



THE ASSOCIATION OF COLOPROCTOLOGY OF GREAT BRITAIN AND
IRELAND



ACPG&I SYLLABUS version 2.1
BASED ON THE CORE SYLLABUS OF THE ABCRS

Introduction

Why:

Professional and political developments in medical training, including the creation of the Postgraduate Medical Education and Training Board, make it necessary for this Association to define the knowledge base and competencies that constitute Colon and Rectal Surgery and underpin the working practices of a Colon and Rectal Surgeon in the UK and Ireland. The Association's primary motivation is the protection of patient health and welfare, through the development and maintenance of high standards in the specialty of Colon and Rectal Surgery. To this end the syllabus is intended to guide the practice of established Surgeons and to inform trainees and training bodies engaged in the acquisition and the provision of Colon and Rectal Surgical training.

This first version (v1.1) of the ACPGB&I SYLLABUS was based on the Core Syllabus of the American Board of Colon and Rectal Surgery. While the subject matter of Colon and Rectal Surgery is universal, an attempt was made to emphasise those aspects of our specialty which are most relevant to practice in Great Britain and Ireland. In this second version, account has been taken of the Inter Collegiate Syllabus programme (ISCP) initiatives in developing a syllabus to encompass all surgical specialties. Training levels have been modified to reflect the levels of training recognised by the ISCP, whilst maintaining the format of the ACPGBI syllabus.

What:

To assist trainees and trainers the contents have been designated to define the knowledge and competence expected of a trainee completing appropriate training in colon and rectal surgery to CT2 (CT2), ST4, ST6 and ST8

CT2	ST4	ST6	ST8
<i>Knowledge and technical abilities expected of a basic surgical trainee at the MRCS examination</i>	In addition to the knowledge and technical abilities expected of a basic surgical trainee at the MRCS examination - <i>the additional knowledge and technical abilities expected of a higher surgical trainee with a specialty interest other than Colorectal Surgery at the ICB examination and on award of the CCT in General Surgery</i>	In addition to the knowledge and technical abilities expected of a surgical trainee completing ST4, - <i>the additional knowledge and technical abilities, expected of a higher surgical trainee with a declared interest in the generality of gastrointestinal surgery and who may be awarded CCT in upper or lower GI surgery</i>	In addition to the knowledge and technical abilities expected of a basic surgical trainee at the MRCS examination and the non-colorectal HST at the ICB examination - <i>the additional knowledge and technical abilities, expected of a higher surgical trainee with a declared specialisation in Colorectal Surgery at the ICB examination and on appointment as a Consultant with an interest in Colorectal Surgery.</i>

CORE SYLLABUS COMMITTEE 2001 (Version 1.1)

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REVISION 2009 BY EDUCATION AND TRAINING COMMITTEE (Version 2.1)

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Contents

PART 1- COLON AND RECTAL SURGERY

Benign Anorectal

- Haemorrhoids
- Anal Fissure
- Abscess/Fistula
- Pilonidal
- Hidradenitis Suppurativa
- Anal Stenosis
- Anaesthesia
- Pruritis Ani
- Sexually Transmitted Diseases

Benign Colon

- Diverticular Disease
- Volvulus
- Rectal Bleeding
- Massive Lower GI Bleeding
- Vascular Malformation
- Endometriosis
- Colorectal Trauma
- Foreign Bodies
- Colitis Cystica Profunda

Colorectal Neoplasia

- Colorectal Cancer
- Rectal Cancer
- Anal Neoplasia
- Presacral Tumour

Inflammatory Bowel Disease

- Inflammatory Bowel
- Ulcerative Colitis
- Crohn's Disease
- Other Inflammatory Conditions

Stomas

Functional Disorders

- Faecal Incontinence
- Rectal Prolapse
- Solitary Rectal Ulcer
- Constipation
- Miscellaneous

PART 2 - ALLIED SUBJECTS

Anatomy and Embryology

- Anorectal
- Colon and Small Bowel

Endoscopy

- Proctoscopy
- Rigid sigmoidoscopy
- Flexible Sigmoidoscopy
- Pouchoscopy

- Colonoscopy
- Patient Preparation
- Instrumentation
- Anaesthesia
- Special Considerations
- Advanced Techniques

- Laparoscopy
 - General Considerations
 - Indications and Contraindications
 - Complications
 - Procedures
 - Special Considerations

- Paediatric
 - Hirschsprung's Disease
 - Anorectal Malformations
 - Other Paediatric Disorders

- Physiology
 - Normal Defaecation
 - Physiologic Tests

- Investigations
 - Radiology
 - Plain films
 - Contrast studies
 - Fistulograms and sinograms
 - Abdominal ultrasound
 - Computed Tomography
 - Nuclear Medicine Scans
 - Angiography
 - Dynamic Proctography
 - Magnetic Resonance Imaging
 - Positron Emission Tomography
 - Evaluation of DVT/PE
 - Endoanal/ Endorectal Ultrasound
 - Anatomy
 - Technical

- Pathology
 - Anus and Anal
 - Small Intestine, Colon and Rectum
 - Miscellaneous

- Ethics

- Socioeconomics

PART 1- COLON AND RECTAL SURGERY

BENIGN ANORECTAL

BENIGN ANORECTAL

GOAL: Following the completion of **appropriate** colon and rectal surgery training, Trainees will be competent with the diagnosis and medical and surgical treatment of benign anorectal diseases.

1.Haemorrhoids

A. Trainees in colon and rectal surgery will be able to do the following:

1. Describe proposed aetiologies of internal and external haemorrhoids. ST4
2. Describe the anatomical distinctions between internal and external haemorrhoids. ST4
3. Describe the classifications for internal haemorrhoids. CT2
4. Describe the signs and symptoms of the following:
 - Thrombosed external haemorrhoids CT2
 - Internal haemorrhoids by stage CT2
 - Skin tags CT2
5. Describe the indications, contraindications, and complications of nonoperative management of haemorrhoids.
 - Topical applications CT2
 - Stool modifications/softeners CT2
6. Describe the indications, contraindications, and complications of the following:
 - Rubber-band ligation ST4
 - Injection sclerotherapy ST4
 - Infrared coagulation ST4
7. Describe the following techniques:
 - Rubber-band ligation ST4
 - Injection sclerotherapy ST4
 - Infrared coagulation ST4
8. Describe indications, contraindications, and complications of the following:
 - Excisional haemorrhoidectomy ST4
 - Haemorrhoidal artery ligation ST4
 - Stapled haemorrhoidectomy ST8
9. Describe the operative technique for the following:
 - Excisional haemorrhoidectomy ST6
 - Haemorrhoidal artery ligation ST6
 - Stapled haemorrhoidectomy ST8
10. Describe the signs, symptoms, and treatment of complications resulting from OPD management, including the following:
 - Pain CT2
 - Bleeding CT2
 - Sepsis CT2
11. Describe the treatment of complications resulting from haemorrhoidectomy:
 - Urinary retention CT2
 - Haemorrhage CT2
 - Faecal impaction CT2
 - Infection CT2
 - Stenosis ST8

- Incontinence ST8
12. Describe modifications of therapy with the following special considerations:
- Inflammatory bowel disease (IBD) ST4
 - Pregnancy ST4
 - HIV ST4
 - Coagulopathies ST4
 - Portal hypertension/ Rectal varices ST8
 - Patients on anticoagulation ST4

2. Anal Fissure

A. Trainees in colon and rectal surgery will be able to do the following:

1. Describe the proposed aetiologies of anal fissure CT2
2. Describe the anatomical location of a classic anal fissure CT2
3. Describe the signs and symptoms of anal fissure CT2
4. Describe the, including indications, contraindications and complications of non-operative management of anal fissure ST4
 - stool modifications/softeners
 - topical anaesthetics
 - topical pharmacology – GTN and diltiazem
 - botulinum toxin
5. Describe the Indications, contraindications and complications of operative management of anal fissure
 - lateral internal sphincterotomy ST6
 - anal advancement flap ST6
6. Describe the Preoperative care and investigation of patients having lateral sphincterotomy and/or anal advancement flap for fissure ST6
7. Describe the operative technique for the following ST8
 - Open lateral sphincterotomy
 - Closed lateral sphincterotomy
 - Anal advancement flap for fissure
8. Describe the treatment of complications resulting from operations ST8
 - persistent fissure
 - incontinence
 - stenosis,

3. Abscess and Fistula

A. Trainees in colon and rectal surgery will be able to do the following

- | | |
|--|-----|
| 1. Describe the origin of cryptoglandular abscess and fistula | CT2 |
| 2. Describe the classification of anorectal cryptoglandular abscess-based on anatomical spaces | ST4 |
| 3. Describe the Parks classification of anal fistula | ST4 |
| 4. Describe the natural history of surgically-treated anal abscess, including the risk of fistula formation | ST6 |
| 5. Describe the operative strategy for anal fistula based on sphincter Involvement / location | ST4 |
| 6. Describe the complications resulting from abscess/fistula surgery <ul style="list-style-type: none"> • Recurrence • incontinence | ST6 |
| 7. Differentiate cryptoglandular abscess and fistula from other causes | ST4 |
| 8. Describe the assessment of abscess/fistula by techniques designed to elucidate pathological anatomy <ul style="list-style-type: none"> • digital examination • Goodsall's rule • Fistulogram • Injections • MRI • endoanal ultrasound | ST6 |
| 9. Describe the preoperative management of anorectal abscess | ST4 |
| 10. Describe the postoperative management of anorectal abscess | ST4 |
| 11. Describe the treatment options and appropriate procedure based on anatomical spaces <ul style="list-style-type: none"> • Laying open • Drainage seton • Cutting seton • Advancement flap • Fibrin glue • Fistula plug | ST6 |
| 12. Describe the operative techniques for low and high fistula-in-ano <ul style="list-style-type: none"> • Laying open • Drainage seton • Cutting seton • Advancement flap • Fibrin glue • Fistula plug | ST6 |
| 13. Describe Modification of therapy for associated conditions <ul style="list-style-type: none"> • inflammatory bowel disease • necrotising fasciitis/Fournier's gangrene • Leukaemia • other immunocompromised patients | ST8 |

- | | |
|---|-----|
| 14. Describe the Classification of recto-vaginal fistula | ST8 |
| 15. Describe the preoperative evaluation of recto-vaginal fistula | ST8 |
| 16. Describe the treatment of recto-vaginal fistula, based on location and aetiology | ST8 |
| 17. Describe the preoperative care for recto-vaginal fistula due to obstetric injury | ST8 |
| 18. Describe the postoperative care for recto-vaginal fistula due to obstetric injury | ST8 |
| 19. Describe the operative techniques for recto-vaginal fistula | ST8 |
| <ul style="list-style-type: none"> • Rectal advancement flap • Vaginal advancement flap • Fistula plug • Associated sphincter repair/muscular interposition • Abdominal approach | |

4. Hidradenitis Suppurativa

A. Trainees in colon and rectal surgery will be able to do the following

- | | |
|--|-----|
| 1. Describe the pathophysiology of hidradenitis suppurativa | CT2 |
| 2. Describe the symptoms and signs of hidradenitis suppurativa | CT2 |
| 3. Describe the non-operative management of hidradenitis suppurativa | ST4 |
| 4. Describe the operative management of hidradenitis suppurativa | ST4 |

5. Pilonidal Sinus

A. Trainees in colon and rectal surgery will be able to do the following

- | | |
|--|-----|
| 1. Describe the pathophysiology of pilonidal disease | CT2 |
| 2. Describe the symptoms and signs of pilonidal disease | CT2 |
| <ul style="list-style-type: none"> • abscess • sinus | |
| 3. Describe the operative techniques for pilonidal disease | ST4 |
| <ul style="list-style-type: none"> • Pilonidal sinus-lay open • Pilonidal sinus-excision + suture • Pilonidal sinus-graft or flap | |

6. Anal Stenosis

A. Trainees in colon and rectal surgery will be able to do the following

1. Describe the aetiology of anal stenosis ST4
2. Describe the non-operative management of anal stenosis ST4
3. Describe the operative management of anal stenosis ST8
 - division of stricture
 - anal advancement flap procedures

