference between relative and absolute risk define sensitivity, specificity, positive and negative predictive values, and accuracy of a diagnostic test explain how the diagnostic value of a test varies with the pretest probability of disease explain the use of statistical concepts, including the use of parametric and non-parametric tests, uni and multivariate analysis, and receiving operating characteristic (ROC) curves recognise the influence of lead-time and length bias in evaluation of screening tests. 		<ul style="list-style-type: none"> interpret the difference between relative and absolute risk for a patient evaluate statistic methods used in journal articles. 	
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> spend time with a statistician, or undertake a short biostatistics course attendance and presentation at journal clubs and departmental meetings attendance at national and international conferences. 			

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.1	Assess and manage dysphagia	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the common patterns and the clinical features that differentiate the causes of dysphagia explain the role of investigations used to diagnose the cause of dysphagia, including upper GI (UGI) endoscopy, radiological studies, and oesophageal manometry. 	<ul style="list-style-type: none"> interpret a barium swallow interpret an oesophageal manometry report to a patient manage the different forms of dysphagia. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> radiology meetings attend oesophageal manometry list observe a video fluoroscopic swallow refer a patient to a speech pathologist for a swallowing assessment. 		

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.2	Assess and manage abdominal pain	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the innervation of the GI tract and the peritoneum/abdominal wall list the stimuli to which parietal and visceral nerves respond describe the differences between visceral and somatic pain describe the concept of referred pain and the pathophysiological mechanism of referral list the differential diagnosis of acute abdominal pain in each of the abdominal quadrants and how they may be differentiated list causes of acute severe abdominal pain and a plan to differentiate causes recognise indications for surgical referral for abdominal pain list common causes of chronic abdominal pain describe the concepts and techniques used in management of chronic pain, including psychological and pharmacological therapies as part of a multidisciplinary approach. 	<ul style="list-style-type: none"> manage an acute abdomen in consultation with a surgical team manage a patient with chronic abdominal pain, including pain management referral where necessary investigate and manage a patient with severe intermittent recurrent abdominal pain. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.3	Assess and manage abdominal bloating and gas	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the origin and transit of abdominal gas discuss the relationship between intestinal gas and the sensation of bloating describe the syndrome of aerophagia describe features which differentiate benign bloating from partial bowel obstruction or stricture describe the role of treatment for underlying GI disorders, e.g. constipation, in bloating. 	<ul style="list-style-type: none"> explain the mechanisms of abdominal bloating to a patient devise a plan of investigation and management for a patient presenting with belching and/or bloating explain the principles of dietary management to reduce bloating, including referral. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> discuss with dietician the principles of dietary approaches to the management of bloating. 		

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.4	Assess and manage diarrhoea	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the mechanisms of diarrhoea, including secretory and osmotic diarrhoea describe the pathophysiological classification of acute and chronic diarrhoea describe the nature and role of investigation in the diagnosis of acute diarrhoea. 	<ul style="list-style-type: none"> diagnose and manage a patient with chronic diarrhoea assess the impact of age on investigations used to investigate the cause of diarrhoea. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.5	Assess and manage weight loss	
<ul style="list-style-type: none"> • identify principles of weight homeostasis and the pathophysiological causes of weight loss • list common causes of weight loss in young patients • explain the nature and role of investigation in defining the underlying cause of weight loss • describe the principles of nutritional supplementation in the management of weight loss 	<ul style="list-style-type: none"> • develop a plan for the diagnosis and management of a patient with weight loss 	
<ul style="list-style-type: none"> • list common causes of weight loss in middle-aged and older patients. 	<ul style="list-style-type: none"> • assess the impact of age in investigating weight loss. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.6	Assess and manage constipation	
Knowledge	Skills	
<ul style="list-style-type: none"> • describe the pathophysiology of constipation, including the roles of diet, activity, medication and pelvic floor dysfunction • indicate the role of investigations and list clinical features of constipation that indicate that endoscopic investigation is required • describe dietary guidelines for the management of simple constipation, including the mechanism of action and use of fibre supplements, laxatives, suppositories, and enemas • explain the principles of biofeedback and its role in the management of constipation 	<ul style="list-style-type: none"> • develop a plan for the diagnosis and management of a patient with simple constipation 	
<ul style="list-style-type: none"> • describe the principles of management of retentive and non-retentive soiling. 		
	<ul style="list-style-type: none"> • assess the impact of age in diagnosis and management of constipation • assess pelvic floor function in a patient presenting with constipation. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS
Theme 2.1	Common Presentations
Learning Objective 2.1.6	Assess and manage constipation
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> attend a pelvic floor clinic. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.7	Assess and manage incontinence	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the epidemiology of incontinence in the community identify the factors normally responsible for continence of stool and classify/list causes of faecal incontinence. 	<ul style="list-style-type: none"> explain principles of investigation of faecal incontinence manage faecal incontinence, including modification of stool consistency, biofeedback, physiotherapy, medical, and surgical approaches formulate a management plan based on the results of anorectal function testing and imaging 	
	<ul style="list-style-type: none"> use tests including anorectal manometry and endoanal ultrasound. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> observe endoanal ultrasound and anorectal physiology testing. 		

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.8	Assess and manage anaemia	
Knowledge	Skills	
<ul style="list-style-type: none"> provide a pathophysiological classification of causes of anaemia explain the investigation process of anaemia describe the differentiating features, causes, and principles of investigation of iron, folate, and/or vitamin B12 deficiency anaemia list the GI conditions that may contribute to or cause anaemia. 	<ul style="list-style-type: none"> interpret haematological investigations develop a plan for investigation and management of a patient with iron deficiency anaemia discuss options for iron replacement with a patient. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.9	Assess and manage abnormal liver function tests	
Knowledge		
<ul style="list-style-type: none"> describe the common patterns of abnormal liver function tests (LFTs) describe the common causes of cholestatic and hepatitic LFTs describe non-hepatic causes for abnormal LFTs list the tests that are required to screen for causes of acute and chronic liver disease discuss the role of liver biopsy in establishing the cause of abnormal LFTs 		
<ul style="list-style-type: none"> describe the causes of abnormal liver function in relation to age. 		

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.10	Assess and manage obstructive jaundice	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the typical abnormalities in LFTs found in acute and chronic biliary obstruction and cholangitis describe the role, advantages and disadvantages of imaging tests for the identification of the cause of suspected biliary obstruction describe the clinical features that help to differentiate between the causes of biliary obstruction 	<ul style="list-style-type: none"> investigate and manage a patient with suspected biliary obstruction. 	
<ul style="list-style-type: none"> describe the causes of abnormal liver function in relation to age 		

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.11	Assess and manage rectal bleeding	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the typical clinical presentations of the common causes of anorectal bleeding explain strategies that may be used to investigate and treat patients. 	<ul style="list-style-type: none"> perform a digital rectal examination manage rectal bleeding 	
	<ul style="list-style-type: none"> elicit a history to identify high risk features for underlying GI tract neoplasia as a cause for rectal bleeding use a proctoscopic and rigid sigmoidoscopic examination in a patient with rectal bleeding. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.1	Common Presentations	
Learning Objective 2.1.12	Assess and manage nausea and vomiting	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the common causes of nausea describe the pathophysiology of nausea and vomiting and the clinical factors differentiating vomiting and regurgitation list common drugs causing nausea describe the classes of antiemetic drugs and their use/side effects describe the structural and metabolic consequences and complications of vomiting. 	<ul style="list-style-type: none"> investigate and manage a patient with acute vomiting investigate and manage a patient with chronic nausea insert and assess correct placement of a nasogastric tube. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.2	Gastrointestinal Emergencies	
Learning Objective 2.2.1	Assess and manage acute upper and lower gastrointestinal bleeding	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the clinical features that distinguish upper from lower GI bleeding and major from minor GI blood loss describe the supportive management of patients with acute GI bleeding, including the use of pharmacological therapies to reduce portal pressure describe risk stratification of patients with UGI bleeding and triage of those requiring urgent endoscopy describe strategies and endoscopic manoeuvres to assess the UGI tract in the emergency setting describe peptic and vascular lesions requiring endoscopic therapy and the techniques used to ensure haemostasis describe the classification of oesophageal varices and its clinical significance describe the technique of endoscopic variceal ligation 	<ul style="list-style-type: none"> assess a patient with suspected acute upper bleeding assess and manage patients with UGI bleeding in the hospital setting. manage hypovolaemic shock and prepare the patient for emergency endoscopy perform urgent UGI endoscopy to identify the site of bleeding perform endoscopic haemostasis for portal hypertensive bleeding manage acute lower GI bleeding, including the use of diagnostic and therapeutic modalities describe the medium- and long-term management of patients following endoscopic variceal therapy 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.2	Gastrointestinal Emergencies	
Learning Objective 2.2.1	Assess and manage acute upper and lower gastrointestinal bleeding	
	<ul style="list-style-type: none"> describe post-endoscopy care of the patient with UGI bleeding (variceal and nonvariceal) describe the indications for and technique of variceal glue injection list the causes of major lower GI bleeding. 	
		<ul style="list-style-type: none"> perform endoscopic haemostasis for peptic ulcer.
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> on call experience. 		

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.2	Gastrointestinal Emergencies	
Learning Objective 2.2.2	Assess and manage food bolus obstruction or ingested foreign bodies	
Knowledge		
	<ul style="list-style-type: none"> define presenting features and initial investigation of a patient presenting with suspected or definite ingested foreign body or food impaction describe non-endoscopic management of food impaction define criteria for and contraindications to endoscopic intervention in food impaction or following ingestion of a foreign body describe methods for management of impacted food boluses and removal of blunt and sharp ingested objects describe the initial management and assessment of severity of a caustic ingestion 	
	<ul style="list-style-type: none"> describe management of an ingested battery. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> inpatient and emergency work on call experience. 		

