



The Association of Coloproctology  
of Great Britain and Ireland

# Syllabus v.1.1

BASED ON THE CORE CURRICULUM OF  
THE AMERICAN BOARD OF COLON  
AND RECTAL SURGERY

## Introduction

### Why now ?

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. 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 has been largely based on the Core Curriculum of the American Board of Colon and Rectal Surgery. While the subject matter of Colon and Rectal Surgery is universal, an attempt has been made in drafting this version (v1.1), to emphasise those aspects of our specialty which are most relevant to practice in Great Britain and Ireland. However, it is recognised that syllabus development is a dynamic and evolutionary process and future considered modification will be required, as determined by the membership of this Association expressed through the Council and relevant committees.

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 BST, HST (General) and SPECIALIST levels, as follows:-

#### **BST**

*Knowledge and technique expected of a basic surgical trainee at the MRCS examination*

#### **HST**

*In addition to the knowledge and technique expected of a basic surgical trainee at the MRCS examination - the additional knowledge and technique expected of a higher surgical trainee with a specialty interest other than Colorectal Surgery at the ICB examination and on award of the CCST in General Surgery*

#### **SPECIALIST**

*In addition to the knowledge and technique expected of both a basic surgical trainee at the MRCS examination and expected of a higher surgical trainee with a specialty interest other than Colorectal Surgery at the ICB examination - the additional knowledge and technique, 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.*

#### **CORE CURRICULUM COMMITTEE**

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Part I

**COLON & RECTAL  
SURGERY**

# 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.

## I. Haemorrhoids

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

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

• Haemorrhage	BST
• Faecal impaction	BST
• Infection	BST
• Stenosis	SPEC
• Incontinence	SPEC
12. Describe modifications of therapy with the following special considerations:	
• Inflammatory bowel disease (IBD)	BST
• Pregnancy	BST
• HIV	BST
• Coagulopathies	BST
• Portal hypertension/ Rectal varices	SPEC
<b>II. Anal Fissure</b>	
A. Trainees in colon and rectal surgery will be able to do the following:	
1. Describe the proposed aetiologies of anal fissure.	BST
2. Describe the anatomical location of a classic anal fissure.	BST
3. Describe the signs and symptoms of anal fissure.	BST
4. Describe the indications, contraindications, and complications of non-operative management of an anal fissure.	
• Stool modifications/softeners	BST
• Topical anaesthetics	BST
• Topical pharmacology	BST
• Botulinum toxin	SPEC
5. Describe the indications, contraindications, and complications of the following:	
• Lateral internal sphincterotomy	BST
• Anal stretch	BST
• Anal advancement flap	SPEC
6. Describe the following techniques:	
• Lateral internal sphincterotomy	HST
• Anal stretch	SPEC
• Anal advancement flap	SPEC
7. Describe the preoperative and postoperative care of the following:	
• Lateral internal sphincterotomy	HST
• Anal stretch	SPEC
• Anal advancement flap	SPEC
• Treatment of abscess/fistula associated with fissure	HST
8. Describe the treatment of complications resulting from operative procedures, including the following:	
• Persistent fissure	HST
• Incontinence	SPEC
• Stenosis	SPEC
• “Key-hole” deformity	SPEC

### III. 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. BST
2. Differentiate cryptoglandular abscess and fistula from other causes. HST
3. Describe the classification of anorectal cryptoglandular abscess- based on anatomical spaces. BST
4. Describe Parks classification of anal fistula. BST
5. Describe techniques designed to elucidate pathological anatomy:
  - Goodsall's rule and digital examination BST
  - Fistulogram HST
  - Injections HST
  - Magnetic Resonance Imaging (MRI) HST
  - Endoanal Ultrasound HST
7. Describe the preoperative and postoperative care of, and the appropriate procedure for, the treatment of anorectal abscess based on anatomical spaces. BST
8. Describe the natural history of surgically-treated anal abscess, including the risk of fistula formation. BST
9. Describe the operative strategy for anal fistula based on sphincter involvement/location. BST
10. Describe the following procedures for anal fistula:
  - Fistulotomy HST
  - Seton - Drainage HST
  - Seton -Cutting SPEC
  - Delayed fistulotomy SPEC
  - Advancement flap SPEC
11. Describe alternative treatment options for anal fistula:
  - Fibrin glue SPEC
  - Fistulectomy SPEC
12. Describe the complications resulting from abscess/fistula surgery:
  - Recurrence BST
  - Incontinence BST
13. Describe modifications of therapy for the following special considerations:
  - Necrotising fasciitis/Fournier's gangrene BST
  - Leukaemia HST
  - Other Immunocompromised patients HST
  - Inflammatory bowel disease HST
14. Discuss classification, preoperative evaluation, and treatment of rectovaginal fistula, based on the following:
  - Location HST
  - Aetiology HST

15. Discuss the preoperative and postoperative care of and timing of surgery for rectovaginal fistula secondary to obstetrical injury (to include secondary incontinence), and operative repair. SPEC