7. Pruritis Ani

A. Trainees in colon and rectal surgery will be able to do the following

1. Describe the aetiology of pruritus ani CT2
2. Describe the clinical presentation of pruritis ani CT2
3. Describe the management of pruritus ani with attention to the following ST4
 - hygiene
 - diet
 - anatomical (obesity, deep anal cleft)
 - coexisting anal pathology
 - systemic disease
 - gynaecology - associated
 - infections
 - post-antibiotic syndrome
 - contact dermatitis
 - dermatology
 - radiation
 - neoplasm
 - idiopathic pruritis ani
 - methylene blue injection

8. Sexually Transmitted Diseases

A. Trainees in colon and rectal surgery will be able to do the following

1. Describe the aetiology of condylomata acuminata ST4
2. Describe the aetiology of HIV, syphilis, gonorrhoea, chlamydia, herpes ST4
3. Describe the Influence of human papilloma virus serotypes on the subsequent development of cancer ST8
4. Describe the assessment of condylomata acuminata CT2
5. Describe the assessment and treatment of HIV, syphilis, gonorrhoea, chlamydia, herpes ST8
6. Describe the non-operative treatments for condylomata acuminata ST6
 - topical chemicals
7. Describe the operative technique of anal skin tags/warts-excision ST4

Technical Skills: Anorectal:

Procedure	OPCS Code	Type of Training case	Training Level
Outpatient treatment of Haemorrhoids (banding / injection)	H5240 /H5230		ST4
Haemorrhoidectomy	H5100	INDEX CASE	ST6
Stapled haemorrhoidectomy	H5250		ST8
Excision of lesion of anus	H4800		CT2
Lateral sphincterotomy	H5620		ST4
Drainage through perineal region	H5800		CT2
Lay open low fistula	H5510	INDEX CASE	ST4
Lay open high fistula	H5520	INDEX CASE	ST6
Drainage Seton			
Cutting Seton			
Advancement flap			
Recto-vaginal fistula			ST8

BENIGN COLON

BENIGN COLON

GOAL: Following the completion of a training in colon and rectal surgery, trainees will be competent in the **appropriate** diagnosis and treatment of benign colon diseases.

DIVERTICULAR DISEASE

I. Pathophysiology

A. Trainees will be able to do the following:

1. Describe the aetiologies of colonic diverticular disease CT2
2. Describe the incidence and epidemiology of colonic diverticular disease. CT2

II. Clinical Manifestations

A. Trainees will be able to do the following:

1. Describe and recognise the clinical patterns (including right sided diverticular disease), presenting symptoms, physical findings, and natural history of colonic diverticular disease. ST4
2. Describe appropriate diagnostic studies and their sequence in the evaluation of both acute and chronic colonic diverticular disease. ST4
3. List possible complications and classification of diverticular disease including the following:
 - Bleeding CT2
 - Perforation CT2
 - Abscess CT2
 - Fistula CT2
 - Stricture CT2
4. Describe the Hinchey classification of complicated diverticular disease ST6

III. Treatment

A. Trainees will be able to do the following:

1. Discuss the medical and dietary management of colonic diverticular disease. CT2
2. Describe the appropriate medical management for acute diverticulitis including the criteria for inpatient versus outpatient care. CT2
3. Discuss the preoperative assessment and the indications for surgery, surgical procedures, and complications for acute diverticulitis. ST4
4. Discuss the role of laparoscopy in the management of perforated diverticular disease. ST6

5. Describe the appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis. ST4
6. Describe the surgical procedures for dealing with complications (fistula, stricture, recurrent episodes) of acute diverticulitis. ST6
7. Describe the techniques for an appropriate resection for diverticular disease including the extent of resection, use of ureteral stents, and indications for diversion. ST6
8. Describe patient selection and the techniques for appropriate reversal of Hartmann's procedure including the use of ureteral stents, and indications for diversion. ST8

VOLVULUS

I. Pathophysiology

A. Trainees will be able to do the following:

1. Describe the aetiologies of volvulus of the colon. ST4
2. Discuss the incidence and epidemiology of volvulus of the colon. ST4

II. Clinical Manifestations

A. Trainees will be able to do the following:

1. Describe and recognise the clinical patterns, presenting symptoms, physical findings, and natural history of colonic volvulus based upon its site. ST4
2. Describe appropriate diagnostic studies and their findings and sequence in the evaluation of colonic volvulus based upon its site. ST4
3. List possible complications of colonic volvulus including the following:
 - Obstruction ST4
 - Ischaemia ST4
 - Perforation ST4

III. Treatment

A. Trainees will be able to do the following:

1. Discuss the role of endoscopy and decompression in the treatment of colonic volvulus based upon its site. ST4
2. Describe appropriate surgical and endoscopic procedures for colonic volvulus based upon its site and indication for surgery
ST6

RECTAL BLEEDING

I. General Considerations

A. Trainees will be able to do the following:

1. List the possible aetiologies of lower GI bleeding. CT2
2. Describe the appropriate evaluation of the patient based upon the patient's age and other medical conditions. CT2

MASSIVE LOWER GASTROINTESTINAL (GI) BLEEDING

I. General Considerations

A. Trainees will be able to do the following

1. Assess haemodynamic stability and outline a resuscitation plan. CT2
2. List the possible aetiologies of massive lower GI bleeding. CT2
3. Outline an algorithm for the evaluation of lower GI bleeding including:
 - Exclusion of Coagulopathy CT2
 - Upper Gastrointestinal Endoscopy CT2
 - Colonoscopy CT2
 - Selective Mesenteric Angiography ST4
 - CT angiography ST4
 - On Table Colonoscopy with Antegrade Lavage ST4
4. Compare and contrast the utility, specificity, and sensitivity of colonoscopy, angiography, and CT angiography in evaluation of lower GI bleeding. ST4

II. Treatment

A. Trainees will be able to do the following:

1. Describe the angiographic treatment of lower GI bleeding ST4
2. Describe endoscopic treatment of lower GI bleeding including coagulation, injection therapy, and laser ablation. ST4
3. Describe the indications for surgery, appropriate surgical procedures, and their possible complications based upon cause, location, patient age, and medical condition. ST4

II. Special Considerations

A. Trainees will be able to do the following:

1. Describe the evaluation and management of postoperative lower GI bleeding. CT2
2. Describe the intraoperative evaluation and management of persistent massive lower GI bleeding without an identified site. ST6
3. Describe the evaluation of recurrent lower GI bleeding, including use of enteroscopy, video capsule, radionuclide scanning (Meckel's scan) and intraoperative endoscopy. ST6

VASCULAR MALFORMATIONS

I. Angiodysplasia

A. Trainees will be able to do the following:

1. Discuss the aetiology of angiodysplasia. ST4
2. Describe the clinical presentation and endoscopic findings of angiodysplasia. ST4
3. Discuss indications for intervention, and the operative and nonoperative management of angiodysplasia. ST4

II. Haemangioma

A. Trainees will be able to do the following:

1. Discuss the classification of haemangiomas, clinical presentations, and predominant GI sites. ST6
2. Describe radiologic and endoscopic evaluation of patients with haemangioma. ST6
3. Describe operative and nonoperative management based upon location. ST6

ENDOMETRIOSIS

A. Trainees will be able to do the following:

1. Discuss the pathophysiology of endometriosis. ST6
2. Describe the clinical presentation and endoscopic and laparoscopic findings of endometriosis. ST6

3. Discuss indications for intervention and the operative and nonoperative management of endometriosis. ST8

COLORECTAL TRAUMA

I. Colon Trauma

A. Trainees will be able to do the following:

1. Compare and contrast the use and limitations of the following imaging and diagnostic tests in the evaluation of blunt abdominal trauma:

- Plain abdominal films CT2
- Computed tomography (CT) scan CT2
- Ultrasound (FAST SCAN) CT2
- Peritoneal lavage CT2

1. Discuss the criteria for the following in the evaluation of penetrating abdominal trauma: and distinguish between knife trauma and bullet trauma

- Exploratory laparotomy ST4
- Wound exploration ST4
- Peritoneal lavage ST4
- Observation of stable knife injuries ST4

3. Describe the appropriate surgical management of colon trauma in the context of the severity of associated injuries and stability of medical condition, including the following:

- Primary repair ST6
- Resection with anastomosis ST6
- Faecal diversion ST6

4. Describe the management, both operative and non-operative, of colonic trauma due to:

- Colonoscopic perforation ST4
- Laparoscopic perforation ST4

II. Rectal Trauma

A. Trainees will be able to do the following:

1. Identify clinical situations requiring evaluation for rectal trauma. CT2

2. Describe methods for diagnosis of rectal trauma and associated injuries. CT2

3. Describe aspects of the surgical management of rectal trauma, including the following:

- Faecal diversion ST4
- Rectal washout ST4
- Primary repair ST6

III. Anal Trauma

A. Trainees will be able to do the following:

1. Describe the classification, the evaluation and treatment of obstetric anal injury. ST6
2. Describe the evaluation and treatment of traumatic anal injuries including the role of the following:
 - Primary repair ST8
 - Delayed repair ST8
 - Faecal diversion ST6

FOREIGN BODIES

A. Trainees will be able to do the following:

1. Describe the evaluation of patients with rectal foreign bodies. CT2
2. Describe various methods of extraction of foreign bodies and indications for surgery. ST4
3. Discuss the post-extraction evaluation, indications for inpatient observation and indications for surgery. ST4

Technical Skills: Benign Colon:

Procedure	OPCS Code	Type of Training case	Training Level
Excision of Left Hemicolon	H0900		ST6
Excision of Sigmoid Colon (Hartmann's)	H1000		ST4
Reversal of Hartmann's	H3390		ST8
Operation for intestinal fistula			ST8
Anterior Resection of Rectum (Colonic Pouch & Coloanal Anastomosis)	H3330	INDEX CASE	ST8
Abdomino-perineal resection of rectum and anus	H3320		ST8
Excision of transverse colon	H0800		ST4
Excision of Right Hemicolon	H0700		ST4

COLORECTAL NEOPLASIA

COLORECTAL NEOPLASIA

GOAL: Following completion of a training in colon and rectal surgery, Trainees will be competent in the **appropriate** diagnosis, evaluation and management of neoplastic diseases of the small bowel, colon, rectum and anus.

I. Epidemiology of Colorectal Cancer and Polyps

A. Trainees will be able to discuss epidemiology of Colorectal cancer and polyps including incidence and prevalence, influence of socioeconomic, racial and geographic factors:

CT2

II. Aetiology

A. Trainees will be able to discuss the following aetiological factors in Colorectal Neoplasia:

1. Diet

- Fat CT2
- Fibre CT2
- Calcium CT2
- Selenium CT2
- Vitamins (antioxidants) CT2
- Dietary inhibitors CT2
- Alcohol and smoking CT2
- Prostaglandin inhibitors CT2

2. Adenoma-carcinoma sequence

- Evidence CT2
- Categorise adenomas into low risk, intermediate and high risk and discuss screening procedures. CT2
- Significance of metaplastic polyps CT2

3. De novo carcinoma

ST4

4. Susceptibility to colorectal cancer (CRC)

- Genetic pathways for colorectal carcinogenesis ST6
- Family history CT2
- Personal Past History (CRC, Polyps, Other Cancers) CT2
- Groups at risk CT2

5. Hereditary non-polyposis colorectal cancer (HNPCC)

- Clinical features ST6
- Amsterdam criteria and Modifications ST8
- Extra-colonic cancer risk ST8
- Genetic basis ST8
- Genetic testing/counselling ST8
- Surveillance options/limitations ST8
- Surgical options/limitations ST8

6. Familial adenomatous polyposis	
• Clinical definition	CT2
• Extra-colonic lesions	CT2
• Cancer risk	CT2
• Genetic basis (Genotype/Phenotype correlation)	ST8
• Genetic testing/counselling	ST8
• Variants (Gardner, Turcot, Attenuated)	ST8
• Evolution of surgical management	ST8
• Management of desmoid disease	ST8
• Post surgery surveillance	ST8
7. Hamartomas	
• Definition	CT2
• Juvenile polyposis	ST6
• Peutz-Jeghers syndrome	ST6