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS
Theme 2.2	Gastrointestinal Emergencies and Intensive Care
Learning Objective 2.2.3	Assess and manage acute abdomen
Knowledge	
<ul style="list-style-type: none"> list the medical and surgical causes of an acute abdomen describe important aspects of initial history taking and examination that will allow rapid assessment of the most likely cause of acute abdominal symptoms describe initial supportive therapy and investigation of a patient with an acute abdomen define criteria for surgical referral in a patient with acute abdominal pain. 	
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> emergency department experience. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS
Theme 2.2	Gastrointestinal Emergencies
Learning Objective 2.2.4	Assess and manage fulminant and subfulminant liver failure
Knowledge	
<ul style="list-style-type: none"> describe the common causes of fulminant and subfulminant hepatic failure in Australia and New Zealand, indicating which causes are potentially responsive to specific early treatment describe the natural history of fulminant and subfulminant hepatic failure identify important aspects of history and examination to refine the most likely possibilities for the fulminant/subfulminant hepatic failure list the most important initial investigations to be carried out to determine the severity and potential cause of the hepatic failure define initial supportive measures and management of likely early complications of hepatic failure define the role and timing of liver biopsy in hepatic failure describe criteria for discussion with a liver transplantation unit 	
<ul style="list-style-type: none"> describe the aetiology and management of fulminant hepatic failure in children. 	
<i>NOTE: Trainees are not expected to train in liver biopsy.</i>	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.2	Gastrointestinal Emergencies	
Learning Objective 2.2.5	Assess and manage fulminant colitis	
Knowledge	Skills	
<ul style="list-style-type: none"> list the differential diagnosis of fulminant colitis in immunocompetent and immunosuppressed patients define features on history and examination that will help to determine the extent, severity, and likely cause of the colitis describe initial investigations to help determine the extent, severity, and cause of the colitis, including the role of endoscopic imaging define criteria for surgical referral of patients with fulminant colitis define criteria for altering the strategy based on investigation findings and response to treatment. 	<ul style="list-style-type: none"> manage patients with fulminant colitis define an initial management strategy for a patient with fulminant colitis, including the expected time course of improvement. 	

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS	
Theme 2.2	Gastrointestinal Emergencies	
Learning Objective 2.2.6	Assess and manage cholangitis	
Knowledge		
<ul style="list-style-type: none"> define the range of clinical presentations of cholangitis and the features on history/examination that increase the likelihood of cholangitis list a differential diagnosis for these presentations describe the aetiology, diagnosis and common bacterial pathogens causing cholangitis describe the factors, clinical and on investigation, that can be used to assess the severity and cause of cholangitis assess the severity of cholangitis discuss the management of cholangitis, including initial choice of antibiotics and the role of imaging and drainage describe the advantages/disadvantages of endoscopic compared with surgical or radiological drainage define subsequent management to determine the cause of the cholangitis and definitive therapy. 		

DOMAIN 2	EVALUATION OF COMMON GASTROENTEROLOGICAL PROBLEMS
Theme 2.2	Gastrointestinal Emergencies
Learning Objective 2.2.7	Assess and manage paracetamol poisoning
Knowledge	
<ul style="list-style-type: none"> • discuss the pathogenesis of and factors increasing susceptibility to paracetamol toxicity • describe the clinical situations in which paracetamol toxicity may be encountered • describe the current management protocol for patients presenting with potential paracetamol poisoning, including indications for referral to a liver transplant unit. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.1	Assess and manage gastro-oesophageal reflux disease	
Knowledge	Skills	
<ul style="list-style-type: none"> • describe the pathophysiology of gastro-oesophageal reflux disease (GORD), including the role of hiatus hernia • describe the clinical features of GORD, with appreciation of the spectrum of symptoms that may be seen • describe the diagnostic characteristics and role of investigations in GORD including UGI endoscopy, oesophageal motility and pH/impedance testing • describe the pharmacology and correct usage of medications that suppress acid secretion or neutralise acid • define the current understanding of the aetiology of Barrett's oesophagus • describe the endoscopic classification of Barrett's oesophagus and current surveillance protocols 	<ul style="list-style-type: none"> • classify severity of GORD in terms of symptoms and mucosal disease • elucidate typical and atypical symptoms of GORD on interview • accurately grade reflux oesophagitis on endoscopy • use appropriate doses and timing of medication administration in the management of GORD • accurately grade reflux oesophagitis on endoscopy • use appropriate doses and timing of medication administration in the management of GORD • recognise and measure Barrett's oesophagus at UGI endoscopy • explain the natural history, relative and absolute risks of Barrett's oesophagus to a patient and develop a management plan with that patient • manage GORD, including the differential diagnosis, investigation and management of refractory symptoms 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.1	Assess and manage gastroesophageal reflux disease	
<ul style="list-style-type: none"> discriminate between physiological and pathological gastro-oesophageal reflux in infants and children recognise upper gut problems (GORD, feeding difficulties) in children with neurological impairment, e.g. cerebral palsy (CP), and their management 	<ul style="list-style-type: none"> explain the investigation and management of GORD in infants, children and adolescents including the role of surgical management options, and of the management of complications of GORD (such as Barrett's disease and stricture) 	
<ul style="list-style-type: none"> list the medications that can produce or exacerbate reflux symptoms describe the long term complications of GORD and of its treatment, including long-term acid suppression, endoscopic therapies and surgery discuss the risks and potential benefits of the long-term management options for Barrett's oesophagus. 	<ul style="list-style-type: none"> manage low and high grade dysplasia in Barrett's oesophagus. 	

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1		Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.2		Assess and manage non-malignant dysphagia and odynophagia	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the clinical classification of dysphagia and the features that distinguish pharyngeal from oesophageal dysphagia describe the typical presentations, investigation and therapeutic options for management of other motility disorders of the oesophagus, e.g. ineffective peristalsis and diffuse oesophageal spasm (DOS) define the clinical, endoscopic and histological features of eosinophilic oesophagitis list common and uncommon agents causing mucosal abnormalities in immunosuppressed patients describe common mucosal appearances and the importance of specimen collection, handling and processing describe the principles of prevention and treatment of mucosal disease in immunosuppressed patients 		<ul style="list-style-type: none"> perform oesophageal dilation (see endoscopy section, Theme 6.1) diagnose and manage oesophageal stricturing due to GORD, caustic ingestion and other disorders develop a plan for investigation of oesophageal symptoms in patients with immunosuppression due to medications, disease and infection recognise endoscopic findings of common causes of dysphagia manage eosinophilic oesophagitis state current management options for achalasia, the principles of selection of these, their risks and therapeutic efficacy perform an endoscopy to relieve a food bolus obstruction manage food impaction, including pharmacological and endoscopic methods of management describe the differential diagnosis of dysphagia and odynophagia in immunosuppressed patients. 	
<ul style="list-style-type: none"> explain the patterns of presentation and common congenital anomalies of the upper gut, including tracheo-oesophageal fistula. 			

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1		Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.3		Assess and manage peptic ulcer disease	
Knowledge		Skills	
<ul style="list-style-type: none"> explain the pathogenesis of peptic ulceration, including the role of nonsteroidal anti-inflammatory drugs (NSAIDs) and <i>helicobacter pylori</i> (<i>H. pylori</i>) describe the risk factors for peptic ulcer disease (PUD), and peptic ulcer haemorrhage describe the investigations used to establish the diagnosis and cause of PUD describe the role and limitations of tests for the presence of <i>H. pylori</i> state the options for <i>H. pylori</i> eradication and their advantages and disadvantages explain which patients should be followed up following <i>H. pylori</i> eradication and how this should be done discuss approaches to the management of patients who fail eradication therapy 		<ul style="list-style-type: none"> diagnose PUD at endoscopy treat bleeding peptic ulcer at endoscopy according to best practice guidelines manage simple and complicated PUD, including management of bleeding and perforation discuss the risks and benefits of <i>H. pylori</i> eradication with a patient treat a patient with PUD for <i>H. pylori</i> treat a patient with PUD for failed first line <i>H. pylori</i> eradication formulate a management plan to reduce the GI risk for a patient on NSAIDs or anti-platelet agents. 	
<ul style="list-style-type: none"> explain the features of <i>H. pylori</i> infection in children and adolescents, with regards to epidemiology, presenting features and potential disease associations. 			

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.4	Assess and manage small bowel diseases	
Knowledge	Skills	
<ul style="list-style-type: none"> discuss the role and value of investigations used to document malabsorption and protein losing enteropathy describe the typical and atypical clinical features of coeliac disease, including situations in which the disease should be screened for describe the range of investigations available to diagnose and exclude coeliac disease, and their interpretation discuss the management of coeliac disease, including the need for follow-up biopsy, monitoring for complications and family screening define the features of carbohydrate intolerance with particular regard to the relevant investigations and management options for lactose and fructose intolerance describe infectious small bowel pathologies 	<ul style="list-style-type: none"> devise a plan for investigation of a patient with suspected malabsorption discuss dietary management of coeliac disease with a patient and the importance and value of remaining on a gluten free diet for life 	
<ul style="list-style-type: none"> explain allergic enteropathy. 	<ul style="list-style-type: none"> investigate and manage malabsorption including inherited and anatomical causes. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> sit in with a dietician who is educating a patient regarding a gluten free diet eat a gluten free diet for a week. 		