16. Discuss treatment of rectourethral fistula, based on the following:  
 • Location SPEC  
 • Aetiology SPEC

#### IV. Hidradenitis Suppurativa

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

1. Describe the pathophysiology of hidradenitis suppurativa. HST
2. Describe the symptoms and signs of hidradenitis suppurativa. BST
3. Describe the medical management of hidradenitis suppurativa. SPEC
4. Describe the surgical management of hidradenitis suppurativa. SPEC

#### V. Pilonidal Disease

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

1. Describe the pathophysiology of pilonidal disease. BST
2. Describe the symptoms and signs of pilonidal disease.  
 • Abscess BST  
 • Sinus BST
3. Describe the surgical management of pilonidal disease.  
 • Excision with or without primary closure BST  
 • Excision with marsupialisation BST  
 • Graft/flap SPEC

#### VI. Anal Stenosis

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

1. Describe the aetiology. BST
2. Describe the nonoperative management. HST
3. Describe the operative management of anal stenosis:  
 • Division of stricture SPEC  
 • Advancement flap procedures SPEC  
 • Rotation flap procedures SPEC

## VII. Anaesthesia

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

1. Describe the pharmacology of, adverse events and administration of the following local anaesthetic agents:
  - Lidocaine BST
  - Bupivacaine BST

## VIII. Pruritus Ani

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

1. Describe the clinical presentation of pruritus ani. BST
2. Describe the aetiology, medical management, and surgical management of pruritus ani according to the following classifications:
  - Hygiene BST
  - Diet BST
  - Anatomical (obesity, deep anal cleft) BST
  - Coexisting anal pathology BST
  - Systemic disease BST
  - Gynecologic-associated BST
  - Infectious BST
  - Postantibiotic syndrome BST
  - Contact dermatitis BST
  - Dermatologic BST
  - Radiation BST
  - Neoplasm BST
  - Idiopathic (treatment only) BST

## IX. Sexually Transmitted Diseases

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

1. Describe the aetiology, diagnosis, and treatment of colorectal manifestations of the following:
  - HIV SPEC
  - Syphilis SPEC
  - Gonorrhoea SPEC
  - Chlamydia SPEC
  - Herpes SPEC
2. Describe the aetiology and diagnosis of condylomata acuminata. BST
3. Describe the influence of human papillomavirus (HPV) serotypes on the subsequent development of cancer. SPEC
4. Describe the medical/surgical treatment options for condylomata acuminata.
  - Topical Chemicals BST
  - Surgical excision/fulguration BST

# 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 BST
2. Describe the incidence and epidemiology of colonic diverticular disease. BST

### 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. BST
2. Describe appropriate diagnostic studies and their sequence in the evaluation of both acute and chronic colonic diverticular disease. BST
3. List possible complications and classification of diverticular disease including the following:
  - Bleeding BST
  - Perforation BST
  - Abscess BST
  - Fistula BST
  - Stricture BST
4. Describe the Hinchey classification of complicated diverticular disease HST

### III. Treatment

A. Trainees will be able to do the following:

1. Discuss the medical and dietary management of colonic diverticular disease. BST
2. Describe the appropriate medical management for acute diverticulitis including the criteria for inpatient versus outpatient care. BST
3. Discuss the preoperative assessment and the indications for surgery, surgical procedures, and complications for acute diverticulitis. BST
4. Describe the appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis. HST
5. Describe the surgical procedures for dealing with complications (fistula, stricture, recurrent episodes) of acute diverticulitis. SPEC
6. Describe the techniques for an appropriate resection for diverticular disease including the extent of resection, use of ureteral stents, and indications for diversion. HST

7. Describe patient selection and the techniques for appropriate reversal of Hartmann's procedure including the use of ureteral stents, and indications for diversion. SPEC

## **VOLVULUS**

### **I. Pathophysiology**

A. Trainees will be able to do the following:

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

### **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. BST
2. Describe appropriate diagnostic studies and their findings and sequence in the evaluation of colonic volvulus based upon its site. BST
3. List possible complications of colonic volvulus including the following:
  - Obstruction BST
  - Ischaemia BST
  - Perforation BST

### **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. BST
2. Describe appropriate procedures for colonic volvulus based upon its site and indication for surgery HST

## **RECTAL BLEEDING**

### **I. General Considerations**

A. Trainees will be able to do the following:

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

## 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.  | BST |
| 2. List the possible aetiologies of massive lower GI bleeding.  | BST |
| 3. Outline an algorithm for the evaluation of lower GI bleeding including:  |     |
| • Exclusion of Coagulopathy   | BST |
| • Upper Gastrointestinal Endoscopy  | BST |
| • Colonoscopy   | BST |
| • Selective Mesenteric Angiography  | HST |
| • Radio-isotope scintigraphy  | HST |
| • On Table Colonoscopy with Antegrade Lavage  | HST |
| 4. Compare and contrast the utility, specificity, and sensitivity of colonoscopy, angiography, and radio-isotope scintigraphy in evaluation of lower GI bleeding. | HST |

### II. Treatment

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

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

### II. Special Considerations

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

- |  |      |
|--|------|
| 1. Describe the evaluation and management of postoperative lower GI bleeding.  | BST  |
| 2. Describe the intraoperative evaluation and management of persistent massive lower GI bleeding without an identified site.                   | HST  |
| 3. Describe the evaluation of recurrent lower GI bleeding, including use of enteroscopy, exploratory laparotomy, and intraoperative endoscopy. | SPEC |