III. Colorectal Cancer Screening

A. Trainees will be able to list current screening strategies for the following:

• The General Population	CT2
• Persons at moderate risk	CT2
• Persons at high risk	CT2

IV. Clinical Presentation

A. Trainees will be able to do the following:

1. Describe the clinical signs and symptoms of patients presenting with colorectal cancer.	CT2
2. Describe the distribution of CRC within the colon.	CT2

V. Staging and Prognostic Factors

A. Trainees will be able to discuss the following:

1. The evolution of staging systems	ST8
2. Current staging systems (Dukes, TNM)	CT2
3. Clinical prognostic factors	
• Age	CT2
• Mode of Presentation	CT2
• Clinical Stage	ST4
• Blood transfusion	ST6

4. Histological/biochemical features

- Histological grade ST6
- Mucin secretion ST6
- Signet-cell histology ST6
- “Pushing” versus infiltrating margin ST6
- Tumour infiltrating lymphocytes ST6
- Microsatellite instability (MSI) ST8
- Venous invasion ST4
- Perineural invasion ST4
- Nodal involvement/apical node CT2
- Carcinoembryonic antigen(CEA) ST4

5. The significance of extent of disease including patterns of spread:

- Direct continuity ST4
- Intramural ST4
- Transmural ST4
- Distal margins ST4
- Circumferential margins ST4
- Transperitoneal ST4
- Lymphatic ST4
- Haematogenous ST4
- Implantation ST4

6. The assessment of disease extent

- Detection and management of synchronous lesions ST4
- Distant metastatic disease ST4
- Preoperative detection of local invasion ST6
- Regional metastatic disease ST6

VI. Management of Colon Cancer

A. Trainees in colon and rectal surgery will be able to do the following:

1. Describe the management of malignant change within an adenomatous polyp ST6
2. Describe the indications and contraindications, operative technique, pre- and postoperative care, outcomes and the complications of colon cancer CT2
- 3 Describe the following operations in the management of Colon cancer:
 - Segmental resection ST6
 - En-bloc resections of adjacent organs ST8
 - Extended resections to include total abdominal colectomy ST8
 - Stomas/mucous fistula/Hartmann's procedure ST6
4. Discuss special considerations in the operative management of Colon cancer:

- Ureteric stenting ST8
 - Oophorectomy ST8
 - Colonic stents ST6
 - “No-touch” technique ST8
 - Pregnancy ST8
 - Intraluminal cytotoxic irrigation ST6
 - On-table lavage ST6
 - Perforation ST6
 - Synchronous lesions ST6
3. Discuss the rationale and indications for the use of adjuvant chemotherapy. ST4

VII. Management of Rectal Cancer

A. Trainees will be able to do the following:

1. Describe the indications and contraindications, operative technique, pre- and postoperative care, complications and outcomes of rectal cancer and the following operations in its management:

- Local therapy
 - Transanal ST6
 - Kraske trans-sacral ST8
 - York-Mason trans-sphincteric ST8
 - Transanal endoscopic microsurgery (TEM) ST8
 - Transanal resection of tumour (TART) ST6
 - Fulguration ST6
 - Laser ST6
 - Endocavitary irradiation ST8
 - Sphincter-sparing resections
 - High Anterior resection (above the peritoneal reflection) ST6
 - Low Anterior resection (below the peritoneal reflection) ST6
 - Tumour-specific mesorectal excision ST6
 - Total mesorectal excision ST6
 - Coloanal anastomosis with or without colonic J pouch ST6
 - Abdomino-perineal resection ST6
 - Pelvic exenteration ST8
2. Discuss the evolution of sphincter sparing surgery. ST8
3. Discuss the use of current preoperative staging techniques and the role of:-
- Preoperative radiotherapy ST8
 - Postoperative radiotherapy ST8
4. Discuss the rationale and indications for the use of adjuvant chemoradiotherapy. ST6

VIII. The Detection and Treatment of Recurrent and Metachronous Colon and Rectal Cancer

A. Trainees will be able to discuss the following:

- | | |
|--|-----|
| 1. Patterns of recurrence | CT2 |
| 2. Detection of recurrence | |
| • CEA | CT2 |
| • Colonoscopy | CT2 |
| • Imaging | CT2 |
| 3. Risks and detection of metachronous lesions | CT2 |
| 4. Treatment of recurrent Colorectal cancer | |
| • Natural history | ST6 |
| • Chemotherapy | ST6 |
| • Resection | ST6 |
| • Local ablation | ST6 |
| 5. Pelvis | |
| • Radiation | ST8 |
| • Chemotherapy | ST8 |
| • Resection | ST8 |
| 6. Carcinomatosis | |
| --With bowel obstruction | ST6 |
| --With ureteric obstruction | ST8 |
| 7. Palliative considerations | ST4 |

IX. Pain Management

A. Trainees will be able to outline a pain-management program for patients with intractable pain. CT2

X. Miscellaneous Malignant Lesions of the Colon and Rectum

A. Trainees will be able to discuss the clinical presentation, assess prognostic factors, and outline the appropriate management of the following conditions:

- | | |
|---------------|-----|
| 1. Carcinoid | |
| • Appendiceal | ST4 |
| • Ileal | ST6 |
| • Colonic | ST6 |
| • Rectal | ST6 |

- Carcinoid syndrome CT2
2. Lymphoma
- Classification ST4
 - Treatment ST4
 - Risk factors ST4
3. Gastrointestinal Stromal Tumours ST8
4. Tumours metastasising to the colon
- Breast ST8
 - Melanoma ST8
 - Ovary ST8

Technical Skills: Colorectal Cancer:

Procedure	OPCS Code	Type of Training case	Training Level
Anterior Resection of Rectum (Colonic Pouch & Coloanal Anastomosis)	H3330	INDEX CASE	ST8
Abdomino-perineal resection of rectum and anus	H3320		ST8
Open excision of lesion of rectum	H3400		ST6
Transanal resection for rectal cancer	H4000		ST8
Per-anal excision of lesion of rectum	H4130		ST6
Transanal microsurgery			ST8 / Post CCT
Posterior approach rectum			ST8
Posterior pelvic clearance			ST8
Reoperation pelvic malignancy			ST8
Excision of transverse colon	H0800		ST6
Excision of Right Hemicoon	H0700		ST4
Excision of Left Hemicoon	H0900		ST6
Excision of Sigmoid Colon (Hartmann's)	H1000		ST4
Pelvic exenteration			ST8 / Post CCT

ANAL NEOPLASIA

I. General Considerations

A. Trainees will be able to discuss the following anatomical, aetiological, and epidemiological features:

1. The significance of the anatomical distinction between the anal margin and the anal canal tumours. ST4
2. The differential lymphatic drainage of the anal canal and margin CT2
3. The histological transition of the anal canal CT2
4. The aetiology, pathogenesis, diagnosis, and management of lesions of the anal canal to include the following:
 - HPV genotypes associated with cancer ST8
 - HIV infection ST8
 - Anal intraepithelial neoplasia (AIN) ST8
 - Immunosuppression ST8
5. Demographics of anal neoplasia ST8
6. Changing incidence ST8
7. Association with sexual practices ST4
8. High-risk groups ST4
9. Staging classification of anal neoplasia ST6

II. Anal Canal Neoplasia

A. Trainees will be able to discuss the histology, biology and treatment of anal canal malignancies including the following:

1. Epidermoid carcinoma
 - Histological types ST8
 - Routes of metastasis/recurrence ST8
 - Treatment based on stage
 - Local Excision ST8
 - Chemoradiotherapy ST8
 - Abdomino-perineal resection (APR) ST8
 - Inguinal node management ST8
 - Role of salvage therapies
 - Abdomino-perineal resection APR ST8
 - Chemotherapy ST8
 - Radiotherapy ST8
2. Other anal canal malignancies
 - Adenocarcinoma (including anal gland & within fistulae) ST8
 - Small cell cancer ST8
 - Melanoma ST8

III. Anal Margin Neoplasia

A. Trainees will be able to discuss the histology, biology and treatment of anal margin malignancies including the following:

1. Squamous cell carcinoma
 - Clinical features - including Giant verrucous Tumour (Buschke-Löwenstein) ST8
 - Differential diagnosis ST8
 - Surgical Management
 - Local Excision ST8
 - Chemo-radiotherapy ST8
 - Abdomino-perineal resection (APR) ST8
 - Inguinal node management ST8

2. Basal cell carcinoma
 - Clinical features ST8
 - Differential diagnosis ST8
 - Management ST8

3. Bowen's disease
 - Histology ST8
 - Differential diagnosis ST8
 - Natural history ST8
 - Related cancers ST8
 - Management
 - Anal mapping ST8
 - Wide local excision ST8
 - Reconstruction ST8
 - Observation in patients with HIV ST8

4. Paget's disease
 - Theories of histogenesis ST8
 - Clinical features ST8
 - Differential diagnosis ST8
 - Histological features ST8
 - Management ST8
 - No invasion
 - Wide local excision ST8
 - Invasive cancer ST8
 - Abdomino-perineal resection ST8
 - Inguinal node management ST8
 - Chemoradiation ST8

5. Giant verrucous Tumour (Buschke-Löwenstein)
 - Clinical presentation ST8
 - Clinical course ST8
 - Treatment options
 - Sphincter involvement ST8
 - Without sphincter involvement ST8

PRESACRAL LESION

A. Trainees will be able to discuss the clinical presentations, differential diagnoses, diagnostic evaluation and treatment (including pre- and postoperative care, complications and operative techniques) for the following:

1. Congenital lesions

- Epidermoid cysts ST8
- Teratoma ST8
- Anterior sacral meningocele ST8
- Rectal duplication cysts ST8

2. Neoplastic lesions

- Osseous ST8
 - Ewing's sarcoma ST8
 - Giant-cell Tumour ST8
- Chordoma ST8
- Neurogenic ST8
- Miscellaneous ST8

INFLAMMATORY BOWEL DISEASE

INFLAMMATORY BOWEL DISEASE

GOAL: *Following the completion of a colon and rectal surgery training, trainees will be competent in the **appropriate** management of patients with inflammatory intestinal conditions.*

I. History

A. Trainees will be able to discuss the initial description of Crohn's disease and how this became recognised as different from ulcerative colitis. ST6

II. Aetiology

A. Trainees will be able to do the following:

1. Discuss the contribution of genetics and immune function to the development of inflammatory bowel disease (IBD). ST4

2. Discuss the possible influence of infectious agents, psychological issues and environmental factors including diet, smoking, and medication (eg, oral contraceptive pill). ST4

III. Epidemiology

A. Trainees will be able to compare and contrast the epidemiologic features of Crohn's disease and ulcerative colitis including age and gender distribution, prevalence, risk and ethnic and geographic variations. CT2

IV. Clinical Manifestations

A. Trainees will be able to do the following:

1. Describe, recognise, and compare the clinical pattern, presenting symptoms, physical findings, and natural history of ulcerative colitis and Crohn's disease. CT2

2. List criteria for severity of disease as defined by the Crohn's disease activity index (CDAI) and the Truelove classification. ST4

3. Describe the extraintestinal manifestations of IBD including the following:

- Hepatocellular disease CT2
- Primary sclerosing cholangitis and bile duct carcinoma CT2
- Bone and joint
 - polyarthritis CT2
 - Ankylosing spondylitis CT2
 - Sacroileitis CT2
- Skin
 - Erythema nodosum CT2
 - Pyoderma gangrenosum CT2
 - Oral ulceration CT2
- Eye
 - Episcleritis CT2
 - Uveitis CT2
 - Iritis CT2

- --Conjunctivitis CT2
- Hypercoagulopathy CT2

V. Differential Diagnosis

A. Trainees will be able to do the following:

1. Describe and compare the endoscopic, radiographic and laboratory findings of ulcerative colitis and Crohn's disease. ST4
2. Describe the distinguishing histological characteristics of ulcerative colitis and Crohn's disease CT2
3. Describe and define the entity of indeterminate colitis. ST4
4. Describe the differential diagnosis of Inflammatory Bowel Disease. CT2
5. Outline a diagnostic assessment for inflammatory bowel disease to exclude other colitides. ST4