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.5	Manage pre-malignant lesions to reduce the risk of cancer	
Knowledge	Skills	
<ul style="list-style-type: none"> define the risks and surveillance protocols in patients with: <ul style="list-style-type: none"> Barrett's oesophagus atrophic gastritis <i>H. pylori</i> infection previous gastric cancer family history of gastric cancer polyposis syndromes. 	<ul style="list-style-type: none"> discuss risks and benefits of endoscopic surveillance of Barrett's oesophagus with a patient discuss the management of relatives of patients with familial cancer. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.6	Diagnose and manage oesophageal cancer	
Knowledge	Skills	
<ul style="list-style-type: none"> describe epidemiology and risk factors for oesophageal carcinoma discuss the management options for high grade dysplasia/early carcinoma in Barrett's oesophagus. 	<ul style="list-style-type: none"> participate in an multidisciplinary meeting to develop a management plan for a patient with oesophageal carcinoma diagnose, stage and manage oesophageal carcinoma. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attendance at multidisciplinary meetings. 		

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease
Learning Objective 3.1.7	Diagnose and manage gastric cancer
Knowledge	
<ul style="list-style-type: none"> • discuss the pathobiology of <i>H. pylori</i> infection, its natural history and complications, including an estimate of the magnitude of risk • describe the epidemiology and risk factors for the development of gastric adenocarcinoma • describe the presentation, diagnosis, staging and management of gastric carcinoma • discuss diagnosis and principles of management of GI stromal tumours (GIST) • explain the principles of diagnosis and management of mucosa-associated lymphoid tissue (MALT) lymphoma. 	
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> • attend UGI multidisciplinary meetings • attend/assist at a resection for gastric adenocarcinoma • examine endoscopic pictures and histology slides of a GIST 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.8	Diagnose and manage neuroendocrine tumours of the gastrointestinal tract	
Knowledge	Skills	
<ul style="list-style-type: none"> • describe the clinical presentations of neuroendocrine tumours of the GI tract. 	<ul style="list-style-type: none"> • explain the principles of management of neuroendocrine tumours of the GI tract • describe the diagnostic approach to neuroendocrine tumours of the GI tract. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.1	Upper Gastrointestinal and Small Bowel Luminal Disease	
Learning Objective 3.1.9	Diagnose and manage small bowel tumours	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the most common benign and malignant small bowel tumours, including their presentations and risk factors describe the treatment and prognosis of small bowel tumours. 	<ul style="list-style-type: none"> diagnose small bowel tumours. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.2	Lower Gastrointestinal Luminal and Anal Conditions	
Learning Objective 3.2.1	Diagnose and manage diverticular disease	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the pathogenesis, presentation and complications of diverticular disease identify indications for surgical management of diverticular disease. 	<ul style="list-style-type: none"> diagnose and manage diverticular colitis and diverticulitis manage diverticular haemorrhage discuss the management of uncomplicated diverticular disease discovered at colonoscopy with a patient. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.2	Lower Gastrointestinal Luminal and Anal Conditions	
Learning Objective 3.2.2	Diagnose and manage colonic angiodysplasia	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the pathogenesis, presentation and complications of colonic angiodysplasia. 	<ul style="list-style-type: none"> manage colonic angiodysplasia. 	

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.2		Lower Gastrointestinal Luminal and Anal Conditions	
Learning Objective 3.2.3		Diagnose and manage colonic polyps	
Links		Gastroenterological Society of Australia Colonoscopy Curriculum National Endoscopy Training Initiative (NETI)	
Knowledge		Skills	
<ul style="list-style-type: none"> identify the therapeutic options for polypectomy (NOTE: see colonoscopy section 6.1.5) 			
<ul style="list-style-type: none"> describe the risk factors for the development of and the classification of colonic polyps recognise current polyp screening and follow-up guidelines recognise and describe principles of management of colonic polyposis syndromes. 		<ul style="list-style-type: none"> discuss the implications and recommended follow-up of colonic polyps with a patient according to published guidelines identify the features of different types of polyps on histopathology. 	

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.2		Lower Gastrointestinal Luminal and Anal Conditions	
Learning Objective 3.2.4		Diagnose and manage colorectal carcinoma	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the epidemiology of colorectal cancer describe the risk factors and pathogenesis for the development of colorectal carcinoma, including the adenoma carcinoma sequence and serrated pathway and their time course describe the presentations and methods of diagnosis of colorectal carcinoma discuss the staging, prognosis and treatment of colon cancer discuss the treatment of metastatic colon carcinoma and palliation of malignant colonic obstruction. 		<ul style="list-style-type: none"> diagnose and manage familial variants of colon cancer, including surveillance for extracolonic malignancies counsel patients regarding risk to other members of their family recognise individuals at high risk and refer for genetic counselling discuss options for screening for colonic cancer with an average risk individual. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION
Theme 3.2	Lower Gastrointestinal Luminal and Anal Conditions
Learning Objective 3.2.4	Diagnose and manage colorectal carcinoma
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> attend colorectal surgery multidisciplinary meetings attend familial cancer clinic. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.2	Lower Gastrointestinal Luminal and Anal Conditions	
Learning Objective 3.2.5	Diagnose and manage anorectal disease	
Knowledge	Skills	
<ul style="list-style-type: none"> describe normal and abnormal pelvic and anal sphincter anatomy and the methods used to image/assess anorectal and pelvic floor anatomy and function describe treatment options for haemorrhoids describe the aetiology and treatment options for anal fissure describe the classification of anal fistulae and how this influences management describe the pathogenesis and management strategies for pruritis ani describe the risk factors, pathogenesis, diagnosis and management of anal cancer describe the indications for surgical referral in a patient with anorectal disease. 	<ul style="list-style-type: none"> identify haemorrhoids from history and examination recognise anal fissure on history and examination recognise a perianal abscess and fistulae on history and examination manage anal fistulae use of rigid and flexible sigmoidoscopy and anoscopy discuss treatment options for haemorrhoids with patients. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend a colorectal surgery clinic examine a patient with a seton attend an examination under anaesthetic. 		

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.3	Functional and Neurogastroenterological Disorders	
Learning Objective 3.3.1	Diagnose and manage functional dyspepsia	
Knowledge	Skills	
<ul style="list-style-type: none"> recognise symptoms of functional dyspepsia and list differential diagnoses describe the role of investigation in patients with suspected functional dyspepsia describe principles of management of functional dyspepsia. 	<ul style="list-style-type: none"> discuss aetiology and management of functional dyspepsia with a patient. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.3	Functional and Neurogastroenterological Disorders	
Learning Objective 3.3.2	Diagnose and manage non-cardiac chest pain and functional heart burn	
Knowledge	Skills	
<ul style="list-style-type: none"> describe principles of investigation in patients with suspected functional heartburn or chest pain describe principles of management of functional heartburn and chest pain. 	<ul style="list-style-type: none"> discuss the cause and management of symptoms of functional chest pain or heartburn with a patient, including differential diagnosis. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.3	Functional and Neurogastroenterological Disorders	
Learning Objective 3.3.3	Diagnose, manage and treat irritable bowel syndrome	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the epidemiology of irritable bowel syndrome (IBS) describe the brain/gut axis and its importance in IBS explain the diagnostic criteria for and classification of IBS, and list important differential diagnoses recognise the role of food intolerance in IBS symptoms describe the impact of psychosocial factors in IBS and the association of IBS with other functional GI, musculoskeletal, urinary and psychiatric disorders. 	<ul style="list-style-type: none"> explain the concept of IBS and related conditions to a patient describe common dietary precipitants of symptoms to a patient and prescribe dietary changes to avoid these discuss the role of symptomatic treatments for IBS and prescribe subtypes of IBS explain the role of psychological factors in IBS to a patient and the role of psychological and pharmacological therapies 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.3	Functional and Neurogastroenterological Disorders	
Learning Objective 3.3.3	Diagnose, manage and treat irritable bowel syndrome	
		<ul style="list-style-type: none"> describe the diagnostic approach to a patient with symptoms consistent with IBS, in particular the role of investigation describe the approach to management of a patient with IBS.
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> outpatient clinics. 		

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.3	Functional and Neurogastroenterological Disorders	
Learning Objective 3.3.4	Diagnose and manage pelvic floor dysfunction	
Knowledge	Skills	
<ul style="list-style-type: none"> explain the role of pelvic floor dysfunction in constipation, faecal incontinence and obstructed defaecation describe the pathogenesis of pelvic floor dysfunction and the role of psychosocial issues in the symptoms of pelvic floor dysfunction describe the principles of investigation and treatment of pelvic floor dysfunction 	<ul style="list-style-type: none"> assess pelvic floor function, including perineal sensation, resting anal tone and squeeze pressure during rectal examination examine for rectal prolapse during rectal examination manage pelvic floor symptoms, including modification of stool consistency and understand the role of pelvic floor physiotherapy and biofeedback refer patients for physiotherapy assessment and treatment where required. 	
<ul style="list-style-type: none"> describe the pathogenesis of pelvic floor dysfunction, including birth trauma, rectal prolapse surgical trauma. 		
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend a colorectal surgery clinic with a practitioner experienced in the management of pelvic floor disorders attend a continence physiotherapy session with an experienced pelvic floor physiotherapist attend anorectal physiology session. 		

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.3		Functional and Neurogastroenterological Disorders	
Learning Objective 3.3.5		Diagnose and manage neurogastroenterological disorders	
Knowledge		Skills	
<ul style="list-style-type: none"> recognise the spectrum of neurogastroenterological disorders affecting the stomach, and small and large intestines explain the principles of transit studies and their role in diagnosis of delayed transit list common causes of gastroparesis and chronic intestinal pseudo-obstruction, including the role of enteral and parenteral nutritional support 		<ul style="list-style-type: none"> assess a patient with a possible neurogastroenterological disorder to determine the most appropriate investigations interpret the results of transit studies in the context of a patient's symptoms manage colonic pseudo-obstruction manage gastroparesis and chronic intestinal pseudo-obstruction manage slow transit constipation manage acute colonic pseudo-obstruction. 	
<ul style="list-style-type: none"> describe the clinical approach to delayed passage of meconium in full-term infants and constipation in the first three months of life describe the clinical features of chronic intestinal pseudo-obstruction in children and outline a diagnostic approach to identify congenital and/or genetic causes describe the clinical features, diagnostic criteria for and principles of management of Hirschprung's disease. 			