## VASCULAR MALFORMATIONS

### I. Angiodysplasia

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

- |   |     |
|---|-----|
| 1. Discuss the aetiologies of angiodysplasia.   | HST |
| 2. Describe the clinical presentation and endoscopic findings of angiodysplasia.                          | HST |
| 3. Discuss indications for intervention, and the operative and nonoperative management of angiodysplasia. | HST |

### II. Haemangioma

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

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

## ENDOMETRIOSIS

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

- |   |      |
|---|------|
| 1. Discuss the pathophysiology of endometriosis.  | HST  |
| 2. Describe the clinical presentation and endoscopic and laparoscopic findings of endometriosis.        | SPEC |
| 3. Discuss indications for intervention and the operative and nonoperative management of endometriosis. | SPEC |

## 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  | BST |
| • Computed tomography (CT) scan  | BST |
| • Ultrasound   | BST |
| • Peritoneal lavage  | BST |
| 2. Discuss the criteria for the following in the evaluation of penetrating abdominal trauma:   |     |
| • Exploratory laparotomy   | BST |
| • Wound exploration  | BST |
| • Peritoneal lavage  | BST |

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 HST
  - Resection with anastomosis HST
  - Faecal diversion HST
4. Describe the management, both operative and non-operative, of colonic trauma due to:
  - Colonoscopic perforation HST
  - Laparoscopic perforation HST

## II. Rectal Trauma

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

1. Identify clinical situations requiring evaluation for rectal trauma. BST
2. Describe methods for diagnosis of rectal trauma and associated injuries. BST
3. Describe aspects of the surgical management of rectal trauma, including the following:
  - Drainage HST
  - Faecal diversion HST
  - Rectal washout HST
  - Primary repair HST

## III. Anal Trauma

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

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

## FOREIGN BODIES

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

1. Describe the evaluation of patients with rectal foreign bodies. BST
2. Describe various methods of extraction of foreign bodies and indications for surgery. HST
3. Discuss the postextraction evaluation, indications for inpatient observation, and indications for surgery. HST

# 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:

BST

## II. Aetiology

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

### I. Diet

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

### 2. Adenoma-carcinoma sequence

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

### 3. De novo carcinoma

HST

### 4. Susceptibility to colorectal cancer (CRC)

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

### 5. Hereditary nonpolyposis colorectal cancer (HNPCC)

- Clinical features HST
- Amsterdam criteria and Modifications SPEC
- Extracolonic cancer risk SPEC
- Genetic basis SPEC
- Genetic testing/counselling SPEC
- Surveillance options/limitations SPEC
- Surgical options/limitations SPEC

- |  |      |
|--|------|
| 6. Familial adenomatous polyposis                |      |
| • Clinical definition                            | BST  |
| • Extracolonic lesions                           | BST  |
| • Cancer risk                                    | BST  |
| • Genetic basis (Genotype/Phenotype correlation) | SPEC |
| • Genetic testing/counseling                     | SPEC |
| • Variants (Gardner, Turcot, Attenuated)         | SPEC |
| • Evolution of surgical management               | SPEC |
| • Management of Desmoid disease                  | SPEC |
| • Post surgery surveillance                      | SPEC |
| 7. Hamartomas                                    |      |
| • Definition                                     | BST  |
| • Juvenile polyposis                             | HST  |
| • Peutz-Jeghers syndrome                         | HST  |

### III. Colorectal Cancer Screening

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

- |                            |     |
|----------------------------|-----|
| • The General Population   | BST |
| • Persons at moderate risk | BST |
| • Persons at high risk     | BST |

### 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. | BST |
| 2. Describe the distribution of CRC within the colon.                                      | BST |

### V. Staging and Prognostic Factors

A. Trainees will be able to discuss the following:

- |   |      |
|---|------|
| 1. The evolution of staging systems     | SPEC |
| 2. Current staging systems (Dukes, TNM) | BST  |
| 3. Clinical prognostic factors          |      |
| • Age                                   | BST  |
| • Mode of Presentation                  | BST  |
| • Clinical Stage                        | HST  |
| • Blood transfusion                     | SPEC |
| 4. Histologic/biochemical features      |      |
| • Histological grade                    | HST  |
| • Mucin secretion                       | HST  |
| • Signet-cell histology                 | HST  |
| • "Pushing" versus infiltrating margin  | SPEC |

- Tumour infiltrating lymphocytes SPEC
  - Microsatellite instability (MSI) SPEC
  - Venous invasion HST
  - Perineural invasion HST
  - Nodal involvement/apical node BST
  - Carcinoembryonic antigen(CEA) SPEC
5. The significance of extent of disease including patterns of spread :
- Direct continuity BST
  - Intramural BST
  - Transmural BST
  - Distal margins BST
  - Circumferential margins BST
  - Transperitoneal BST
  - Lymphatic BST
  - Haematogenous BST
  - Implantation BST
6. The assessment of disease extent
- Detection and management of synchronous lesions BST
  - Distant metastatic disease BST
  - Preoperative detection of local invasion SPEC
  - Regional metastatic disease SPEC