VI. Reproduction and Inflammatory Bowel Disease

A. Trainees will be able to discuss:

1. The interaction of inflammatory bowel disease and pregnancy ST6
2. The impact of inflammatory bowel disease on fertility ST6
3. Drug therapy, investigations and surgery during pregnancy ST6

ULCERATIVE COLITIS

I. Medical Management

A. Trainees will be able to do the following:

1. Identify the mechanism of action, indication, appropriate dosage, side effects and toxicity of the following drugs used for the treatment of ulcerative colitis:
 - Aminosalicylates (Oral versus topical) CT2
 - Corticosteroids (including budesonide)
 - Systemic CT2
 - Topical CT2
 - Antibiotics ST4
 - Immunosuppressive drugs
 - Azathioprine ST8
 - Cyclosporin A ST8
 - Biological therapies ST8
 - Other
 - Nicotine ST8
 - Heparin ST8
2. Discuss the presentation and describe the initial management:
 - Proctitis CT2

- Left-sided colitis CT2
- Extensive colitis CT2
- Severe acute colitis CT2
- Toxic megacolon CT2

3. Describe the logical progression of the joint management of a patient unresponsive to initial treatment. ST6

4. Explain the role of nutritional support in the management of ulcerative colitis. ST6

II. Cancer

- A. Trainees will be able to discuss the risk of carcinoma as a function of the extent and duration of disease, recommended surveillance, interpretation of biopsy results and the significance of dysplasia. ST6

III. Surgical Management

- A. Trainees will be able to describe the following:

1. Describe the indications for surgery for ulcerative colitis including:

- Intractability ST6
- Severe acute colitis CT2
- Toxic megacolon CT2
- Haemorrhage CT2
- Prophylaxis for carcinoma/ dysplasia ST6
- Carcinoma ST6
- Complications of extraintestinal manifestations ST6
- Complications of medication ST8

2. Describe the indications and contraindications, operative technique, postoperative care, functional results and complications of the following operations for ulcerative colitis:

- Total proctocolectomy (TPC) with ileostomy ST6
- TPC with ileal pouch anal anastomosis (IPAA)
(double staple versus mucosectomy) ST8
- Total colectomy
 - With ileorectal anastomosis ST8
 - With ileostomy and rectal preservation (stump/mucous fistula) ST4

3. Demonstrate an understanding of the operative management of indeterminate colitis ST8

IV. Postoperative Management

- A. Trainees will be able to do the following:

1. Recognise and describe the management of the following conditions associated with the ileoanal pouch anal anastomosis:

- Intestinal obstruction ST4
- Pelvic sepsis ST6
- Pouchitis ST8
- Anastomotic/pouch vaginal and perineal fistula ST8
- Stenosis ST8
- Sexual dysfunction ST8

- Retained mucosa ST8
 - Pouch failure ST8
2. Describe the appropriate follow-up for retained rectum after Total abdominal colectomy with ileorectal anastomosis or rectal stump preservation. ST8

CROHN'S DISEASE

I. Medical Management

Trainees will be able to do the following:

1. Identify the mechanism of action, indication, appropriate dosage, side effects and toxicity of the following drugs used for the treatment of Crohn's disease:

- Aminosalicylates (Oral versus topical) CT2
- Corticosteroids (including budesonide)
 - Systemic CT2
 - Topical CT2
- Antibiotics ST4
- Immunosuppressive drugs
 - Azathioprine ST8
 - Cyclosporin A ST8
 - Methotrexate ST8
- Biologicals (eg cytokine modulators) ST8

2. Describe the initial medical management specific to the site of involvement in a patient with Crohn's disease. ST4

3. Describe the logical progression in the medical management of a patient unresponsive to initial treatment. ST6

4. Discuss the role of nutritional support and therapy in the management of Crohn's disease. ST6

II. Cancer

A. Trainees will be able to do the following:

1. Discuss the risk of large-and-small bowel carcinoma as a function of extent and duration of disease. ST6

2. Describe the recommended surveillance of the colon, interpretation of biopsy results, and the significance of dysplasia. ST6

III. Complications

A. Trainees will be able to recognise and outline the management of the following complications of Crohn's disease:

- Obstruction/stenosis CT2
- Fistula ST4
- Abscess
 - Intraabdominal ST4
 - Psoas ST4

- Perforation CT2
- Haemorrhage CT2
- Genito-urinary disease ST4
- Growth retardation ST8
- Toxic megacolon CT2
- Severe acute colitis CT2
- Malnutrition ST6
- Extra-intestinal manifestations ST6

IV. Surgical Management

A. Trainees will be able to do the following:

1. Describe the indications for surgery for Crohn's disease including:

- Intractability ST4
- Intestinal Obstruction ST4
- Fistula/ Abscess ST6
- Complications refractory to or not amenable to medical therapy ST6
- Complications of extra-intestinal manifestations or of medications ST6

2. Describe the indications and contraindications, operative technique, postoperative care, functional results, risk of recurrence and complications of the following operations for Crohn's disease:

- Panproctocolectomy ST6
- Segmental colectomy ST4
- Small-bowel resection ST4
- Total colectomy
 - With ileorectal anastomosis ST8
 - With ileostomy and rectal preservation (stump/mucous fistula) ST4
- Ileocolic resection CT2
- Strictureplasty ST6
- Duodenal Bypass ST8
- Fistulae ST8
- Abdominal fistula/abscess ST8

V. Anorectal Crohn's Disease

A. Trainees must be able to recognise and discuss the management of the following manifestations of anorectal Crohn's disease:

- Anal fistula CT2
- Recto-vaginal fistula ST8
- Fissure CT2
- Stricture ST4
- Ulceration ST4
- Incontinence ST8
- Abscess CT2
- Skin tags ST4
- Haemorrhoids ST4

OTHER INFLAMMATORY CONDITIONS

I. Ischaemic Colitis

A. Trainees will be able to do the following:

- | | |
|--|-----|
| 1. Describe the vascular anatomy of the colon. | CT2 |
| 2. Describe the aetiologies and pathogenesis of acute colonic ischemia. | ST4 |
| 3. Describe the clinical presentation of ischaemic colitis | CT2 |
| 4. Discuss the natural history, diagnosis, and management of ischaemic colitis. | CT2 |
| 5. Discuss the diagnosis and management of ischaemic colitis after abdominal aortic aneurysm repair. | ST4 |

II. Radiation Bowel Disease

A. Trainees will be able to do the following:

- | | |
|---|-----|
| 1. Describe the vascular anatomy of the colon. | CT2 |
| 2. Describe the risk factors for and susceptibility to injury from radiotherapy. | ST6 |
| 3. Describe the mechanism of acute and chronic radiation injury. | ST6 |
| 4. Describe the microscopic findings of radiation injury. | ST6 |
| 5. Discuss the evaluation, diagnosis and management of complications of radiotherapy including the following: | |
| • Fistula formation | ST6 |
| • Obstruction | ST6 |
| • Malabsorption | ST6 |
| • Necrosis | ST6 |
| • Haemorrhage | ST6 |
| 6. Demonstrate an understanding of surgical options for radiotherapy injuries. | ST8 |
| 7. Describe local therapy for radiation proctitis: | |
| • Acute | ST8 |
| • Chronic | ST8 |

III. Miscellaneous Colitides

A. Trainees will be able to do the following:

- | | |
|--|-----|
| 1. Discuss the aetiology, clinical presentation, evaluation and therapeutic options for the following: | |
| • Diversion colitis | ST8 |
| • Neutropenic enterocolitis | ST8 |

- Collagen-Vascular colitis ST8
- Microscopic Colitis ST8

IV. Infectious Colitis

A. Trainees will be able to do the following:

1. Describe the epidemiology, aetiology, pathogenesis, presentation, laboratory and endoscopic evaluation, medical management (including medication dosage) of infectious colitis, including pseudomembranous colitis. CT2

2. Discuss the indications for surgery and the surgical management of infectious colitis, including pseudomembranous colitis. ST6

3. In the management of suspected infectious colitis the trainee will be able to discuss:

- The relevance of travel history CT2
- The role of stool culture, testing for ova, cysts and parasites and hot stool sample for amoebiasis CT2
- The role of lower GI endoscopy with biopsy for histological evaluation and culture CT2
- The role of rectal and perineal swabs CT2
- The role of serology in the detection of amoebiasis and strongyloidiasis CT2
- Infectious colitis as a precipitating factor for inflammatory bowel disease T CT2

3. In the management of diarrhoea in the immunocompromised patient including HIV the trainee will be able to discuss the role of biopsy of perianal lesions and the importance of requesting stool culture and staining for cryptosporidia, isospora and microsporidia. ST4

Technical Skills: Inflammatory Bowel Diseases:

Procedure	OPCS Code	Type of Training case	Training Level
Subtotal Colectomy & Ileostomy			ST6
Panproctocolectomy and ileostomy	H0410		ST8
Total Excision of Colon and Ileorectal anastomosis	H0510		ST6
Ileoanal anastomosis and creation of pouch	G7250		ST8
Small bowel resection	G5810		ST4
Strictureplasty - Crohns			ST8
Ileocaecectomy - Crohns			ST6
Reoperation IBD		INDEX CASE	ST8

STOMAS

STOMAS

GOAL: *Following the completion of a training in colon and rectal surgery, Trainees will be competent in the **appropriate** management and knowledgeable of all of the causes of all intestinal stomas.*

I. Indications

A. Trainees will be able to do the following:

1. List indications for colostomy. ST4
2. List indications for ileostomy. ST4
3. Discuss types of stomas (loop, end, end loop, double barrel) in relation to indications for stomas. ST6

II. Preoperative Evaluation

A. Trainees will be able to do the following:

1. Discuss an ostomy with patients, with particular emphasis on psychosocial issues, life style, diet, sexual function, reproduction and physical activity. ST4
2. Discuss ostomy expectations with patients regarding function and anticipated output along with precautions for fluid and electrolyte balance, depending upon the type of stoma involved. ST4
3. Demonstrate proper siting and marking techniques for all stoma placement, including such considerations as scars, the umbilicus, skin creases, belt and clothing and positioning (standing, sitting, and supine positions). ST6
4. Explain the role that the stoma nurse will play in pre- and postoperative care, teaching and counselling. ST4

III. Stoma Creation

A. Trainees will be able to do the following:

1. Describe stoma construction in a step-wise fashion to include:
 - Construction of a colostomy, including placement through the rectus sheath ST6
 - Proper preparation of the skin and subcutaneous tissue ST6
 - Options for positioning and/or fixation of the mesentery ST6
 - Intra-peritoneal versus extraperitoneal delivery ST6
2. Describe in a step-by-step process the creation of an ileostomy, including those items mentioned above, as well as proper maturation of a Brooke ileostomy. ST6

3. Discuss the appropriate process of preparation for stoma closure in the case of temporary faecal diversion including:

- Timing of closure ST6
- Necessary preoperative evaluations ST6
- Care of the postoperative stoma site wound ST6

4. Given these specific intraoperative complicating features, discuss appropriate management of the following:

- A very short mesentery ST6
- A very thick abdominal wall ST6
- Patients with ascites ST6

IV. Postoperative Care

A. Trainees will be able to do the following:

1. Describe the normal postoperative course for colostomy function. ST4
2. Describe the normal postoperative course for ileostomy function. ST4
3. Describe the signs symptoms and management for the following complications that occur in the immediate postoperative period:
 - Ischaemia ST6
 - Mucocutaneous separation ST6

V. Complications

A. Trainees will be able to do the following:

1. Describe the features of high-output ileostomy. ST6.
2. Describe appropriate evaluation and management of high-output ileostomy. ST6
3. Recognise parastomal skin irritation of significance, list a differential diagnosis and make recommendations for appropriate management. ST6
4. Discuss the management of ileostomy prolapse. ST6
5. Discuss the management of colostomy prolapse. ST6
6. List alternatives for the management of parastomal hernia including a discussion of the risks and benefits of the following:
 - Local repair versus relocation ST8
 - Mesh prosthesis ST8
9. Recognise various skin conditions associated with ileostomy and colostomy and provide a management plan for each of the following:
 - Candida and other fungal infections ST8
 - Appliance leakage ST8
 - Development of fistula associated with inflammatory bowel disease ST8
 - Folliculitis ST8
 - Allergic reactions ST8
10. Describe the presenting feature of ileostomy food bolus obstruction. ST4
11. Describe a management approach for ileostomy food bolus obstruction. ST4