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.4		Inflammatory Bowel Disease	
Learning Objective 3.4.1		Diagnose and manage inflammatory bowel disease	
Knowledge		Skills	
<ul style="list-style-type: none"> explain current concepts of the epidemiology and pathogenesis of IBD describe the clinical and pathological features that distinguish ulcerative colitis (UC) and Crohn's disease, including current clinicopathological classifications of the subtypes of each disease describe the role of endoscopic procedures, capsule endoscopy, and serological investigations in the investigation of IBD explain the role of medical therapies, including 5-ASA, corticosteroids, immunosuppressants, antibiotics, biological agents and novel therapies, to achieve and maintain disease control in Crohn's disease and UC describe the use of different preparations of medication, including topical, oral and intravenous medication describe the indications, contraindications pretreatment testing, immunisation recommendations and monitoring requirements for the use of immunomodulators and biologic agents describe the role of pharmacogenetic testing and metabolite monitoring when using thiopurine therapy describe the role of surgery in the management of IBD, including the postoperative issues that may be encountered describe the approach to colorectal cancer/dysplasia surveillance in longstanding colitis 		<ul style="list-style-type: none"> explain IBD pathogenesis and the natural history of disease to a newly diagnosed patient explain the use of and prescribe rectal 5-ASA commence a patient on a thiopurine prescribe cyclosporine or infliximab for fulminant UC counsel a patient for urgent colectomy identify a fistula tract clinically and interpret a pelvic MRI with a radiologist discuss IBD and pregnancy with a patient discuss infection screening and vaccination against preventable infection with a patient interpret a bone density scan and plan therapy describe the management approach for patients with IBD in specific situations, in particular: <ul style="list-style-type: none"> severe ulcerative or Crohn's colitis (see under GI emergencies) distal UC perianal Crohn's disease fistulising Crohn's disease pregnancy post pouch surgery diagnose and manage patients with extra-intestinal manifestations of IBD investigate, prevent and manage osteoporosis occurring in association with IBD or corticosteroid use discuss the management of the psychosocial aspects of IBD, including awareness of the role of patient support groups such as Crohn's and Colitis Australia. 	
<ul style="list-style-type: none"> describe the effects of IBD and its treatment on the growth, bone mineralisation, psychological development and education. 			
		<ul style="list-style-type: none"> describe the clinical features, diagnostic approach and management strategies for microscopic colitis. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION
Theme 3.4	Inflammatory Bowel Disease
Learning Objective 3.4.1	Diagnose and manage inflammatory bowel disease
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> attend IBD multidisciplinary meeting or clinic if available attend theatre to see a colorectal procedure on an IBD patient attend an IBD course/seminar 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.4	Inflammatory Bowel Disease	
Learning Objective 3.4.2	Assess and manage the dietary requirements of patients with inflammatory bowel disease	
Knowledge	Skills	
<ul style="list-style-type: none"> discuss the role of dietary modification in inducing/maintaining remission in selected patents with IBD explain the importance of maintaining long-term nutritional balance and adequate intake in all patients with IBD identify the effects of IBD on the absorption of specific micronutrients and the methods of monitoring these recognise the role of diet in the management of patients with tight small intestinal structuring 	<ul style="list-style-type: none"> elicit a dietary history in a patient with IBD arrange an iron infusion or B12 replacement for a patient describe a low fibre diet to a patient discuss the use of enteral nutrition as a therapy with a patient. 	
<ul style="list-style-type: none"> identify the effects of IBD on nutrition. 		
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> sit in with a dietician during an IBD patient consult taste available supplements. 		

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.5		Gastrointestinal Immunology and Infections	
Learning Objective 3.5.1		Explain the principles of immunology and the gastrointestinal system	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the composition and function of the normal intestinal flora, including protection from pathogens, role in host metabolism and nutrition and the influence of antibiotics on the gut flora describe the components of mucosal defence, including the barrier function of the gut, principles of innate and adaptive immunity, TH1 and TH2 responses describe the role of the gut associated immune system and gut associated lymphoid tissue explain the mechanisms of intestinal inflammation recognise clinical and laboratory features of autoimmune disorders describe the principles of transplant immunology, and complications, including graft vs. host disease. 		<ul style="list-style-type: none"> diagnose graft vs. host disease. 	

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.5		Gastrointestinal Immunology and Infections	
Learning Objective 3.5.2		Describe the presentation, investigation and management of gastrointestinal infections in immune competent and immune deficient individuals	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the epidemiology, pathophysiology, investigation, prevention and management of acute infectious diarrhoea describe the epidemiology and diagnostic features of opportunistic and infections of the GI tract, including bacterial, viral, protozoal and fungal in immune competent and immune deficient individuals describe the epidemiology, risk factors, clinical features, and management of antibiotic related diarrhoea and clostridium difficile infection describe the role of probiotic and prebiotic therapy in GI diseases 		<ul style="list-style-type: none"> complete a notification of an infectious disease give antibiotic prophylaxis in endoscopy manage a patient with acute infectious diarrhoea interpret a stool sample result explain of oral rehydration solutions to a patient/parent/carer describe the presentation, investigation and management of small bowel bacterial overgrowth 	

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.5		Gastrointestinal Immunology and Infections	
Learning Objective 3.5.2		Describe the presentation, investigation and management of gastrointestinal infections in immune competent and immune deficient individuals	
<ul style="list-style-type: none"> describe the epidemiology and consequences, management and prevention of viral diarrhoea, in particular rotavirus and norovirus infection identify with the relationship between bacterial colonisation, infection and necrotising enterocolitis. 			
		<ul style="list-style-type: none"> recognise the presentation, investigation and management of Whipple's disease. 	
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> consult on a patient with primary or secondary immunodeficiency. 			

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.5		Gastrointestinal Immunology and Infections	
Learning Objective 3.5.3		Explain the diagnosis and management of food allergy	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the range of allergic reactions associated with the GI tract and the development of immune tolerance differentiate between food intolerance and food allergy explain the difficulties and principles of an elimination diet 		<ul style="list-style-type: none"> discuss the differences between food intolerance and allergy with a patient 	
<ul style="list-style-type: none"> discuss the difference between anaphylaxis, allergy and intolerance to dietary antigens describe the role and difficulties of patch/radioallergosorbent test (RAST) testing and the principles of blinded oral challenges describe the clinical presentation, investigation and management of dietary anaphylaxis, e.g. peanuts. 		<ul style="list-style-type: none"> interpret percutaneous skin testing, RAST and IgE test results explain to a patient/parent how to use an epinephrine autoinjector explain to a patient/parent the composition of diets and feeds used to treat food allergy diagnose and manage immediate and delayed food allergy interact in a collaborative way with professional colleagues with expertise in allergy, immunology and dieticians. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION
Theme 3.5	Gastrointestinal Immunology and Infections
Learning Objective 3.5.3	Explain the diagnosis and management of food allergy
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> • sit with a dietician educating a patient for an exclusion diet • complete a course on epinephrine autoinjector use. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION
Theme 3.5	Gastrointestinal Immunology and Infections
Learning Objective 3.5.4	Explain the diagnosis and management of autoimmune disorders affecting the gastrointestinal tract and liver
Knowledge	
<ul style="list-style-type: none"> • recognise the GI manifestations of autoimmune and vasculitic diseases such as scleroderma, lupus, Henoch-Schoenlein purpura (HSP) and polyarteritis nodosa (PAN) • recognise the conditions of autoimmune gastritis and autoimmune enteropathies in isolation or as part of a systemic autoimmune disorder • recognise the presentations of eosinophilic enteritis • recognise the spectrum of IgG4 related disorders • describe the clinical manifestations of graft vs. host disease 	
<ul style="list-style-type: none"> • describe the GI manifestations and differential diagnosis of chronic recurrent autoinflammatory syndromes. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.6	Congenital, Neonatal and Inherited Disorders	
Learning Objective 3.6.1	Diagnose and manage congenital and inherited disorders of metabolism	
Knowledge	Skills	
<ul style="list-style-type: none"> • explain the clinical features and principles of management of hepatic storage diseases 		
<ul style="list-style-type: none"> • recognise the presentation, of congenital metabolic disorders of glycosylation, fatty acid transport and mitochondrial oxidation. 	<ul style="list-style-type: none"> • use databases and collaborate with experts to identify specific syndromes. 	

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.7		Nutrition	
Learning Objective 3.7.1		Describe the principles of nutritional assessment and investigation	
Knowledge		Skills	
<ul style="list-style-type: none"> • identify risk factors for under nutrition in the community and hospital patients • explain the principles of nutritional assessment, including anthropometry • describe value and limitations of biochemical and haematological markers used to assess nutritional status • describe the metabolic response to starvation, illness and injury including changes in biochemical and haematological parameters 		<ul style="list-style-type: none"> • elicit a dietary history • calculate body mass index (BMI) • perform an assessment for malnutrition using a simple assessment tool • formulate a nutrition plan for a patient 	
<ul style="list-style-type: none"> • describe the identification, assessment and management of marasmus, kwashiorkor, trace element and vitamin deficiencies. 		<ul style="list-style-type: none"> • investigate and manage an infant or child with failure to thrive. 	
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> • sit in with a dietician whilst they perform a nutritional assessment. 			