## 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 HST
2. Describe the indications and contraindications, operative technique, pre- and postoperative care, outcomes and the complications of colon cancer BST
- 3 Describe the following operations in the management of Colon cancer:
  - Segmental resection HST
  - En-bloc resections of adjacent organs SPEC
  - Extended resections to include total abdominal colectomy SPEC
  - Stomas/mucous fistula/Hartmann's procedure HST
4. Discuss special considerations in the operative management of Colon cancer:
  - Ureteric stenting SPEC
  - Oophorectomy SPEC
  - Colonic stents HST
  - "No-touch" technique SPEC
  - Pregnancy SPEC
  - Intraluminal cytotoxic irrigation HST
  - On-table lavage HST
  - Perforation HST
  - Synchronous lesions HST
5. Discuss the rationale and indications for the use of adjuvant chemotherapy. HST

## 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 SPEC
    - Kraske transsacral SPEC
    - York-Mason transsphincteric SPEC
    - Transanal endoscopic microsurgery (TEM) SPEC
    - Transanal resection of tumour (TART) SPEC
    - Fulguration SPEC
    - Laser SPEC
    - Endocavitary irradiation SPEC
  - **Sphincter-sparing resections**
    - High Anterior resection (above the peritoneal reflexion) HST
    - Low-anterior resection (below the peritoneal reflexion) HST
    - Tumour-specific mesorectal excision SPEC
    - Total mesorectal excision SPEC
    - Coloanal anastomosis with or without colonic J pouch SPEC
  - **Abdominoperineal resection** SPEC
  - **Pelvic exenteration** SPEC
2. Discuss the evolution of sphincter sparing surgery. SPEC
3. Discuss the use of current preoperative staging techniques and the role of:-
  - Preoperative radiotherapy SPEC
  - Postoperative radiotherapy SPEC
4. Discuss the rationale and indications for the use of adjuvant chemoradiotherapy. HST

## 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 BST
2. Detection of recurrence
  - CEA BST
  - Colonoscopy BST
  - Imaging BST
3. Risks and detection of metachronous lesions BST

- |   |      |
|---|------|
| 4. Treatment of recurrent Colorectal cancer |      |
| • Natural history                           | HST  |
| • Chemotherapy                              | HST  |
| • Resection                                 | HST  |
| • Local ablation                            | HST  |
| 5. Pelvis                                   |      |
| • Radiation                                 | SPEC |
| • Chemotherapy                              | SPEC |
| • Resection                                 | SPEC |
| 6. Carcinomatosis                           |      |
| With bowel obstruction                      | HST  |
| With ureteral obstruction                   | HST  |
| 7. Palliative considerations                | HST  |

## IX. Pain Management

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

## 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   | BST  |
| • Ileal   | HST  |
| • Colonic   | SPEC |
| • Rectal  | SPEC |
| • Carcinoid syndrome  | BST  |
| 2. Lymphoma   |      |
| • Classification  | BST  |
| • Treatment   | BST  |
| • Risk factors  | BST  |
| 3. Gastrointestinal Stromal Tumours   | SPEC |
| 4. Tumours metastasising to the colon   |      |
| • Breast  | SPEC |
| • Melanoma  | SPEC |
| • Ovary   | SPEC |

# ANAL NEOPLASIA

## I. General Considerations

A. Trainees will be able to discuss the following anatomical, etiologic, and epidemiologic features:

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

## II. Anal Canal Neoplasia

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

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

### III. Anal Margin Neoplasia

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

- I. Squamous cell carcinoma
  - Clinical features - including Giant verrucous Tumour (Buschke-Löwenstein) SPEC
  - Differential diagnosis SPEC
  - Surgical Management
    - Local Excision SPEC
    - Chemoradiotherapy SPEC
    - Abdominoperineal resection (APR) SPEC
    - Inguinal node management SPEC
  
2. Basal cell carcinoma
  - Clinical features SPEC
  - Differential diagnosis SPEC
  - Management SPEC
  
3. Bowen's disease
  - Histology SPEC
  - Differential diagnosis SPEC
  - Natural history SPEC
  - Related cancers SPEC
  - Management
    - Anal mapping SPEC
    - Wide local excision SPEC
    - Reconstruction SPEC
    - Observation in patients with HIV SPEC
  
4. Paget's disease
  - Theories of histogenesis SPEC
  - Clinical features SPEC
  - Differential diagnosis SPEC
  - Histologic features SPEC
  - Management SPEC
  - No invasion
    - Wide local excision SPEC
  - Invasive cancer SPEC
  - Abdominoperineal resection SPEC
  - Inguinal node management SPEC
  - Chemoradiation SPEC
  
5. Giant verrucous Tumour (Buschke-Löwenstein)
  - Clinical presentation SPEC
  - Clinical course SPEC
  - Treatment options
    - Sphincter involvement SPEC
    - Without sphincter involvement SPEC

## 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:

I. Congenital lesions

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

2. Neoplastic lesions

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

# 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.

SPEC

## 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).

BST

2. Discuss the possible influence of infectious agents, psychological issues and environmental factors including diet, smoking, and medication (eg, birth control pills).