VI. Stoma Management

A. Trainees will be able to do the following:

1. Describe stoma appliances, and explain appropriate selection. ST4
2. Describe early postoperative management of conventional stomas. ST4
3. List various skin barriers and accessory products available for the management of stomas. ST4
4. Describe stoma irrigation with reference to the following:
 - Indications ST8
 - Contraindications ST8
 - Potential complications ST8
5. Describe appropriate management and appliance options for a retracted stoma. ST8
6. Describe dietary considerations for patients with an ileostomy or a colostomy, including the following:
 - Impact of diet on stoma output ST4
 - Flatus ST4
 - Odour ST4
 - Bolus obstruction ST4

VII. Stoma Physiology

A. Trainees will be able to do the following:

1. Characterise the physiologic changes associated with the following:
 - Ileostomies ST4
 - Colostomies ST4
 - Urostomies ST4
2. Describe normal ileostomy function including:
 - Anticipated daily outputs ST4
 - Changes that occur in output with postoperative adaptation ST4
3. Discuss causes of high-output stomas. ST4
4. List a differential diagnosis of high-output stoma. ST4
5. Discuss appropriate management of the following:
 - Fluid abnormalities ST4
 - Electrolyte abnormalities ST4

VIII. Patient Education and Counselling

A. Trainees will be able to do the following:

1. Identify critical patient-education issues related to the following:
 - Potential complications that may require evaluation ST4
 - Changes in peristomal skin ST4

- Increased output ST4
 - Anticipated changes to occur during the healing process ST4
 - Instructions regarding symptoms that would necessitate a call to the physician ST4
2. Identify sources of patient support including the Ostomy Association. ST4
3. Demonstrate the following techniques:
- Pouch changes ST8
 - Pouch emptying ST8
 - Management of leakage ST8
4. Describe the effects of medication on stoma output and the peristomal skin. ST4
5. Describe the possible effects that a stoma may have on medication dosage and absorption. ST4

Technical Skills: Stomas:

Procedure	OPCS Code	Type of Training case	Training Level
Ileostomy construction including revision	G7400		ST4
Attention to ileostomy	G7500		ST4
Closure of ileostomy	G7530		ST6
Parastomal hernia repair			ST6
Colostomy construction including revision	H1590		ST4
Closure of colostomy	H1580		ST6
Laparoscopic Colostomy	H1581		ST6
Primary repair of incisional hernia	T2500		ST4

FUNCTIONAL DISORDERS

FUNCTIONAL DISORDERS

GOAL: *Following the completion of a colon and rectal surgery training, Trainees will be competent in the management of patients with faecal incontinence, chronic constipation, rectal prolapse, and other functional disorders of the pelvic floor.*

FAECAL INCONTINENCE

I. Epidemiology

- A. Trainees will be able to classify the various types of incontinence and cite their incidences and explain their pathophysiology ST6

II. Evaluation

A. Trainees will be able to do the following:

1. Take a directed history to differentiate types of incontinence. ST6
2. Perform a physical examination to differentiate types of incontinence. ST6
3. List anatomical, neurological, dermatological, and endoscopic findings that differentiate various types of incontinence. ST8
4. Identify and interpret anorectal physiology tests in the knowledge of the patient's history and physical findings. ST8
5. Describe normal and abnormal findings in imaging studies (eg EAU) that are used in the evaluation of incontinence and discuss the role of MR scanning. ST8
6. Describe a scoring system for faecal incontinence. ST8

III. Nonoperative Management

A. Trainees will be able to do the following:

1. Outline a nonoperative bowel management plan incorporating the following elements:
 - Dietary measures ST4
 - Medications
 - Antidiarrhoeals ST8
 - Bulking agents ST8
 - Stimulants ST8
 - Suppositories ST8
 - Enemas ST8
 - Perineal skin care ST8
 - Anal plug ST8
 - Self administered colonic irrigation ST8

Describe the indications, uses and results of biofeedback in the management of incontinence. ST8

3. Discuss a treatment plan for a patient with faecal incontinence including any possible side effects. ST8

IV. Operative Management

A. Trainees will be able to do the following:

1. Appropriately select patients for operative management consistent with physical and laboratory findings. ST8
2. Select the type of operative repair based on the physical and laboratory findings. ST8
3. Describe the indications for, and techniques used in the following procedures together with their most frequent complications and the expected functional results:
 - Anterior sphincter repair ST8
 - Muscle transpositions (gluteus and gracilis with or without stimulation) ST8
 - Artificial bowel sphincter and encirclement procedures ST8
 - Sacral nerve / tibial nerve stimulation ST8
4. Select patients for temporary and permanent faecal diversion. ST8
5. Discuss the concept of antegrade continent enema conduits. ST8

RECTAL PROLAPSE

A. Trainees will be able to do the following:

1. Describe the incidence and epidemiology of rectal prolapse. ST4
2. Describe the pathophysiology and associated anatomical findings of rectal prolapse together with its clinical presentation including functional disturbances and physical findings. ST8
3. Differentiate between mucosal prolapse, prolapsing internal haemorrhoids, and rectal prolapse and describe the physical findings associated with rectal prolapse. ST6
4. Describe the condition known as internal intussusception, together with its radiological findings and identify the treatment options. ST8
5. Discuss the significance of constipation and incontinence in the management of rectal prolapse. ST8
6. Outline the appropriate management of incarcerated and strangulated rectal prolapse. ST6
7. Compare and contrast the perineal and abdominal surgical options for rectal prolapse including the indications for each approach based on physical examination and laboratory results, complications, recurrence rate, and expected functional results of each procedure. ST8
8. Describe the operative techniques of the following procedures:
 - Perineal operations
 - Perineal rectosigmoidectomy ST8
 - Delorme's procedure ST8
 - Anal encirclement ST8
 - Abdominal operations
 - Abdominal rectopexy with or without resection ST8
 - Anterior resection ST8

--Laparoscopic approaches ST8

9. Describe the evaluation and management of a patient with recurrent rectal prolapse. ST8

SOLITARY RECTAL ULCER

A. Trainees will be able to do the following:

1. Describe the clinical presentation, endoscopic and histological findings in a patient with solitary rectal ulcer. ST6
2. Describe the associated pelvic floor disorders and medical/surgical treatment options in a patient with solitary rectal ulcer. ST8

CONSTIPATION

I. General Considerations

A. Trainees will be able to do the following:

1. Describe normal colonic physiology (including gut hormones and peptides) and the process of defaecation. ST4
2. Define constipation and describe its epidemiology ST4
3. Classify types and causes of constipation and outline differential diagnoses in a patient with constipation. ST4
4. Take a directed history for a patient with constipation and perform a directed physical examination. ST4
5. Outline a treatment plan for a patient with constipation based on the interpretation of endoscopic, radiologic and anorectal physiologic tests for the evaluation of constipation, including :
 - Defaecating proctography ST8
 - Transit studies ST8
 - Anorectal manometry ST8
 - Electromyography (EMG) ST8
 - Balloon expulsion ST8
 - Contrast enema ST8
 - Endoscopy ST8
6. Identify the different types of laxatives and describe the indications, contraindications, modes of action and complications of each:
 - Stimulant CT2
 - Osmotic CT2
 - Bulk-forming CT2
 - Lubricant CT2

7. Identify melanosis coli on endoscopy and discuss its significance. ST6
8. Discuss a treatment program for a patient with constipation that may include the following:
- Dietary measures CT2
 - Fibre CT2
 - Laxatives CT2
 - Prokinetic medications ST4
 - Enemas ST4
 - Suppositories ST4
 - Psychological support ST6

II. Specific Conditions: Outlet Obstruction

A. Trainees will be able to do the following:

1. Describe the diagnostic criteria for anismus (nonrelaxing puborectalis syndrome). ST6
2. Describe the roles of the following in the management of anismus, including the indications, complications and expected outcomes of each:
- Medical management ST8
 - Biofeedback ST8
 - Botulinum toxin ST8
 - Surgery ST8
3. Describe the diagnostic criteria and treatment options for short segment/adult Hirschsprung's disease ST8
4. Describe the clinical presentation of symptomatic rectocele. ST6
5. Discuss the indications, techniques, complications and expected results of surgical procedures used in the management of symptomatic rectocele. ST8
6. Describe the diagnostic criteria for enterocele and sigmoidocele along with non-operative and operative treatment options including complications and expected outcomes. ST8

III. Specific Conditions: Motility Disorders

A. Trainees will be able to do the following:

1. Describe the role in colonic inertia for total abdominal colectomy (TAC), including indications, complications and expected results. ST8
2. Describe appropriate evaluation and management of a patient with recurrent constipation following TAC. ST8
3. List common causative factors for colonic pseudo-obstruction. ST4
4. Describe the appropriate evaluation of a patient with suspected colonic pseudo-obstruction. ST4
5. Describe the medical and surgical management of a patient with colonic pseudo-obstruction. ST6

MISCELLANEOUS

I. Irritable Bowel Syndrome

A. Trainees will be able to do the following:

1. List the diagnostic criteria for irritable bowel syndrome and outline a medical treatment program that may include the following

- Diet CT2
- Fibre CT2
- Laxatives CT2
- Anti-spasmodics CT2
- Enemas CT2
- Suppositories CT2
- Psychological support ST4

II. Chronic Rectal Pain Syndromes

A. Trainees will be able to do the following:

1. Outline a differential diagnosis for rectal pain to include the following:

- Levator ani syndrome ST8
- Proctalgia fugax ST8
- Chronic idiopathic pelvic pain ST8
- Coccygodynia ST8

2. Discuss the management of rectal/pelvic pain, including the role of the following:

- Bowel-management programs ST8
- Analgesics ST8
- Antidepressants ST8
- Levator massage ST8
- Electrogalvanic stimulation ST8
- Nerve blocks ST8
- Steroid injections ST8
- Botulinum toxin injections ST8
- Biofeedback ST8
- Psychiatric or psychological treatment ST8
- Surgery ST8

Technical Skills: Functional Disorders:

Procedure	OPCS Code	Type of Training case	Training Level
Ileostomy construction including revision	G7400		ST6
Colostomy construction including revision	H1590		ST6
Laparoscopic Colostomy	H1581		ST8
Repair of anal sphincter	H5020		ST8
Artificial Sphincter			Post CCT
Sacral nerve stimulator insertion			Post CCT
Muscle transposition procedure			Post CCT
Perineal repair of prolapse of rectum	H4200	INDEX CASE	ST8
Partial excision of rectum and sigmoid colon for prolapse	H3380	INDEX CASE	ST8
Fixation of rectum for prolapse	H3500	INDEX CASE	ST8
Laparoscopic Rectopexy	H3580	INDEX CASE	ST8
Rectocoel Repair			ST8
Transanal stapled resection for obstructed defaecation STARR and Trans STARR			ST8 / Post CCT
Total Excision of Colon and Ileorectal anastomosis for Constipation	H0510		ST8

PART 2 - ALLIED SUBJECTS

ANATOMY/ EMBRYOLOGY

GOAL: Following the completion of **appropriate** colon and rectal surgery training, Trainees will be aware of the normal anatomy and embryology of the anus, rectum, colon and small bowel.