DOMAIN 3		GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.7		Nutrition	
Learning Objective 3.7.2		Describe the consequences of gut failure and methods of nutritional support	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the pathophysiology, clinical manifestations and management of short bowel syndrome and intestinal failure list indications for and contraindications to enteral tube feeding, including nasogastric, PEG, nasoenteric tube and percutaneous endoscopic gastrojejunostomy (PEG/J) or direct percutaneous jejunostomy (DPEJ) feeding describe the adverse effects of nutritional support therapies describe the risk factors for, clinical manifestations and management of refeeding syndrome outline the available feeding devices and their uses describe the method of placement of the various forms of gastric and enteric feeding tubes outline the feeding options available, i.e. bolus vs. continuous/nightly, and their roles list indications for short- and long-term parenteral nutrition list long-term complications of total parenteral nutrition (TPN) and methods to minimise these 		<ul style="list-style-type: none"> prescribe oral supplement drinks calculate target rate of enteral feeding and monitor delivery to target modify enteral intake to minimise feeding intolerance prescribe and monitor standard parenteral therapy manage Hickman/infusaport line sepsis explore ethical issues regarding PEG placement: consent in non competent patients, use in terminal disease and dementia insert and change PEG tubes manage complications such as tube displacement or blockage describe ongoing management of gastrostomy and enteral feeding devices, e.g. use of medications down the tube, management of long-term complications, tube changes manage venous access, including long-term access, and monitoring of parenteral nutrition. 	
<ul style="list-style-type: none"> describe the macronutrient composition of standard and special formulas, e.g. which ones are based on cow's milk, whey, casein, soy, partially hydrolysed, extensively hydrolysed, elemental, carbohydrate composition (lactose, sucrose, glucose polymer, fructose etc) and fat (long-chain triglyceride (LCT) vs. medium-chain triglyceride (MCT)), and why one may be more or less suitable in a particular situation. 			
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> perform an audit of PEG indications and outcomes attend PEG and TPN ward rounds. 			

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.7	Nutrition	
Learning Objective 3.7.3	Manage obesity and its complications	
Knowledge	Skills	
<ul style="list-style-type: none"> define overweight and obese outline the health consequences of obesity explain the commonly used dietary approaches to weight loss and their efficacy outline the principles of lifestyle changes applicable to weight loss discuss the indications for bariatric surgery/lap banding describe the benefits and complications of bariatric surgery, including the metabolic and surgical complications of the common operations 	<ul style="list-style-type: none"> calculate BMI and ideal weight measure waist circumference on a patient perform measurement for insulin resistance describe a daily diet which provides their caloric needs to a patient develop a diet and exercise plan with a patient discuss the risks and benefits of surgical approaches to weight loss with a patient recognise the endoscopic appearances of common bariatric operations and their complications. 	

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.7	Nutrition	
Learning Objective 3.7.3	Manage obesity and its complications	
<ul style="list-style-type: none"> discuss the management of obesity in children. 		
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> obtain written literature on weight watchers, meal replacement diets, Atkins and other popular diets from the web sit in with a dietician during a dietary assessment in a patient with obesity attend a talk on bariatric surgery and management of its complications. 		

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.7	Nutrition	
Learning Objective 3.7.4	Identify eating disorders	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the clinical manifestations of and diagnostic criteria for the diagnosis of eating disorders list GI differential diagnosis of eating disorders discuss the principles of management of eating disorders. 	<ul style="list-style-type: none"> discuss eating habits with patients identify binge eating, extreme exercise and low calorie intake patterns. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend a talk on presentations of eating disorders as gastroenterological conditions and vice versa. 		

DOMAIN 3	GASTROINTESTINAL DISEASE AND NUTRITION	
Theme 3.7	Nutrition	
Learning Objective 3.7.5	Assess and manage food intolerance due to non-absorbed carbohydrates	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the clinical features, investigation and management of lactose and fructose intolerances describe the role of non-absorbed carbohydrates in IBS symptoms. 	<ul style="list-style-type: none"> order and interpret a breath test of lactose, or fructose explain the lactose free diet to a patient with specific reference to maintaining adequate calcium intake. 	

DOMAIN 4		LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1		Liver Disease	
Learning Objective 4.1.1		Diagnose, manage and treat viral hepatitis	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the epidemiology, public health implications and risk factors for viral hepatitis discuss primary prevention strategies for prevention of infection with viral hepatitis and advice to be given regarding prevention of transmission describe the clinical features of viral hepatitis outline hepatitis B prophylaxis in the setting of chemotherapy 		<ul style="list-style-type: none"> interpret hepatitis A, B and C serology and molecular virology including the use of genotyping, viral loads and sequencing assess disease activity and severity in hepatitis B and C 	
<ul style="list-style-type: none"> describe the risk factors for acquisition of hepatitis A and presentation in childhood describe the clinical features and long-term outcome of perinatally acquired hepatitis discuss the availability and efficacy of primary prevention strategies for prevention viral hepatitis 			
<ul style="list-style-type: none"> describe the natural history and prognosis of hepatitis B and C discuss the risks and benefits of antiviral treatment for acute and chronic viral hepatitis. 		<ul style="list-style-type: none"> manage complications of antiviral treatment interpret a liver biopsy and use the commonly used scoring systems for viral hepatitis counsel patients regarding long term prognosis of viral liver disease. 	
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> attend viral hepatitis clinics. 			

DOMAIN 4		LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1		Liver Disease	
Learning Objective 4.1.2		Manage patients with alcoholic liver disease	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the mechanisms by which alcohol induces subacute and chronic liver disease identify the clinical presentations of alcoholic liver disease describe the natural history of alcoholic liver disease, including the effects of alcohol cessation 		<ul style="list-style-type: none"> counsel a patient with alcoholic liver disease regarding prognosis and the importance of abstinence manage acute alcohol intoxication and withdrawal manage alcoholic hepatitis 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.2	Manage patients with alcoholic liver disease	
<ul style="list-style-type: none"> describe the clinical features of acute alcoholic hepatitis and Wernickes syndrome. 	<ul style="list-style-type: none"> describe the principles in the long-term management of alcoholic liver disease. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend drug and alcohol ward rounds and clinic. 		

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.3	Describe the clinical features, investigation and management of cholestatic liver diseases	
Knowledge	Skills	
<ul style="list-style-type: none"> outline the mechanisms and regulation of bile acid transport describe the epidemiology, clinical presentations, disease associations and natural history of primary biliary cirrhosis (PBC) and primary sclerosing cholangitis (PSC) explain the role of serology, imaging and liver biopsy in the diagnosis of PBC and PSC 	<ul style="list-style-type: none"> describe the management strategies for PBC and PSC, including the role of endoscopic intervention, bile acid therapy, and liver transplantation 	
<ul style="list-style-type: none"> recognise and describe inherited dysmorphic syndromes associated with prolonged cholestasis/ liver disease in infancy describe clinical presentation of biliary atresia, importance of stool examination and interpretation of diagnostic tests such as ultrasound, liver biopsy and hepatobiliary imino-diacetic acid (HIDA) scan describe the common causes and clinical features of cholestatic neonatal hepatitis recognise the pathology and outcome of Alagille's syndrome and non-syndromic intrahepatic cholestasis describe the clinical presentation and mutations found in persistent familial intrahepatic cholestasis types I, II and III. 	<ul style="list-style-type: none"> describe the clinical features, investigation and management of neonatal and childhood PSC diagnose, including differential diagnosis, and investigate cholestatic neonatal hepatitis. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.4	Diagnose and manage fatty liver disease	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the epidemiology and pathogenesis of non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) describe the clinical features, diagnostic criteria, natural history and prognosis of NAFLD and NASH discuss the impact of coexisting NASH on other liver diseases, e.g. viral hepatitis 	<ul style="list-style-type: none"> counsel a patient with NAFLD regarding their disease describe current treatment recommendations for NAFLD and NASH. 	
<ul style="list-style-type: none"> discuss the differential diagnosis of fatty liver in a non-obese, non-diabetic patients. 		

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.5	Assess and manage drug induced liver injury	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the normal processes involved in hepatic drug metabolism and excretion explain the importance of pharmacogenetics particularly the importance of polymorphisms of drug metabolising enzymes in drug induced liver injury explain the basic mechanisms of drug induced liver injury, including the role of toxic metabolites and immune mechanisms differentiate between predictable and idiosyncratic adverse drug reactions explain the clinical and histological spectrum of drug induced liver disease describe the natural history of drug induced liver disease. 	<ul style="list-style-type: none"> elicit a drug history including checking with local medical officers, pharmacists and relatives discuss the indication for liver biopsy in patients with drug induced liver disease list the most common drugs presenting with adverse drug reactions manage drug induced liver disease. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> report a case of drug induced liver injury to the relevant national committee read the introductory chapters of a textbook of drug induced liver disease and other general reviews of drug induced liver disease review the histology of patients with adverse drug reactions. 		

DOMAIN 4		LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.1		Liver Disease
Learning Objective 4.1.6		Investigate and manage autoimmune liver disease
Knowledge		Skills
<ul style="list-style-type: none"> describe the pathophysiology and epidemiology of autoimmune hepatitis (AIH) describe the clinical features, diagnostic criteria, natural history and prognosis of AIH discuss treatments for AIH, potential complications of therapy and monitoring required. 		<ul style="list-style-type: none"> describe the GI and hepatological manifestations of IgG4 related diseases, including investigation and management
		<ul style="list-style-type: none"> discuss the clinical features, investigation (including interpretation of liver biopsy) and management of autoimmune chronic active hepatitis (CAH) in the paediatric population.
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> inpatient and outpatient experience. 		