BST

## 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.

BST

## 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.

BST

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

SPEC

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

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

## 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. BST
2. Describe the distinguishing histologic characteristics of ulcerative colitis and Crohn's disease BST
3. Describe and define the entity of indeterminate colitis. SPEC
4. Describe the differential diagnosis of Inflammatory Bowel Disease. BST
5. Outline a diagnostic assessment for inflammatory bowel disease to exclude other colitides. HST

## VI. Reproduction and Inflammatory Bowel Disease

### A. Trainees will be able to discuss:

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

## 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) BST
  - Corticosteroids (including budesonide)
    - Systemic BST
    - Topical BST
  - Antibiotics BST
  - Immunosuppressive drugs
    - Azathioprine SPEC
    - Cyclosporin A SPEC
  - Other
    - Nicotine SPEC
    - Heparin SPEC
2. Discuss the presentation and describe the initial management:
  - Proctitis BST
  - Left-sided colitis BST
  - Extensive colitis BST
  - Severe acute colitis BST
  - Toxic megacolon BST

3. Describe the logical progression of the joint management of a patient unresponsive to initial treatment. HST
4. Explain the role of nutritional support in the management of ulcerative colitis. SPEC

## 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. SPEC

## III. Surgical Management

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

- I. Describe the indications for surgery for ulcerative colitis including:
- Intractability SPEC
  - Severe acute colitis BST
  - Toxic megacolon BST
  - Haemorrhage BST
  - Prophylaxis for carcinoma/ dysplasia SPEC
  - Carcinoma SPEC
  - Complications of extraintestinal manifestations SPEC
  - Complications of medication SPEC
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 SPEC
  - TPC with ileal pouch anal anastomosis (IPAA) (double staple versus mucosectomy) SPEC
  - Total colectomy
    - With ileorectal anastomosis SPEC
    - With ileostomy and rectal preservation (stump/mucous fistula) HST
3. Demonstrate an understanding of the operative management of indeterminate colitis SPEC

## IV. Postoperative Management

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

- I. Recognise and describe the management of the following conditions associated with the ileoanal pouch anal anastomosis:
- Intestinal Obstruction HST
  - Pelvic sepsis SPEC
  - Pouchitis SPEC
  - Anastomotic/pouch vaginal and perineal fistula SPEC
  - Stenosis SPEC
  - Sexual dysfunction SPEC
  - Retained mucosa SPEC
2. Describe the appropriate follow-up for retained rectum after Total abdominal colectomy with ileorectal anastomosis or rectal stump preservation. SPEC

## CROHN'S DISEASE

### 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 Crohn's disease:

- |   |      |
|---|------|
| • Aminosalicylates (Oral versus topical)  | BST  |
| • Corticosteroids (including budesonide)  |      |
| - Systemic  | BST  |
| - Topical   | BST  |
| • Antibiotics   | BST  |
| • Immunosuppressive drugs   |      |
| - Azathioprine  | SPEC |
| - Cyclosporin A   | SPEC |
| - Methotrexate  | SPEC |
| • Cytokine Modulators   |      |
| - Infliximab  | SPEC |
| 2. Describe the initial medical management specific to the site of involvement in a patient with Crohn's disease. | BST  |
| 3. Describe the logical progression in the medical management of a patient unresponsive to initial treatment.     | HST  |
| 4. Discuss the role of nutritional support and therapy in the management of Crohn's disease.                      | SPEC |

### 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.                     | SPEC |
| 2. Describe the recommended surveillance of the colon, interpretation of biopsy results, and the significance of dysplasia. | SPEC |

### III. Complications

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

- |                                  |      |
|----------------------------------|------|
| • Obstruction/stenosis           | BST  |
| • Fistula                        | BST  |
| • Abscess                        |      |
| - Intraabdominal                 | BST  |
| - Psoas                          | BST  |
| • Perforation                    | BST  |
| • Haemorrhage                    | BST  |
| • Genito-urinary disease         | HST  |
| • Growth retardation             | SPEC |
| • Toxic megacolon                | BST  |
| • Severe acute colitis           | BST  |
| • Malnutrition                   | SPEC |
| • Extraintestinal manifestations | SPEC |

## IV. Surgical Management

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

1. Describe the indications for surgery for Crohn's disease including:
  - Intractability HST
  - Intestinal Obstruction HST
  - Fistula/ Abscess HST
  - Complications refractory to or not amenable to medical therapy HST
  - Complications of extraintestinal manifestations or of medications HST
  
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 SPEC
  - Segmental colectomy HST
  - Small-bowel resection HST
  - Total colectomy
    - With ileorectal anastomosis SPEC
    - With ileostomy and rectal preservation (stump/mucous fistula) HST
  - Ileocolic resection BST
  - Strictureplasty SPEC
  - Duodenal Bypass SPEC
  - Fistulae SPEC
  - Abdominal fistula/abscess SPEC

## 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 HST
- Rectovaginal fistula SPEC
- Fissure HST
- Stricture SPEC
- Ulceration SPEC
- Incontinence SPEC
- Abscess BST
- Skin tags SPEC
- Haemorrhoids SPEC