ANATOMY

I. Anorectal

A. Trainees will be able to identify, describe and discuss the significance of the following anatomical features related to the anal canal:

- | | |
|--|-----|
| 1. Anal canal structure | CT2 |
| 2. Anatomical versus surgical anal canal | CT2 |
| 3. Anatomical relations of anal canal | CT2 |
| 4. Muscles of the anal canal | |
| • Internal sphincter | CT2 |
| • External sphincter | CT2 |
| --Subcutaneous | |
| --Superficial | |
| --Deep | |
| • Conjoined longitudinal ligament | ST4 |
| • Muscularis submucosae ani | ST4 |
| • Mucosal suspensory ligament | ST4 |
| • Corrugator cutis ani | CT2 |
| 5. Epithelium of the anal canal | |
| • Dentate line | CT2 |
| • Columns of Morgagni | CT2 |
| • Anal crypts | CT2 |
| • Anoderm/perianal skin | CT2 |
| • Anal papillae | CT2 |
| 6. Anal transitional zone (ATZ) | |
| • Extent of transitional zone | CT2 |
| • Histology/histochemistry ATZ mucosa | ST8 |
| 7. Anal glands | |
| • Relationship to anal crypts | CT2 |
| • Depth of penetration into the anal canal | CT2 |
| 8. Pudendal artery as blood supply to anal canal | CT2 |
| 9. Lymphatic drainage of anal canal | CT2 |
| 10. Innervation | |
| • Internal sphincter | CT2 |
| • External sphincter | CT2 |
| • Cutaneous | CT2 |

B. Trainees will be able to identify, describe and discuss the significance of the following anatomical features related to the rectum:

1. Anatomical versus surgical extent of rectum	CT2
2. Anatomical relations of rectum	
• Extraperitoneal relations	CT2
• Intraperitoneal relations	CT2
3. Valves of Houston	CT2
4. Histology/anatomy of rectal wall	CT2
5. Fascial relationships of the rectum	
• Endopelvic fascia/mesorectum	ST8
• Conjoined longitudinal ligament	ST8
• Presacral fascia	ST8
• Rectosacral fascia (Waldeyer)	ST8
• Denonvilliers' fascia	ST8
• Lateral ligaments	ST8
• Visceral pelvic fascia	ST8
• Parietal pelvic fascia	ST8
6. Blood supply to the rectum	
• Superior rectal arteries	CT2
• Middle rectal arteries	CT2
• Middle sacral artery	CT2
• Systemic venous drainage (via internal iliac)	CT2
• Portal venous drainage (via inferior mesenteric)	CT2
• Haemorrhoidal veins	CT2
7. Lymphatic drainage of the rectum	CT2
8. Innervation of the rectum & pelvic viscera	
• Hypogastric	CT2
• Nervi erigentes	CT2

C. Trainees will be able to identify, describe and discuss the significance of the following anatomical features related to anorectal spaces:

• Perianal	CT2
• Intersphincteric	CT2
• Deep postanal	ST4
• Superficial postanal	ST4
• Ischiorectal	CT2
• Supralelevator	CT2
• Retrorectal	ST4
• Submucosal	CT2

D. Trainees will be able to identify, describe and discuss the significance of the following anatomical features related to the pelvic floor:

1. Pelvic floor muscles	
• Levator ani	
--Iliococcygeus	ST8
--Pubococcygeus	ST8
--Puborectalis	ST8
--Obturator internus	ST8
--Alcock's canal	ST8
• Anorectal ring	ST8
• Anococcygeal ligament	ST8

- Rectovaginal septum ST8
 - Components of the perineal body ST8
 - Urogenital diaphragm ST8
2. Innervation of pelvic floor CT2
 3. Blood supply to pelvis CT2
 4. Bony pelvis CT2
 5. Urogenital considerations
 - Bladder CT2
 - Ureters CT2
 - Uterus CT2
 - Vagina CT2
 - Ovaries CT2
 - Prostate CT2
 - Seminal vesicles CT2
 - Sexual Function ST6

E. Trainees will be able to identify, describe and discuss the significance of the following anatomical features related to the external pelvis:

1. Muscles
 - Gluteus maximus CT2
 - Piriformis ST6
 - Gracilis ST6
2. Pathway of sciatic nerve ST4

II. Colon and Small Bowel

A. Trainees will be able to identify, describe and discuss the significance of the following anatomical features:

1. Colon: General considerations
 - *Taenia coli* CT2
 - Appendices epiploicae CT2
 - Vascular anatomy of colonic wall CT2
2. Anatomical relationships of colonic segments CT2
3. Blood supply
 - Ileocolic artery CT2
 - Right colic artery CT2
 - Middle colic artery CT2
 - Inferior mesenteric artery CT2
 - Variations CT2
 - Inferior mesenteric vein CT2
 - Marginal artery CT2
4. Lymphatic drainage CT2
5. Innervation
 - Sympathetic innervation
 - Sympathetic ganglia CT2

- Splanchnic nerves CT2
- Superior hypogastric plexus CT2
- Inferior hypogastric plexus CT2
- Parasympathetic innervation
 - Vagus nerve CT2
 - Sacral "outflow" CT2
 - Myenteric plexuses CT2

B. Trainees will be able to identify, describe and discuss the significance of the following anatomical features related to the small bowel:

1. Segments
 - Jejunum CT2
 - Ileum CT2
2. Vascular anatomy CT2
3. Innervation CT2

EMBRYOLOGY

I. Anorectal

A. Trainees will be able to discuss the normal and pathologic embryologic development of the anus and rectum

B. Trainees will be able to describe the following congenital malformations:

- Imperforate anus ST8
- Rectal duplication ST8
- Developmental cysts ST8
- Cloacal deformities ST8

II. Colon and Small Bowel

A. Trainees will be able to discuss the normal and pathologic embryologic development of the colon and small bowel with respect to the following:

1. Normal midgut rotation
 - Duodenojejunal loop ST6
 - Caecocolic loop ST6
2. Abnormalities of rotation ST6

B. Trainees will be able to describe the following congenital malformations:

- Proximal colon duplications ST8
- Meckel's diverticulum CT2
- Hirschprung's disease ST6

ENDOSCOPY

ENDOSCOPY

GOAL: *Following the completion of **appropriate** training in colon and rectal surgery, trainees will be competent in the selection and preparation of patients (including obtaining informed consent) for and performance of, and the prevention and management of complications of, endoscopy of the colon, rectum and anus.*

I.Proctoscopy

A. Trainees will be able to do the following:

- | | |
|---|-----|
| 1.List the indications | CT2 |
| 2.List the contraindications | CT2 |
| 3.Describe the technique | CT2 |
| 4.Describe normal findings | CT2 |
| 5.Describe abnormal findings | CT2 |
| 6. Describe the prevention and management of complications | CT2 |
| 7.Describe two of the three following procedures with complications and their management: | |
| • Rubber-band ligation | CT2 |
| • Injection sclerotherapy | CT2 |
| • Infrared coagulation | CT2 |

II.Rigid Sigmoidoscopy

A. Trainees will be able to do the following

- | | |
|--|-----|
| 1.List the indications | CT2 |
| 2.List the contraindications | CT2 |
| 3.Describe the technique | CT2 |
| 4.Describe normal findings. | CT2 |
| 5.Describe abnormal findings. | CT2 |
| 6.Describe the prevention and management of complications. | CT2 |
| 7 Describe the technique of rectal biopsy and the management of complications of rectal biopsy | CT2 |

III.Flexible Sigmoidoscopy

A. Trainees will be able to do the following:

- | | |
|--|-----|
| 1.List the indications | CT2 |
| 2.List the contraindications | CT2 |
| 3.Describe the technique | ST4 |
| 4.Describe normal findings. | ST4 |
| 5.Describe abnormal findings. | ST6 |
| 6.Describe the prevention and management of complications. | ST6 |
| 7.Describe mucosal biopsy and discuss the complications and management of biopsy through the flexible sigmoidoscope. | ST6 |
| 8 .Describe snare excision and discuss the complications and management of snare excision through the flexible sigmoidoscope | ST6 |
| 9.Discuss diathermy therapy and safety in endoscopic practice | ST6 |

IV. Pouchoscopy

A. Trainees will be able to do the following:

- | | |
|--|-----|
| 1.List the indications | ST8 |
| 2.List the contraindications | ST8 |
| 3.Describe the technique | ST8 |
| 4.Describe normal findings. | ST8 |
| 5.Describe abnormal findings. | ST8 |
| 6.Describe the prevention and management of complications. | ST8 |
| 7.Describe the technique of biopsy and discuss the management of complications of biopsy | ST8 |

V. Colonoscopy

A. Trainees will be able to do the following

- | | |
|---|-----|
| 1.List the indications | CT2 |
| 2.List the contraindications | CT2 |
| 3.Describe the technique | ST6 |
| 4.Describe normal findings. | ST6 |
| 5.Describe abnormal findings. | ST6 |
| 6.Describe the prevention and management of complications. | ST6 |
| 7.Describe mucosal biopsy and discuss the complications and management of biopsy through the colonoscope | ST6 |
| 8 .Describe snare excision and discuss the complications and management of snare excision through the colonoscope | ST8 |
| 9.Discuss the use of CO ₂ insufflation during colonoscopy | ST8 |

VI. Patient Preparation

A. Trainees will describe patient preparation and its side effects for each of the following procedures:

- | | |
|--------------------------|-----|
| 1.Proctoscopy | CT2 |
| 2.Rigid sigmoidoscopy | CT2 |
| 3.Flexible sigmoidoscopy | ST4 |
| 4.Pouchoscopy | ST8 |
| 5.Colonoscopy | ST6 |

VII. Instrumentation

A. Trainees will be able to set up and use instruments for the following examinations:

- | | |
|--------------------------|-----|
| 1.Proctoscopy | CT2 |
| 2.Rigid sigmoidoscopy | CT2 |
| 3.Flexible sigmoidoscopy | ST6 |
| 4.Colonoscopy | ST6 |

VIII. Anaesthesia

A. Trainees will be able to do the following:

- | | |
|--|-----|
| 1. Describe appropriate monitoring for sedation. | CT2 |
| 2. Describe appropriate discharge instructions following conscious sedation. | CT2 |
| 3. Describe the indications for general anaesthesia for endoscopy. | ST6 |
| 4. Describe the various drugs used for sedation and explain the following: | |
| • Appropriate dosages | CT2 |
| • Side effects | CT2 |
| • Reversal agents | CT2 |
| 5. Discuss oxygen administration | CT2 |

IX. Special Considerations

A. Trainees will be able to do the following:

- | | |
|---|-----|
| 1. State the indications for antibiotic prophylaxis including appropriate antibiotics and dosage. | CT2 |
| 2. Describe the preparation and management of patients on anticoagulants, hypoglycaemic drugs | CT2 |
| 3. Describe the preparation and performance of endoscopy through a stoma. | ST6 |

X. Advanced Techniques

A. Trainees will be familiar with and be able to discuss the following:

- | | |
|---|-----|
| 1. Describe the indications and contraindications for the following procedures: | |
| • Dilatation | ST8 |
| • Tattooing | ST6 |
| • Colonic stenting | ST8 |
| • Laser ablation | ST8 |
| • Saline injection for polypectomy | ST8 |
| • Reduction of volvulus | ST4 |
| • Decompression of pseudo-obstruction | ST4 |
| • Control of lower GI bleeding | ST6 |
| • Argon beam plasma coagulation | ST8 |
| • Endoscopic submucosal resection | ST8 |
| • Dye spraying | ST8 |
| 2. Describe the technique and management of complications for the following procedures: | |
| • Dilatation | ST8 |
| • Tattooing | ST8 |
| • Colonic stenting | ST8 |
| • Laser ablation | ST8 |
| • Reduction of volvulus | ST6 |
| • Decompression of pseudo-obstruction | ST6 |
| • Control of lower GI bleeding | ST6 |
| • Argon beam plasma coagulation | ST8 |
| • Endoscopic submucosal resection | ST8 |

- Dye spraying

ST8

Technical Skills: Endoscopy:

Procedure	Method	Training Level
Proctoscopy		CT2
Outpatient treatment of haemorrhoids	Injection sclerotherapy Rubber band ligation	CT2
Rigid sigmoidoscopy		CT2
Rectal biopsy	Rigid sigmoidoscope	CT2
Decompression volvulus or pseudobstruction	Rigid sigmoidoscope	ST4
Flexible Sigmoidoscopy		ST6
Mucosal Biopsy	Flexible sigmoidoscope	ST6
Colonoscopy		ST8
Polypectomy techniques	Colonoscopic	ST8
Dilatation, tattooing, stenting, laser ablation, argon beam coagulation, dye spraying, endoscopic mucosal resection	Endoscopic	ST8
Safe technique for patient monitoring and sedation		ST4

LAPAROSCOPY

LAPAROSCOPIC COLORECTAL SURGERY

GOAL: Following the completion of **appropriate** training in colon and rectal surgery **and** laparoscopic techniques, trainees will be knowledgeable in the application of laparoscopic procedures to colon and rectal surgery.