DOMAIN 4		LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.1		Liver Disease
Learning Objective 4.1.7		Diagnose, investigate and manage cirrhosis, portal hypertension and ascites
Knowledge		Skills
<ul style="list-style-type: none"> describe the clinical, biochemical and haematological assessment of the degree of liver dysfunction in patients with suspected cirrhosis describe the imaging findings on CT, ultrasound and MRI that are suggestive of cirrhosis describe the methods of noninvasive assessment of the degree of hepatic fibrosis (serum markers, liver elastography) describe the ambulatory care of the compensated cirrhotic, including role of hepatocellular carcinoma (HCC) screening, investigation of bone disease, prophylactic vaccination and prevention of variceal haemorrhage quantitate the risks of surgery in chronic liver disease in relation to the severity of liver dysfunction 		<ul style="list-style-type: none"> describe and apply the Child-Pugh score in practice use the grading system for hepatic encephalopathy investigate patients presenting with suspected cirrhosis to determine the cause and severity of disease perform an ascitic tap manage acute UGI haemorrhage in a patient with portal hypertension manage spontaneous bacterial peritonitis, including antibiotic prophylaxis manage acute variceal haemorrhage manage hepatic encephalopathy and list the differential diagnosis of reduced conscious state in a patient with cirrhosis describe the aetiology and management of hepatorenal syndrome.

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.7	Diagnose, investigate and manage cirrhosis, portal hypertension and ascites	
	<ul style="list-style-type: none"> describe the principles of peri-operative and anaesthetic management of patients with chronic liver disease describe the causes and assessment of portal hypertension describe the pathogenesis of ascites in patients with portal hypertension and the approaches to treatment describe the pathogenesis of hepatic encephalopathy 	
	<ul style="list-style-type: none"> describe the consequences of liver failure, including late and subtle presentation of encephalopathy in children, and delayed bone marrow suppression. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.8	Investigate and manage benign hepatic lesions	
Knowledge		
	<ul style="list-style-type: none"> describe the clinical features, imaging characteristics and management of hepatic cysts, haemangiomas, focal nodular hyperplasia (FNH) and adenomas. 	
Suggested Teaching and Learning Methods		
	<ul style="list-style-type: none"> radiology sessions. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.9	Assess and manage patients with hepatocellular carcinoma	
Knowledge		
	<ul style="list-style-type: none"> describe the epidemiology and risk factors for the development of HCC describe the clinical presentation of, complications and natural history of HCC describe the imaging characteristics of HCC and issues relating to tissue diagnosis discuss the therapeutic modalities available for the curative and palliative treatment of HCC 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.1	Liver Disease
Learning Objective 4.1.9	Assess and manage patients with hepatocellular carcinoma
<ul style="list-style-type: none"> • discuss screening for HCC in patients with cirrhosis, including patient selection and imaging modality • discuss options for management of metastatic liver disease. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.1	Liver Disease
Learning Objective 4.1.10	Investigate and manage vascular disorders of the liver
Knowledge	
<ul style="list-style-type: none"> • describe the blood supply of the liver and the clinical relevance of this • outline the common forms of arterial and venous liver diseases and their imaging/pathological characteristics • discuss the causes and management of portal vein thrombosis in patients with and without cirrhosis • describe the fulminant, subacute, and chronic presentations of Budd-Chiari syndrome and the management options • discuss the causes and management of veno-occlusive disease of the liver. 	
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> • attend vascular radiology investigations and treatments (ultrasound, TACE). 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.1	Liver Disease
Learning Objective 4.1.11	Describe the principles of management of patients for liver transplantation
Knowledge	
<ul style="list-style-type: none"> • list the common indications for liver transplantation • describe the process of selection for liver transplantation and list common reasons for rejection from transplantation assessment • describe the process of liver transplantation and the surgical issues involved • list common post transplantation problems and the principles of management of these • describe the role of liver transplantation in metabolic liver disease not related to liver failure. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.1	Liver Disease
Learning Objective 4.1.12	Recognise and describe the presentation, investigation and management of unusual liver infections
Knowledge	
<ul style="list-style-type: none"> describe the clinical features, diagnostic methods and principles of management of less common hepatic infections, e.g. bacterial liver abscess, hydatid and protozoal infections. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.13	Describe the presentation, investigation and management of pregnancy related liver disease	
Knowledge		Skills
<ul style="list-style-type: none"> describe the effects of liver disease and cirrhosis on fertility and the course of a pregnancy explain the natural history of benign liver tumours in pregnancy discuss issues relating to pregnancy in liver transplant recipients. 		<ul style="list-style-type: none"> discuss planning of pregnancy in a patient with liver disease develop a differential diagnosis and plan of management to investigate the onset of jaundice or abnormal liver function tests in pregnancy describe the clinical features, investigation and management of pregnancy related liver diseases manage subacute/fulminant hepatic failure in pregnancy.

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.14	Manage inherited and metabolic liver diseases	
Knowledge		Skills
<ul style="list-style-type: none"> describe the pathogenesis and epidemiology of the common inherited and metabolic liver diseases, including haemochromatosis, Wilson's disease and alpha 1 antitrypsin deficiency discuss the biochemical features of Gilbert's syndrome and the factors that affect the level of bilirubin 		<ul style="list-style-type: none"> discuss the clinical presentations, diagnosis and management of these conditions

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.14	Manage inherited and metabolic liver diseases	
	<ul style="list-style-type: none"> describe the liver pathology in CF, congenital hepatic fibrosis, type 1 tyrosinaemia, hereditary fructose intolerance, galactosaemia, and Alper's disease describe the clinical presentations of the following diseases and disorders: <ul style="list-style-type: none"> Crigler-Najjar disease excessive parenchymal iron deposition CF related liver disease structural disorders of the extrahepatic biliary bile acid metabolic defects, storage disorders, and urea cycle disorders. 	<ul style="list-style-type: none"> describe the diagnosis of unconjugated hyperbilirubinaemia presenting in infancy and childhood diagnose, including differential diagnosis, and manage the diseases and disorders listed in knowledge.

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.1	Liver Disease	
Learning Objective 4.1.15	Describe the presentation, pathophysiology, investigation and management of neonatal liver diseases	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the presentation and differentiation of breast milk jaundice describe the risks of and diagnostic indications for a liver biopsy in a neonate. 	<ul style="list-style-type: none"> discuss the differential diagnosis of intrahepatic cholestasis in a non-dysmorphic six-week-old infant describe the presentation, differential diagnosis and management of neonatal liver failure diagnose and distinguish neonatal hepatitis and biliary atresia. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.2	Pancreatic Disease	
Learning Objective 4.2.1	Diagnose and manage acute and chronic pancreatitis	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the structure and function of the pancreas and the pathogenesis of acute pancreatitis discuss the complications of acute pancreatitis and their management describe the clinical presentations, investigation and complications of chronic pancreatitis describe the treatment of the complications of chronic pancreatitis including enzyme replacement, surgical and endoscopic option 	<ul style="list-style-type: none"> assess the severity of acute pancreatitis and the influence of severity on the likelihood of complications and clinical outcome investigate a patient with non-specific abdominal pain and increased amylase investigate a patient with severe abdominal pain and increased amylase investigate patients presenting with acute pancreatitis manage acute pancreatitis, including indications for urgent endoscopic retrograde cholangiopancreatography (ERCP) diagnose and manage recurrent acute and chronic pancreatitis 	
<ul style="list-style-type: none"> outline the causes and complications of acute and chronic pancreatitis in children describe the effects of CF mutations on the CF transmembrane conductance regulator (CFTR) and the difficulties of genotype-phenotype correlation in CF describe the effects of CF on secretory organs of the GI tract discuss newborn screening for CF describe the clinical features, genetics and management of Shwachman-Diamond syndrome, including monitoring for complications outline the features of genetically-based abnormalities of pancreatic exocrine function 	<ul style="list-style-type: none"> investigate and manage acute and relapsing/ chronic pancreatitis in children outline the causes, complications and management of pancreatic insufficiency in children manage common clinical problems in CF including recurrent abdominal pain, gastro-oesophageal reflux, constipation and distal intestinal obstruction syndrome (DIOS) discuss the presentation, investigation and management of liver disease in CF. 	
<ul style="list-style-type: none"> discuss the risk of pancreatic cancer in patients with chronic and relapsing pancreatitis and strategies to reduce the risk. 		

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.2	Pancreatic Disease	
Learning Objective 4.2.2	Describe the investigation of pancreatic mass/cystic lesion	
Knowledge	Skills	
<ul style="list-style-type: none"> discuss the imaging options for investigating a patient with a pancreatic mass or cyst describe the differential diagnosis and investigation of a patient presenting with an asymptomatic pancreatic cyst. 	<ul style="list-style-type: none"> describe the treatment options for each type of pancreatic cyst diagnose and describe the clinical approach to a patient presenting with a pancreatic mass. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attendance at radiology and pathology sessions interaction with GI surgeons/registrar. 		

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.2	Pancreatic Disease	
Learning Objective 4.2.3	Diagnose and manage malignant pancreatic pathology	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the risk factors for the development of pancreatic adenocarcinoma describe the range of clinical presentations of pancreatic adenocarcinoma describe the classification and clinical presentation of pancreatic tumours in children. 	<ul style="list-style-type: none"> describe the investigation and staging of pancreatic adenocarcinoma discuss the management options for 'curative' and palliative treatment of pancreatic adenocarcinoma investigate and manage pancreatic tumours. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> radiology review sessions attend ERCP lists attend upper GI surgery clinics and multidisciplinary meetings. 		

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.3	Biliary Disease
Learning Objective 4.3.1	Diagnose and manage malignant biliary obstruction
Knowledge	
<ul style="list-style-type: none"> describe the clinical presentation and diagnostic approach to malignant biliary obstruction discuss the methods available for palliation of biliary obstruction in particular endoscopic and percutaneous stenting describe the palliative methods available to relieve associated duodenal obstruction describe other available palliative options including chemotherapy and radiotherapy. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE
Theme 4.3	Biliary Disease
Learning Objective 4.3.2	Describe the clinical approach to a paediatric patient with biliary pathology
Knowledge	
<ul style="list-style-type: none"> describe the clinical features, differential diagnosis and management of choledochal cyst describe the epidemiology, clinical features, approach to diagnosis and management of biliary atresia. 	