## OTHER INFLAMMATORY CONDITIONS

### I. Ischaemic Colitis

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

1. Describe the vascular anatomy of the colon. BST
2. Describe the aetiologies and pathogenesis of acute colonic ischemia. BST
3. Describe the clinical presentation of ischaemic colitis BST

- |  |     |
|--|-----|
| 4. Discuss the natural history, diagnosis, and management of ischaemic colitis.                      | BST |
| 5. Discuss the diagnosis and management of ischaemic colitis after abdominal aortic aneurysm repair. | HST |

## II. Radiation Bowel Disease

A. Trainees will be able to do the following:

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

## 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   | SPEC |
| • Neutropenic enterocolitis   | SPEC |
| • Collagen-Vascular colitis   | SPEC |
| • Microscopic Colitis   | SPEC |

## 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), and indications for surgery for clostridium difficile colitis. | BST |
| 2. In the management of suspected infectious colitis the trainee will be able to discuss:   |     |
| • The relevance of travel history   | BST |
| • The role of stool culture, testing for ova, cysts and parasites and hot stool sample for amoebiasis   | BST |
| • The role of lower GI endoscopy with biopsy for histological evaluation and culture  | BST |
| • The role of rectal and perineal swabs   | BST |
| • The role of serology in the detection of amoebiasis and strongyloidiasis  | BST |

- Infectious colitis as a precipitating factor for inflammatory bowel disease BST
  
- 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. BST

# 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.   | BST |
| 2. List indications for ileostomy.   | BST |
| 3. Discuss types of stomas (loop, end, end loop, double barrel) in relation to indications for stomas. | HST |

## 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.   | HST |
| 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.                                    | BST |
| 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). | HST |
| 4. Explain the role that the stoma nurse will play in pre- and postoperative care, teaching, and counseling.   | HST |

## 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   | HST |
| • Proper preparation of the skin and subcutaneous tissue   | BST |
| • Options for positioning and/or fixation of the mesentery   | HST |
| • Intraperitoneal versus extraperitoneal delivery  | HST |
| 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. | HST |
| 3. Discuss the appropriate process of preparation for stoma closure in the case of temporary faecal diversion including:                                       |     |
| • Timing of closure  | HST |
| • Necessary preoperative evaluations   | HST |
| • Care of the postoperative stoma site wound   | HST |
| 4. Given these specific intraoperative complicating features, discuss appropriate management of the following:   |     |
| • A very short mesentery   | HST |
| • A very thick abdominal wall  | HST |
| • Patients with ascites  | HST |

## IV. Postoperative Care

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

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

## V. Complications

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

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

## VI. Stoma Management

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

1. Describe stoma appliances, and explain appropriate selection. BST
2. Describe early postoperative management of conventional stomas. BST

- |  |      |
|--|------|
| 3. List various skin barriers and accessory products available for the management of stomas.               | BST  |
| 4. Describe stoma irrigation with reference to the following:  |      |
| • Indications  | SPEC |
| • Contraindications  | SPEC |
| • Potential complications  | SPEC |
| 5. Describe appropriate management and appliance options for a retracted stoma.                            | SPEC |
| 6. Describe dietary considerations for patients with an ileostomy or a colostomy, including the following: |      |
| • Impact of diet on stoma output   | BST  |
| • Flatus   | BST  |
| • Odour  | BST  |
| • Bolus obstruction  | BST  |

## VII. Stoma Physiology

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

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

## VIII. Patient Education and Counseling

### 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                            | HST  |
| • Changes in peristomal skin   | HST  |
| • Increased output   | HST  |
| • Anticipated changes to occur during the healing process                        | HST  |
| • Instructions regarding symptoms that would necessitate a call to the physician | HST  |
| 2. Identify sources of support including patient associations.                   | HST  |
| 3. Demonstrate the following techniques:   |      |
| • Pouch changes  | SPEC |
| • Pouch emptying   | SPEC |
| • Management of leakage  | SPEC |

4. Describe the effects of medication on stoma output and the peristomal skin. HST
5. Describe the possible effects that a stoma may have on medication dosage and absorption. BST

## 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 BST

#### II. Evaluation

A. Trainees will be able to do the following:

1. Take a directed history to differentiate types of incontinence. BST
2. Perform a physical examination to differentiate types of incontinence. BST
3. List anatomical, neurological, dermatological, and endoscopic findings that differentiate various types of incontinence. HST
4. Identify and interpret anorectal physiology tests in the knowledge of the patient's history and physical findings. SPEC
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. SPEC
6. Describe a scoring system for faecal incontinence. SPEC

#### 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 BST
  - Medications
    - Antidiarrhoeals SPEC
    - Bulking agents SPEC
    - Stimulants SPEC
    - Suppositories SPEC
  - Enemas SPEC
  - Perineal skin care SPEC
  - Anal plug SPEC
2. Describe the indications, uses and results of biofeedback in the management of incontinence. SPEC
3. Discuss a treatment plan for a patient with faecal incontinence including any possible side effects. SPEC