I. General Considerations

A. Trainees will be able to do the following:

1. List and discuss the proposed advantages and disadvantages of laparoscopic colon and rectal surgery. ST6
2. Discuss the equipment and its set up, patient positioning, and instrumentation for the performance of a laparoscopic colorectal procedure. ST8
3. Discuss the physiologic impact of laparoscopic surgery as it relates to cardiovascular, respiratory, and immunologic function. ST8

II. Indications and Contraindications

A. Trainees will be able to do the following:

1. Discuss the indications and contraindications for laparoscopic management of the following categories of colon and rectal disease:
 - Benign ST6
 - Malignant ST6

III. Complications

A. Trainees will be able to do the following:

1. Discuss the prevention, identification and management of general complications occurring during laparoscopic surgery. ST4
2. Discuss the prevention, identification and management of complications occurring during laparoscopic surgery in relation to specific conditions and procedures. ST6

IV. Procedures

A. Trainees will be able to do the following:

1. Discuss the equipment setup, patient positioning, port-site placement, instrumentation and conduct of the operation for the following procedures:
 - Right hemicolectomy/ileocolic resection ST8
 - Segmental colectomy ST8
 - Left hemicolectomy/sigmoid resection ST8
 - Subtotal colectomy ST8
 - Anterior/low anterior resection ST8
 - Abdominoperineal resection ST8
 - Ostomy creation and closure ST6
 - Rectopexy ST8
 - Diagnostic laparoscopy with or without biopsy, liver biopsy, and lysis of adhesions ST6

2. Discuss the clinical situations and indications for conversion from laparoscopic to open procedures. ST6

V. Special Considerations

A. Trainees will be able to do the following:

1. Discuss the preoperative and intraoperative methods of identifying the relevant lesion. ST8
2. Discuss the role of ureteral stents for the identification of the ureters during laparoscopic surgery. ST8
3. Discuss the role for laparoscopic liver ultrasonography. ST8
4. Discuss alternative methods of laparoscopy (ie, gasless laparoscopy and hand-assisted laparoscopy). ST8
5. Discuss methods of possible prevention of port-site recurrences during laparoscopic surgery for cancer. ST8

Technical Skills:

Procedure	OPCS Code	Type of Training case	Training Level
Diagnostic Laparoscopy			ST6
Laparoscopic Appendicectomy			ST6
Ileostomy construction			ST6
Colostomy creation			ST6
Colectomy-right			ST8
Colectomy-left			ST8
Colectomy-sigmoid			ST8
Hartmanns procedure			ST8
Colectomy –extended right			ST8
Colectomy-total and ileostomy			ST8
Rectum- Anterior Resection		Index case	ST8
Rectum- APER			ST8
Prolapse- abdominal rectopexy		Index case	ST8
Panproctocolectomy and ileostomy			ST8
Creation of an Ileoanal pouch anastomosis		Index case	ST8

PAEDIATRIC SURGERY

PAEDIATRIC COLORECTAL SURGERY

GOAL: Following the completion of **appropriate** training in colon and rectal surgery, trainees will have a basic understanding of the relevant anatomy, embryology (see relevant section), clinico-pathology and basic details of the surgery likely to be involved.

I. Hirschprung's Disease

A. Trainees will be able to describe and discuss the following:

- 1.The incidence, aetiology, histology and variations in anatomical distribution ST6
- 2.Associated congenital anomalies
 - Clinical presentations ST8
 - Delayed passage of meconium ST8
 - Intestinal obstruction ST8
 - Necrotising enterocolitis ST8
 - Megacolon ST8
 - Chronic constipation ST8
- 3. Making the diagnosis of Hirschsprung's disease
 - History and physical examination ST6
 - Imaging studies ST8
 - Anorectal manometry ST8
 - Rectal biopsy ST8
- 4. Differential diagnosis ST8
- 5. Medical management ST8
- 6. Surgical management ST8
- 7. Special considerations
 - Total colonic aganglionosis ST8
 - Total intestinal aganglionosis ST8
 - Short-segment Hirschprung's disease ST8
 - Neuronal intestinal dysplasia ST8
 - Adult Hirschprung's disease ST8

II. Anorectal Malformations (Imperforate Anus)

A. Trainees will be able to discuss and describe the following:

1. The incidence, aetiology, and classification	ST8
2. Specific defects	
• Cutaneous fistula	ST8
• Anal stenosis	ST8
• Recto-urethral fistula	ST8
• Recto-vesical fistula	ST8
• Rectal atresia	ST8
• Vaginal fistula	ST8
• Vestibular fistula	ST8
• Anorectal agenesis without fistula	ST8
• Cloaca	ST8
3. Associated abnormalities	
• Spinal/sacral	ST8
• Urogenital	ST8
• Cardiovascular	ST8
• Sacro-coccygeal teratoma	ST8
4. Diagnosis	
• Physical findings	ST8
• Imaging studies	ST8
5. Management	
• Diversion	ST8
• Posterior sagittal ano-rectoplasty	ST8
6. Management of incontinence	
ST8	

III. Other Paediatric Disorders

A. Trainees will be able to discuss and describe the following disorders in the paediatric population:

1. Constipation/encopresis	ST6
2. Rectal prolapse	ST6
3. Anal fissure	ST4
4. Meckel's diverticulum	ST4
5. Polyposis syndromes	ST6
6. Intussusception	ST6
7. Necrotising enterocolitis	ST8
8. Malrotation	ST8
9. Sexual abuse	

- Physical findings ST6
- Condyloma acuminata ST6

GASTROINTESTINAL PHYSIOLOGY

GASTROINTESTINAL PHYSIOLOGY

GOAL: Following the completion of **appropriate** training in colon and rectal surgery, Trainees will be knowledgeable in basic science of gastrointestinal physiology and competent in clinical skills relating to physiology of the gastrointestinal tract

I. Normal gastrointestinal physiology

A. Trainees will be able to do the following:

1. Describe the effects of the nervous system on gastric, small and large bowel motility
ST4
2. Describe the composition, volume and regulation of secretions from salivary glands, stomach, biliary system, pancreas and small bowel and large bowel
ST6
3. Describe the site and mechanism of absorption of macro and micronutrients within the GI tract, including electrolytes and water
ST6
4. Describe the effects on GI absorption and secretion of disease or resection of any part of the gastrointestinal tract
ST6
5. Describe the effects of drugs on GI motility and absorption
ST6
6. Describe the effects of dietary fibre on the GI tract
ST4
7. Describe the influence of bacteria on motility and absorption in the GI tract
ST6

II. Clinical skills in gastrointestinal physiology

A. Trainees will be able to do the following:

1. Make an assessment of fluid balance, including patients with high output fistulae and stomas
ST6
2. Make an assessment of nutritional status in association with a dietician or nutrition support team
ST6
3. Make a referral and manage a malnourished patient in association with a dietitian or nutrition support team
ST8
4. Manage patients with deranged fluid balance and abnormal electrolytes because of abnormal GI physiology
ST8
5. Manage patients with deranged gut motility (see also functional bowel disease section)
ST8
6. Manage patients with short bowel syndrome
ST8

ANORECTAL PHYSIOLOGY

ANORECTAL PHYSIOLOGY

GOAL: Following the completion of **appropriate** training in colon and rectal surgery **and** anorectal physiology techniques Trainees will be competent and knowledgeable in anorectal physiology and testing.

I. Normal Defaecation

A. Trainees will be able to do the following:

1. Describe the contribution of the following muscles to continence and normal defaecation:
 - External anal sphincter CT2
 - Internal anal sphincter CT2
 - Puborectalis ST4
 - Levator ani ST4
2. Describe the pharmacology of the neurotransmitters of anal sphincters. ST8
3. Describe the contribution of various muscle fibre types to anal continence ST8
4. Describe and identify the rectoanal inhibitory reflex. ST8
5. Describe normal colonic motility including colonic transit times, patterns of motility, myoregulation and neuroregulation. ST8
6. Describe the following factors in the maintenance of normal continence:
 - Stool volume and consistency CT2
 - Anorectal angle ST8
 - Flutter valve/flap valve ST8
 - Rectal capacity and compliance ST4
 - Sensation ST4

II. Physiologic Tests

A. Trainees will be able to do the following:

1. Describe the equipment, indications, techniques and interpretation of the following anorectal physiologic tests in normal and pathologic states:
 - Anal manometry ST8
 - Dynamic proctography ST8
 - Anal electromyography (EMG) ST8
 - Pudendal nerve terminal motor latency ST8
 - Colonic transit studies ST8
 - Balloon expulsion ST8
 - Anal ultrasound ST8

- Rectal ultrasound

ST8

INVESTIGATIONS IN COLORECTAL SURGERY

RADIOLOGY

GOAL: Following the completion of **appropriate** training in colon and rectal surgery Trainees will be competent and knowledgeable in listing the indications for radiological examinations and in interpreting radiographic findings for key colorectal pathologies.

I. Plain Films

A. Trainees will be able to do the following:

- | | |
|--|-----|
| 1. Describe the performance of plain film radiological examinations. | CT2 |
| 2. List the indications and recognise critical findings in the following conditions relevant to colon and rectal diseases: | |
| • Free peritoneal air (chest and abdominal films) | CT2 |
| • Small-bowel obstruction | CT2 |
| • Large-bowel obstruction | CT2 |
| • Critical caecal distension | ST4 |
| • Appendicolith | ST4 |
| • Caecal volvulus | ST4 |
| • Sigmoid volvulus | ST4 |
| • Toxic megacolon | ST4 |
| • Ischaemic colitis (thumbprinting) | ST6 |
| • IBD-associated changes (ankylosing spondylitis, sacroileitis) | ST6 |
| • Rectal foreign body (biplanar) | CT2 |
| • Retroperitoneal/mediastinal air (chest and abdominal films) | ST6 |
| • Synergistic infection (subcutaneous, subfascial gas) | ST6 |
| • Mesenteric infarction (air in biliary tree) | ST6 |
| • Chordoma (sacral destruction) | ST8 |
| • Gardner's syndrome (mandibular osteoma) | ST8 |
| • Imperforate anus ("invertogram") | ST8 |
| • Meningomyelocele ("scimitar") | ST8 |

II. Contrast Studies

A. Trainees will be able to do the following:

- | | |
|--|-----|
| 1. Describe the performance of contrast radiographic examinations. | CT2 |
|--|-----|

2. List the indications for and recognise the critical findings in the following conditions as seen on barium enema:

- Carcinoma ("apple core") CT2
- Diverticulosis CT2
- Ulcerative colitis (chronic changes, backwash ileitis, stricture) ST4
- Crohn's disease (colitis, recurrence at ileocolic anastomosis) ST4
- Ischaemic colitis (thumbprinting, stricture) ST4
- Sigmoid volvulus ST4
- Caecal volvulus ST4
- Lipoma of colon ST4
- Lymphoma ST8
- Ileal pouch ST8
- Ileocolic intussusception ST6
- Acquired megacolon ST6
- Barium perforation (rectum and colon) ST6
- Colonic fistula ST8
- Hirschsprung's disease ST8

3. Recognise the critical findings in the following conditions as seen in water-soluble contrast radiographic studies:

- Anastomotic leak ST4
- Obstruction ST4
- Pseudo-obstruction ST6
- Diverticulitis ST6

4. Recognise the critical findings in the following conditions as seen in small bowel contrast studies:

- Upper GI series
 - Duodenal Crohn's disease ST8
 - SMA syndrome ST8
- Single contrast, small bowel follow-through
 - Crohn's disease small bowel ST6
 - Crohn's disease with enteric fistula ST6
 - Jejunal diverticular disease ST6
 - Peutz-Jeghers polyposis ST8
 - Malrotation ST8

5. List the indications for and describe the performance of endoscopic retrograde cholangiopancreatography (ERCP) studies.