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.3	Biliary Disease	
Learning Objective 4.3.3	Diagnose and manage gallstone disease	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the types of stone, pathogenesis, natural history and clinical presentation of gallstone disease discuss the risks of observation of symptomatic and asymptomatic gallstones describe cholangitis (see emergency management, Theme 2.2) discuss the differential diagnosis, natural history and treatment options for post cholecystectomy pain, including biliary spasm. 	<ul style="list-style-type: none"> counsel patients regarding the risks of asymptomatic and symptomatic gallstones manage gallstone disease, including the indications for surgery, the short- and long-term complications of the stones and the surgical options. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend an upper GI surgery clinic. 		

DOMAIN 4	LIVER, BILIARY AND PANCREATIC DISEASE	
Theme 4.3	Biliary Disease	
Learning Objective 4.3.4	Diagnose and manage acute and chronic cholecystitis	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the risk factors for and pathogenesis of calculous and acalculous acute cholecystitis and the complications of these. 	<ul style="list-style-type: none"> diagnose and manage acute cholecystitis diagnose and manage chronic cholecystitis. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend an upper GI surgery clinic. 		

DOMAIN 5	INTERFACES WITH GASTROINTESTINAL MEDICINE	
Theme 5.1	Systemic Illness	
Learning Objective 5.1.1	Assess the impact of systemic disease on gastrointestinal and hepatic structure and function	
Knowledge		
<ul style="list-style-type: none"> recognise the influence of systemic disease (in all organ systems) and its treatments on the structure and function of the luminal GI tract, biliary tree, liver and pancreas explain the impact of the clinical presentations and treatments of the following diseases on the function of the GI and hepatic systems: <ul style="list-style-type: none"> diabetes mellitus vascular disease, including vasculitis, hereditary and acquired angioectasia and occlusive arterial and venous disease thyroid disease, including hyper- and hypothyroidism electrolyte disorders lymphoma and leukemia HIV infection amyloidosis organ transplantation, including bone marrow transplantation and graft vs. host disease neoplastic and paraneoplastic disease infections 		
<ul style="list-style-type: none"> systemic sclerosis neurodegenerative disorders such as motor neuron disease, multisystem atrophy and Parkinson's disease. 		
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> inpatient and outpatient consultations. 		

DOMAIN 5		INTERFACES WITH GASTROINTESTINAL MEDICINE	
Theme 5.2		Psychosocial Aspects of Gastrointestinal Medicine	
Learning Objective 5.2.1		Describe the psychosocial aspects of gastrointestinal medicine	
Knowledge		Skills	
<ul style="list-style-type: none"> describe the impact of psychosocial factors on the presentation and management of diseases of the GI tract, liver, biliary tract and pancreas explain the impact of sociocultural and gender issues on diseases of the GI tract, liver, biliary tract and pancreas describe the importance of somatisation disorders and previous sexual abuse on the presentation and management of GI disorders and symptoms explain the principles of behavioural psychological therapies, the principles of use of psychiatric drugs and the use of liaison psychiatry explain the psychosocial factors surrounding laxative misuse/abuse explain the use of alternative therapies 		<ul style="list-style-type: none"> elicit an appropriate psychosocial history, including assessment for physical and sexual abuse elicit an inclusive pharmacological history, including for alternative therapies and over the counter treatments manage patients from diverse cultural backgrounds 	
<ul style="list-style-type: none"> describe the principles of addiction medicine. 		<ul style="list-style-type: none"> manage chronic pain syndromes, including chronic pelvic pain disorders. 	
Suggested Teaching and Learning Methods			
<ul style="list-style-type: none"> visit addiction medicine and pain clinics attend a psychologist's clinic inpatient and outpatient experience reflect on and discuss difficult patient interactions with your supervisor. 			

DOMAIN 5		INTERFACES WITH GASTROINTESTINAL MEDICINE	
Theme 5.3		Principles of Gastrointestinal Surgery	
Learning Objective 5.3.1		Describe the principles of upper gastrointestinal , lower gastrointestinal, hepatobiliary and endoscopic gastrointestinal surgery	
Knowledge		Skills	
<ul style="list-style-type: none"> describe postoperative anatomy following common upper and lower GI surgical operations, including bariatric surgery, and the endoscopic appearances associated with these operations 		<ul style="list-style-type: none"> diagnose and manage acute cholecystitis diagnose and manage chronic cholecystitis. 	

DOMAIN 5	INTERFACES WITH GASTROINTESTINAL MEDICINE	
Theme 5.3	Principles of Gastrointestinal Surgery	
Learning Objective 5.3.1	Describe the principles of upper gastrointestinal , lower gastrointestinal , hepatobiliary and endoscopic gastrointestinal surgery	
	<ul style="list-style-type: none"> • explain the principles of GI surgery relating to oncological clearance, anastomoses and stomas • describe the principles of perioperative nutritional support • describe the principles of laparoscopic surgery • recognise different forms of stoma and understand the role of stomal therapists in the siting and maintenance of stomas. 	
Suggested Teaching and Learning Methods		
	<ul style="list-style-type: none"> • attend some surgical lists +/- assist • observe a stoma nurse siting a stoma and educating a patient regarding stoma management. 	

DOMAIN 5	INTERFACES WITH GASTROINTESTINAL MEDICINE	
Theme 5.4	Public Health Issues	
Learning Objective 5.4.1	Explain the delivery of gastrointestinal services to the population	
Knowledge		
	<ul style="list-style-type: none"> • describe the principles of health economics • describe the historic background and current structure of health care funding in Australia /New Zealand, as appropriate • explain the application of electronic health systems (e-health) in diseases of the GI tract, liver, biliary tract and pancreas • recognise the role of different levels of government and non government organisations in delivering health care • recognise the role of teaching and learning organisations, e.g. universities and colleges, in delivering health care • explain the impact of rural and remote location on disease management. 	

DOMAIN 5	INTERFACES WITH GASTROINTESTINAL MEDICINE	
Theme 5.4	Public Health Issues	
Learning Objective 5.4.2	Manage gastrointestinal disease in Aboriginal and Torres Strait Islander and Māori and Pacific Islander populations	
Knowledge	Skills	
<ul style="list-style-type: none"> recognise the gastroenterological diseases with increased prevalence in Aboriginal and Torres Strait Islander and Māori and Pacific Islander population explain the impact of nutritional problems, diabetes, infectious diseases and substance abuse and on the presentation and management of diseases of the GI tract, liver, biliary tract and pancreas recognise the impact of cultural differences on disease management. 	<ul style="list-style-type: none"> apply cultural and historical sensitivity, and understanding of biopsychosocial issues in assessing and managing patients of Aboriginal and Torres Strait Islander and Māori and Pacific Islander backgrounds. 	

DOMAIN 5	INTERFACES WITH GASTROINTESTINAL MEDICINE	
Theme 5.5	Intensive Care	
Learning Objective 5.5.1	Manage gastrointestinal complications of critical illness	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the influence of critical illness on diseases of the GI tract, liver, biliary tract and pancreas describe the influence of critical illness on GI motility and the management of prolonged ileus describe prophylaxis for and management of peptic ulcer and its complications in critically ill patients recognise the potential aetiologies for disturbances in liver function tests in critically ill patients. 	<ul style="list-style-type: none"> co manage critically ill patients admitted to intensive and high care environments provide consultative services for diseases of the GI tract, liver, biliary tract and pancreas to patients admitted to intensive care provide supportive endoscopic services, including insertion of nasogastric and nasojejunal feeding tubes to critically ill patients manage peptic ulcer bleeding in critically ill patients. 	

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.1	Describe principles and methods of obtaining informed consent	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the medical, legal and ethical principles of informed consent outline the process of obtaining informed consent explain the special issues around obtaining informed consent in paediatric, unconscious or patients with dementia explain the issues related to advance directives and refusal of treatment. 	<ul style="list-style-type: none"> explain to patients and families of the risks and benefits of endoscopic procedures in non-technical language document consent and/or refusal of treatment in a patient's medical record conduct a family meeting to discuss the above issues. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> read commentary on relevant legal case studies, e.g. Rogers vs. Whittake. 		

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.2	Describe the general principles of gastrointestinal endoscopy	
Knowledge	Skills	
<ul style="list-style-type: none"> describe current guidelines for management of anticoagulation for patients undergoing diagnostic and therapeutic endoscopic procedures describe the current guidelines for the periprocedure management of patients with other medical conditions, e.g. diabetes mellitus, undergoing endoscopic procedures outline the functions of the various parts of an endoscope describe the principles and process of endoscope reprocessing describe the various common modalities used to produce thermal injury in the GI tract (monopolar cautery, argon plasma coagulation (APC) and bipolar cautery) and the principles/precautions for their use describe the appropriate technique of tissue handling for endoscopic biopsies 		

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.2	Describe the general principles of gastrointestinal endoscopy	
<ul style="list-style-type: none"> explain the principles of risk management as it relates to GI endoscopy define the role of quality assurance/improvement and clinical audit in endoscopy discuss the importance of patient follow-up, including review of pathology results 		
<ul style="list-style-type: none"> describe appropriate monitoring for endoscopic procedures and the relationship between PaO₂ and SaO₂ outline the pharmacology and use of commonly used drugs for sedation and sedation reversal in endoscopy describe the principles of radiation protection during endoscopic procedures and techniques for minimising radiation exposure to the patient and operator. 	<ul style="list-style-type: none"> monitor and manage a sedated patient during endoscopy. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> assist endoscopy nurses to set up and troubleshoot equipment attend a sedation course. 		