- Sclerosing cholangitis ST8
- Cholangiocarcinoma ST8

III. Abdominal Ultrasound

A. Trainees will be able to do the following:

1. Describe the performance of Abdominal Ultrasound . CT2

2. List the indications for and recognise critical findings of the following conditions:

- Diverticulitis (abscess) ST4
- Hepatic metastasis/abscess CT2
- Ileal Crohn's disease abscess ST6
- Appendicitis ST4
- Ovarian/ pelvic disease ST4

IV. Computed Tomography

A. Trainees will be able to do the following:

1. Describe the performance of standard computed tomography (CT). CT2
2. List the indications for and recognise critical findings of abdominal CT in the following conditions:
 - Colorectal carcinoma (staging) ST6
 - Assessment of small bowel pathology ST6
 - Postoperative intra-abdominal sepsis (leak/abscess) ST6
 - Diverticulitis (abscess colovesical fistula) ST6
 - Hepatic metastasis/abscess ST6
 - Ileal Crohn's disease (psoas abscess) ST6
 - Appendicitis ST6
 - Desmoid tumor: abdominal wall ST8
 - Graft pseudoaneurysm with aortoenteric fistula ST8
3. List the indications for and recognise the critical findings of pelvic CT in the following conditions:
 - Carcinoma of the rectum (staging) ST6
 - Pelvic abscess ST6
 - Chordoma ST8
 - Developmental cyst ST8
 - Cancer of prostate invading rectum ST8
 - Suprlevator abscess ST8
 - Hemangioma of rectum ST8
4. List the indications for and recognize significant findings of CT used to investigate the colon by specific faecal tagging protocols or by CT colonography (virtual colonoscopy):
 - Carcinoma of the colon ST6
 - Carcinoma of the rectum ST6
 - Colonic or rectal polyp ST6

V. Nuclear Medicine Scans

A. Trainees will be able to do the following:

1. Describe the performance of nuclear medicine scans. ST4

2. List the indications for and recognise the critical findings in the following conditions as seen with isotope studies:

- Meckel's scan ST4
- Bleeding scans
 - Tc sulfacolloid ST4
 - Tagged red blood cell (RBC) ST4
- 3. Indium-labeled white blood cell (WBC) scan ST8
- 5. Gallium scan ST8

VI. Angiography

A. Trainees will be able to do the following:

1. Describe the performance of conventional, CT and MR angiography. ST4
2. List the indications for and recognise critical findings on angiographic examinations relevant to colorectal surgery:
 - Colonic bleeding ST6
 - Small bowel bleeding ST6
 - Rectal varices ST6
 - SMA occlusion ST6

VII. Dynamic Proctography

A. Trainees will be able to do the following:

1. Describe the performance of X-ray and isotope dynamic proctography (DPG). ST8
2. List the indications for and recognise the critical findings in the following conditions as seen on dynamic proctography:
 - Rectocele ST8
 - Rectal prolapse (occult, complete) ST8
 - Nonrelaxing puborectalis ST8

VIII. Magnetic Resonance Imaging

A. Trainees will be able to do the following:

1. Describe the performance of magnetic resonance imaging (MRI) examinations ST4
2. List the indications for and recognise critical findings of MRI examinations in the following conditions:
 - Fistula in ano ST8
 - Rectal cancer (staging) ST8
 - Hepatic metastases (assessment) ST8
 - Presacral cysts and tumors ST8

IX. Positron Emission Tomography

A. Trainees will be able to do the following:

1. Describe the performance of positron emission tomography (PET) examinations. BST
2. List the indications for and recognise the critical findings in the following conditions as seen with PET scan:

- Staging of cancer ST8
- Recurrence of cancer ST8

X. Evaluation of Deep Vein Thrombosis/Pulmonary Embolism

A. Trainees will be able to list the indications for, describe the performance of, and recognise the critical findings in the following studies performed in the evaluation of deep vein thrombosis/pulmonary embolism (DVT/PE):

- Venous duplex scans ST4
- VQ scans ST4
- Pulmonary Angiography ST6
- CT pulmonary angiogram ST4

ENDOANAL/ENDORECTAL ULTRASOUND

GOAL: Following the completion of **appropriate** training in colon and rectal surgery **and** endoanal/endorectal ultrasound Trainees will be competent and knowledgeable in listing the indications for, performing and interpreting ultrasound for key anorectal pathology

I. Anatomy

- A. Trainees will be able to describe the normal ultrasound anatomy of the anal canal and rectal wall. ST8

II. Technical

A. Trainees will be able to do the following:

1. Discuss or describe the technical aspects of using ultrasound:
 - Transducer frequencies (depth of imaging) ST8
 - Configuration of probe for anal and endorectal ultrasound ST8
 - 2D and 3D imaging by ultrasound ST8
2. List the indications for ultrasound, perform examinations and interpret the critical findings

in the following conditions as assessed by endoanal ultrasound:

- Incontinence (sphincter defect) ST8
- Anal cancer (staging, surveillance) ST8
- Anal fistula/abscess (peroxide enhancement) ST8
- Pain ST8

3. List the indications for ultrasound, perform examinations and interpret the critical findings in the following conditions as assessed by endorectal ultrasound:

- Rectal neoplasms (staging, surveillance, and biopsy) ST8
- Retrorectal lesions (cyst, tumor) ST8
- Perirectal abscess ST8

PATHOLOGY

GOAL: Following the completion of **appropriate** training in colon and rectal surgery Trainees will be competent to recognise the gross pathological features and understand the significant histopathological features of the following conditions

I. Anus and Anal Canal

A. Trainees will recognise the gross and understand the microscopic features of the following anal or anal canal conditions:

1. Normal CT2
2. Infective Conditions:
 - Human papillomavirus (HPV) ST8
 - Anal herpes ST8
 - Condyloma accuminata ST4
 - Hidradenitis suppurativa ST6
 - HIV associated anal ulcer ST8
3. Neoplastic Conditions:
 - AIN (Bowen's disease) ST8
 - Paget's disease ST8
 - Basal cell carcinoma ST6
 - Squamous cells carcinoma-anal canal, anal margin ST6
 - Malignant Melanoma ST6
 - Kaposi's sarcoma ST8
 - Buschke-Lowenstein tumour ST8
- D. Inflammatory Conditions:
 - Crohn's disease ST4
- E. Dermatoses

- Psoriasis ST6
- Contact dermatitis ST6

II. Small Intestine, Colon, and Rectum

A. Trainees will recognise the gross and understand the microscopic features of the following conditions of the small intestine, colon, and rectum:

1. Normal CT2
2. Hyperplastic polyp ST6
3. Neoplasia
 - Adenoma ST4
 - Tubular adenoma ST4
 - Villous adenoma ST4
 - Tubulovillous adenoma ST4
 - Serrated Adenoma ST8
 - Flat Adenoma ST8
 - Malignant polyp and Haggitt classification ST8
4. Carcinoma
 - Mechanisms of spread-direct local, lymphatic, vascular CT2
 - Adenocarcinoma CT2
 - Staging Dukes and TNM CT2
 - Minimum Data Set. ST8
 - Significance of grading ST6
 - Malignant ascites (cytology) ST6
 - Familial adenomatous polyposis (including desmoids and upper GI tumours) ST8
 - Carcinoid ST4
5. Other Neoplastic Conditions
 - Lymphoma ST4
 - Sarcoma ST8
 - Gastrointestinal stromal tumour ST8
 - Chordoma ST8
 - Liposarcoma ST8
 - Osteosarcoma ST8
 - Understand the indications and limitations of Frozen Sections and Cytology ST8
6. Inflammation
 - Ulcerative colitis (pseudopolyp, stricture, toxic dilatation) ST4
 - Crohn's disease (aphthous ulcer) ST4
 - Pouchitis ST8
 - Infectious colitis (amoebic, tubercular, pseudomembranous) ST6
 - Ischaemic colitis ST6
 - Solitary rectal ulcer ST8
 - Microscopic colitis ST8
 - Cytomegalovirus (CMV) colitis ST8
7. Miscellaneous Conditions
 - Amyloid ST8
 - Endometriosis ST8
 - Lipoma ST8
 - Pneumatosis cystoides intestinalis ST8
 - Meckel's diverticulum with ectopic mucosa ST4

- Vascular estasia ST6
- Melanosis coli ST6
- Hirschsprung's disease ST8

III. Miscellaneous

A. Trainees will recognise the gross features of the following miscellaneous conditions:

1. Developmental cysts (epidermoid, dermoid, teratoma) ST8
2. Erythema nodosum ST4
4. Pyoderma gangrenosum ST4
5. Sclerosing cholangitis ST6
6. Cholangiocarcinoma ST6

ETHICS

ETHICS

GOAL: Following the completion of **appropriate** training in colon and rectal surgery Trainees will be aware of ethical issues involved in their relationship with their patients and between themselves and their colleagues.

I. Issues for a Surgeon

A. Trainees will be able to identify, discuss, and communicate the ethical issues involved in the following situations:

1. Doctor–patient relationships

- Primary care vs secondary care CT2
- Doctors in diagnostic and support services CT2
 - i) Radiology
 - ii) Pathology
 - iii) Chemistry
 - iv) Microbiology
 - v) Endoscopy
- Confidentiality CT2

2. Consent

- When should consent be obtained
- Who should obtain consent CT2
- What information should be given CT2
- What risks should be discussed CT2
- Withdrawal of consent CT2
- Documenting consent CT2

3. Communicating bad news

- Applying principles of effective communication CT2
- Adapting communication style to the needs of the listener CT2
- Using appropriate balance between giving false hope and removal of all hope CT2

4. Addressing ethical issues surrounding death

- Do not resuscitate (DNR) CT2
-
- Advanced directives (Living Wills) CT2
-
- Withdrawal of life support ST4
-
- Withholding life support/care ST4
- Futile care (not quite sure what this means ?remove) ST4

5. Patient complaints

- Responding to patient questions CT2
6. Interprofessional relationships
- With General Practitioner CT2
 - With other hospital consultants CT2
 - With nursing staff CT2
 - With other health care professionals CT2
7. New technology
- When does technology become standard of care? ST4
 - Issue of genetics
 - --Confidentiality ST4
 - --Counseling ST4
 - Availability of technology ST4
 - Personal competency CT2

SOCIOECONOMICS

SOCIOECONOMICS

GOAL: Following completion of **appropriate** training in colon and rectal surgery trainees will be expected to be able to describe the essential criteria of a colon and rectal service, its continuing assessment and mode of management both from a local and national perspective.

I. Colon and Rectal Practice

A. Trainees will be able to identify and discuss the resources required for practice as a consultant surgeon with a specialist interest in colorectal surgery.

1. Physiology	ST8
2. Endoscopy	ST8
3. Radiology (ultrasound, CT, MR, angiography, video proctography, contrast radiology)	ST8
4. Nuclear Medicine	ST8
5. Oncology	ST8
6. Pathology	ST8
7. Outpatient services	ST8
8. Day case surgery	ST8
9. Operating theatre facilities	ST8
10. Emergency facilities	ST8
11. Record facilities	ST8
12. Stoma care	ST8
13. Nurse practitioners	ST8
14. Screening	ST8
15. Patient information	ST8

B. Trainees will be able to identify and discuss issues relating to consultant practice including:

1. Appraisal	ST8
2. Job plans	ST8
3. Continuing medical education	ST8

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|--|-----|
| 4. Clinical governance and audit (unit and personal) | ST8 |
| 5. Requirements for colorectal training unit status | ST8 |
| 6. Requirements for colorectal cancer unit status | ST8 |

C. Trainees will be able to identify and discuss integrated multiprofessional patient assessments

- | | |
|---|-----|
| 1. MDT meetings | ST8 |
| 2. Pathology meetings | ST8 |
| 3. X- ray meetings | ST8 |
| 4. Joint medical/surgical gastroenterology co-operation | ST8 |
| 5. Local ethics and research committee schemes | ST8 |

II. Determinates of Clinical Practice

A. Trainees will be able to do the following:

- | | |
|--|-----|
| 1. Discuss government agencies related to health-care delivery (NICE; CHI; etc) | ST8 |
| 2. Describe how legislation and government agencies have impact on the practice of medicine. | ST8 |
| 3. Discuss the roles of national, regional, and local professional medical organisations. | ST8 |
| 4. Describe the structure and function of the Association of Coloproctology of Great Britain and Ireland | ST8 |
| 5. Discuss the structure and function of Trust management and Clinical Directorates. | ST8 |
| 6. Discuss and describe current national trials facilities | ST8 |