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.3	Explain the principles of upper gastrointestinal endoscopy and its application to patient management	
Knowledge	Skills	
<ul style="list-style-type: none"> recognise the appearance of common anatomical variants, abnormal GI lesions and post surgical appearances seen at UGI endoscopy discuss the indications for taking mucosal biopsies of the oesophagus, stomach and duodenum. 	<ul style="list-style-type: none"> obtain informed consent for UGI perform UGI endoscopy safely and competently (<i>NOTE: there is scope for rare exceptions where the trainee does not intend or expect to perform unsupervised UGI endoscopy when in independent practice</i>) integrate findings of procedure into a patient care plan. 	

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.3	Explain the principles of upper gastrointestinal endoscopy and its application to patient management	
Suggested Teaching and Learning Methods		Assessment Methods
<ul style="list-style-type: none"> perform UGI endoscopy and the related procedures under expert supervision, including experience with emergency presentations (especially UGI haemorrhage). 		<ul style="list-style-type: none"> Direct Observation of Procedural Skills <i>NOTE: Completing this curriculum does not imply certification in diagnostic or therapeutic UGI Endoscopy, but completion of the requirements of the CCRTGE will be taken as evidence of appropriate training for the purposes of skills assessment.</i>

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.4	Explain the role of therapeutic upper endoscopy	
Knowledge		Skills
<ul style="list-style-type: none"> describe the indications, contraindications and risks of oesophageal dilation describe the range of techniques used in oesophageal dilation explain the risks for each technique and the follow up required after dilatation discuss the endoscopic management of malignant upper GI tract obstruction describe the techniques used for enteric access for feeding, including PEG, nasojejunal tube (NJT), PEG/J, and DPEJ describe the endoscopic techniques for achieving haemostasis in the UGI tract. 		<ul style="list-style-type: none"> discuss the management of vascular lesions of the UGI tract discuss methods for the management of food impaction and the removal of blunt and sharp foreign bodies.
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> participate in after hours care of patients with GI bleeding and food bolus obstruction perform endoscopies under supervision. 		

DOMAIN 6		DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS
Theme 6.1		Gastrointestinal Endoscopy
Learning Objective 6.1.5		Explain the principles of colonoscopy and its application to patient management
Knowledge		Skills
<ul style="list-style-type: none"> describe the indications, contraindications and risks of colonoscopy discuss the advantages, disadvantages and complications of available colonoscopy preparation regimens recognise the appearance of common anatomical variants, abnormal colorectal and terminal ileal lesions and post-surgical appearances seen at colonoscopy, including the typical appearance of various forms of colitis describe the techniques available for the management of colonic polyps and discuss the risks for each technique describe appropriate colonoscopic insertion and withdrawal technique discuss the role of CT colonography in imaging the colon discuss the role of colonoscopy in the management of malignant colonic obstruction. 		<ul style="list-style-type: none"> perform a routine colonoscopy to the standard required by the Conjoint Committee for Recognition of Training in Gastrointestinal Endoscopy perform a routine colonoscopy safely and competently integrate findings of colonoscopy into a patient care plan. <i>NOTE: 1) all trainees require detailed knowledge of the first three knowledge dot points. Most trainees will wish to also be competent in performing colonoscopy, but there is scope for occasional exceptions when the trainee does not intend to perform colonoscopies after the completion of FRACP training; 2) for the majority who intend to meet the standards for colonoscopy laid down by the Conjoint Committee, this learning objective should be read in conjunction with the more detailed curriculum published by the Gastroenterological Society of Australia (GESA) in conjunction with the National Endoscopy Training Initiative (NETI)</i> achievement of those standards will be taken as evidence of training in the skill of colonoscopy
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> colonoscopy simulators basic and advanced courses in colonoscopy, e.g. those mounted by NETI/GESA performance of colonoscopy and the related procedures under expert supervision. 		

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.6	Explain the principles of endoscopic retrograde cholangio-pancreatography and its role in management	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the indications, contraindications, risks and benefits of ERCP describe the principles of endoscopic management of biliary calculi discuss the risk factors for post ERCP pancreatitis and strategies to minimise this risk recognise the role of ERCP in the diagnosis and management of biliary strictures explain the benefits and limitations of using a duodenoscope to examine the UGI tract describe the technique and role of Sphincter of Oddi manometry. 	<ul style="list-style-type: none"> integrate findings of procedure into a patient care plan <i>NOTE: 1) Core trainees are not expected to attempt to perform ERCP, indeed are discouraged from doing so because of the time that needs to be devoted to that training and attendant risks to patients. Training and experience in the use of a side viewing scope to visualise lesions that cannot be adequately seen/ treated with a forward viewing endoscope is optional 2) Those who do elect to train in ERCP should only do so under close guidance of an experienced accredited practitioner and as part of a training program intended to lead to regular practice in ERCP.</i> 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> observe at ERCP lists. 		

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.7	Interpret endoluminal imaging of the small intestine	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the techniques used for endoluminal evaluation of the small intestine describe the indications, contraindications, preparation, risks and benefits of capsule endoscopy interpret images of common findings at capsule endoscopy describe the indications, contraindications, technique and complications of push enteroscopy, antegrade and retrograde single and double balloon enteroscopy. 	<ul style="list-style-type: none"> recognise common normal variants of small bowel anatomy and common abnormalities seen on enteroscopy or capsule endoscopy integrate findings of procedure into a patient care plan <i>NOTE: Trainees are not expected to become competent in the performance of either balloon enteroscopy or capsule endoscopy during core training.</i> 	

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS
Theme 6.1	Gastrointestinal Endoscopy
Learning Objective 6.1.7	Interpret endoluminal imaging of the small intestine
Suggested Teaching and Learning Methods	
<ul style="list-style-type: none"> observe the recording, download and reporting of capsule endoscopy procedures observe single/double balloon enteroscopy procedures. 	

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.1	Gastrointestinal Endoscopy	
Learning Objective 6.1.8	Explain the principles and role of endoscopic ultrasound	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the indications, contraindications, risks and benefits of endoscopic ultrasound (EUS) describe the basic principles involved in radial and linear-array EUS explain the role of EUS in the assessment of masses and malignancy of the oesophagus, stomach and pancreas, and in the assessment of neuroendocrine lesions and syndromes describe the role of EUS in the assessment of patients with possible biliary calculi. 	<ul style="list-style-type: none"> integrate findings of procedure into a patient care plan <i>NOTE: It is not expected that trainees will perform EUS.</i> 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend EUS list. 		

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.2	Gastrointestinal Imaging	
Learning Objective 6.2.1	Initiate and interpret gastrointestinal imaging	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the indications for and risks of techniques for cross sectional and 3D (CT and MRI) imaging of the abdomen describe the indications for ultrasound assessment of the hepatic liver, biliary tree, and portal circulation explain the principles of structural and functional imaging using radioisotopes. 	<ul style="list-style-type: none"> identify normal anatomy, variants and major pathology on cross sectional and 3D abdominal imaging interpret ultrasound images of the hepatobiliary system and portal circulation interpret plain abdominal and chest x-rays. 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend radiology sessions attend an ultrasound examination of the hepatobiliary/portal venous system. 		

DOMAIN 6	DIAGNOSTIC AND THERAPEUTIC INVESTIGATIONS	
Theme 6.3	Functional Investigations	
Learning Objective 6.3.1	Initiate and interpret physiological gastrointestinal investigations	
Knowledge	Skills	
<ul style="list-style-type: none"> describe the indications for and principles of oesophageal manometry and 24pH/impedance testing describe the principles and role of breath testing in the assessment of carbohydrate intolerance describe the principles of anorectal physiology studies explain the principles of GI transit studies and the role of these describe clinical situations in which GI physiology investigations can provide useful information. 	<ul style="list-style-type: none"> interpret reports of manometry and pH/impedance studies in patients with common conditions (GORD, achalasia, DOS). 	
Suggested Teaching and Learning Methods		
<ul style="list-style-type: none"> attend an oesophageal manometry/pH session review a transit study with a nuclear medicine physician. 		

ACRONYMS AND INITIALISMS

AIH	autoimmune hepatitis
BMI	body mass index
CAH	chronic active hepatitis
CF	cystic fibrosis
CP	cerebral palsy
DIOS	distal interstitial obstruction syndrome
DOS	diffuse oesophageal spasm
DPEJ	direct percutaneous jejunostomy
ERCP	endoscopic retrograde cholangiopancreatography
EUS	endoscopic ultrasound
FNH	focal nodular hyperplasia
GESA	Gastroenterology Society of Australia
GI	gastrointestinal
GIST	gastrointestinal stromal tumours
GORD	gastro-oesophageal reflux disease
HCC	hepatocellular carcinoma
HIDA	hepatobiliary imino-diacetic acid
HSP	Henoch-Schoenlin purpura
IBD	inflammatory bowel disease
IBS	irritable bowel syndrome
LCT	long-chain triglyceride
LFT	liver function test
MALT	mucosa-associated lymphoid tissue
MCT	medium-chain triglyceride
NAFLD	non-alcoholic fatty liver disease
NASH	non-alcoholic steatohepatitis
NETI	National Endoscopy Training Initiative
NJT	nasojejunal tube

NSAID	nonsteroidal anti-inflammatory drug
PAN	polyarteritis nodosa
PBC	primary biliary cirrhosis
PEG	percutaneous endoscopic gastronomy
PEG/J	percutaneous endoscopic gastrojejunostomy
PSC	primary sclerosing cholangitis
PUD	peptic ulcer disease
RAST	radioallergosorbent test
ROC	receiving operating characteristic
TPN	total parenteral nutrition
UC	ulcerative colitis
UGI	upper gastrointestinal