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

## RECTAL PROLAPSE

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

1. Describe the incidence and epidemiology of rectal prolapse. BST
2. Describe the pathophysiology and associated anatomical findings of rectal prolapse together with its clinical presentation including functional disturbances and physical findings. BST
3. Differentiate between mucosal prolapse, prolapsing internal haemorrhoids, and rectal prolapse and describe the physical findings associated with rectal prolapse. BST
4. Describe the condition known as internal intussusception, together with its radiological findings and identify the treatment options. SPEC
5. Discuss the significance of constipation and incontinence in the management of rectal prolapse. SPEC
6. Outline the appropriate management of incarcerated and strangulated rectal prolapse. HST
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. SPEC
8. Describe the operative techniques of the following procedures:
  - Perineal operations
    - Perineal rectosigmoidectomy SPEC
    - Delorme's procedure SPEC
    - Thiersch band SPEC
  - Abdominal operations
    - Abdominal rectopexy with or without resection SPEC
    - Anterior resection SPEC
    - Laparoscopic approaches SPEC
9. Describe the evaluation and management of a patient with recurrent rectal prolapse. SPEC

## 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. HST
2. Describe the associated pelvic floor disorders and medical/surgical treatment options in a patient with solitary rectal ulcer. SPEC

## 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. BST
2. Define constipation and describe its epidemiology BST
3. Classify types and causes of constipation and outline differential diagnoses in a patient with constipation. BST
4. Take a directed history for a patient with constipation and perform a directed physical examination. BST
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 SPEC
  - Transit studies SPEC
  - Anorectal manometry SPEC
  - Electromyography (EMG) SPEC
  - Balloon expulsion SPEC
  - Contrast enema SPEC
  - Endoscopy SPEC
6. Identify the different types of laxatives and describe the indications, contraindications, modes of action, and complications of each:
  - Stimulant BST
  - Osmotic BST
  - Bulk-forming BST
  - Lubricant BST
7. Identify melanosis coli on endoscopy and discuss its significance. HST
8. Discuss a treatment program for a patient with constipation that may include the following:
  - Dietary measures BST
  - Fibre BST
  - Laxatives BST
  - Prokinetic medications HST
  - Enemas HST
  - Suppositories HST
  - Psychological support HST

## II. Specific Conditions: Outlet Obstruction

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

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

## 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. | SPEC |
| 2. Describe appropriate evaluation and management of a patient with recurrent constipation following TAC.                                | SPEC |
| 3. List common causative factors for colonic pseudo-obstruction.   | BST  |
| 4. Describe the appropriate evaluation of a patient with suspected colonic pseudo-obstruction.   | BST  |
| 5. Describe the medical and surgical management of a patient with colonic pseudo-obstruction.  | HST  |

## MISCELLANEOUS

### I. Irritable Bowel Syndrome

A. Trainees will be able to do the following:

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

- |                         |     |
|-------------------------|-----|
| • Diet                  | BST |
| • Fibre                 | BST |
| • Laxatives             | BST |
| • Anti-spasmodics       | BST |
| • Enemas                | BST |
| • Suppositories         | BST |
| • Psychological support | BST |

### II. Chronic Rectal Pain Syndromes

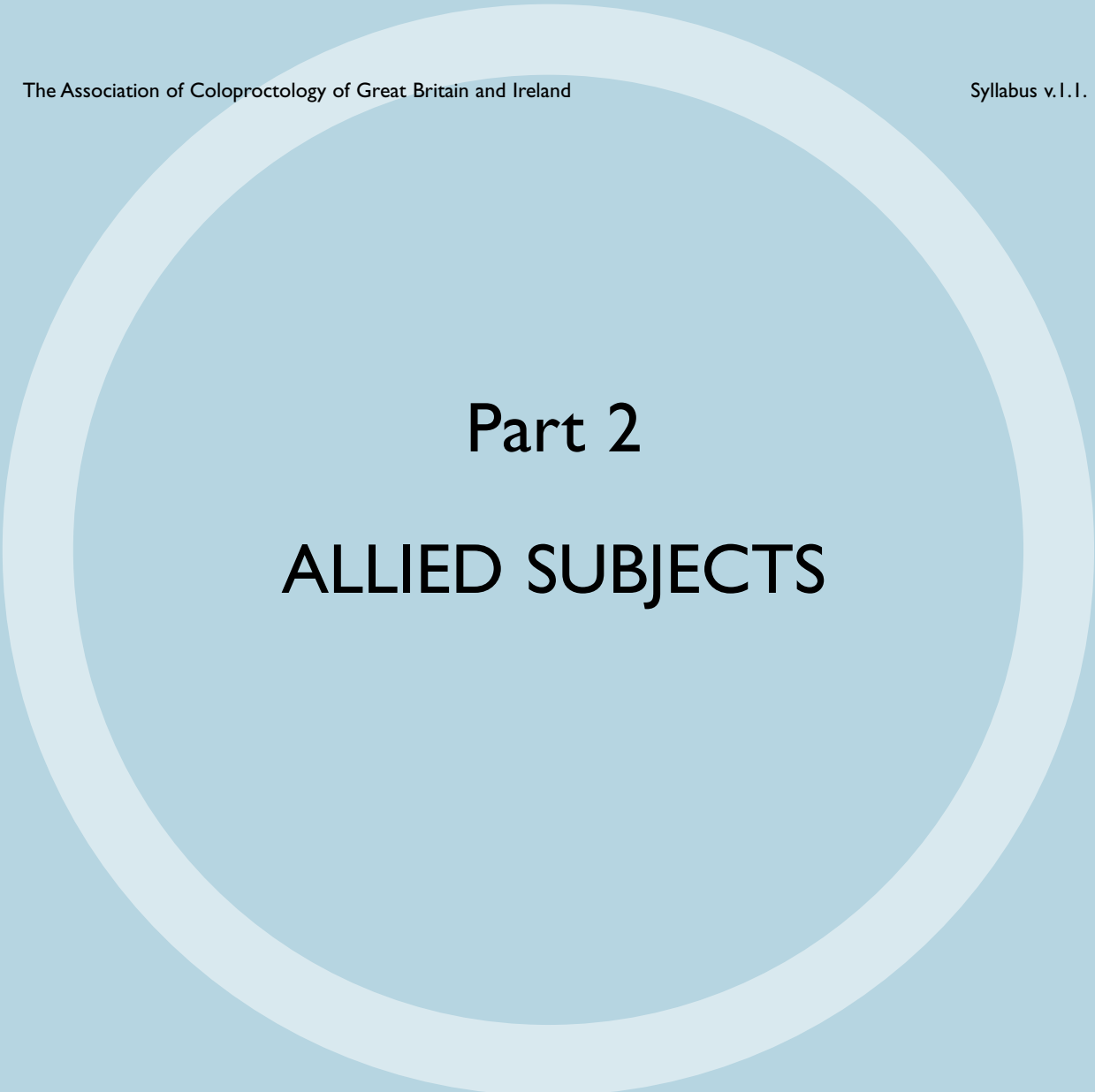
A. Trainees will be able to do the following:

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

- |                                  |      |
|----------------------------------|------|
| • Levator ani syndrome           | SPEC |
| • Proctalgia fugax               | SPEC |
| • Chronic idiopathic pelvic pain | SPEC |
| • Coccygodynia                   | SPEC |

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

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



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

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

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

- |                        |      |
|------------------------|------|
| • Perianal             | BST  |
| • Intersphincteric     | BST  |
| • Deep postanal        | SPEC |
| • Superficial postanal | SPEC |
| • Ischiorectal         | BST  |
| • Supralevator         | BST  |
| • Retrorectal          | SPEC |
| • Submucosal           | BST  |

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

- I. Pelvic floor muscles
  - Levator ani
    - Iliococcygeus SPEC
    - Pubococcygeus
    - Puborectalis SPEC
    - Obturator internus SPEC
    - Alcock's canal SPEC
  - Anorectal ring SPEC
  - Anococcygeal ligament SPEC
  - Rectovaginal septum SPEC
  - Components of the perineal body SPEC
  - Urogenital diaphragm SPEC
2. Innervation of pelvic floor BST
3. Blood supply to pelvis BST
4. Bony pelvis BST
5. Urogenital considerations
  - Bladder BST
  - Ureters BST
  - Uterus BST
  - Vagina BST
  - Ovaries BST
  - Prostate BST
  - Seminal vesicles BST
  - Sexual Function SPEC

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

- I. Muscles
  - Gluteus maximus SPEC
  - Piriformis SPEC
  - Gracilis SPEC
2. Pathway of sciatic nerve SPEC

## II. Colon and Small Bowel

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

- I. Colon: General considerations
  - Taenia coli BST
  - Appendices epiploicae BST
  - Vascular anatomy of colonic wall BST
2. Anatomical relationships of colonic segments BST

- |   |     |
|---|-----|
| 3. Blood supply   |     |
| • Ileocolic artery  | BST |
| • Right colic artery  | BST |
| • Middle colic artery   | BST |
| • Inferior mesenteric artery  | BST |
| • Variations  | BST |
| • Inferior mesenteric vein  | BST |
| • Marginal artery   | BST |
| 4. Lymphatic drainage   | BST |
| 5. Innervation  |     |
| • Sympathetic innervation   |     |
| - Sympathetic ganglia   | BST |
| - Splanchnic nerves   | BST |
| - Superior hypogastric plexus   | BST |
| - Inferior hypogastric plexus   | BST |
| • Parasympathetic innervation   |     |
| - Vagus nerve   | BST |
| - Sacral "outflow"  | BST |
| - Myenteric plexuses  | BST |
| <br>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   | BST |
| • Ileum   | BST |
| 2. Vascular anatomy   | BST |
| 3. Innervation  | BST |

## 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    | SPEC |
| • Rectal duplication  | SPEC |
| • Developmental cysts | SPEC |
| • Cloacal deformities | SPEC |

### 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:

I. Normal midgut rotation

- |                       |     |
|-----------------------|-----|
| • Duodenojejunal loop | HST |
| • Caecocolic loop     | HST |

2. Abnormalities of rotation

HST

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

- |                               |      |
|-------------------------------|------|
| • Proximal colon duplications | SPEC |
| • Meckel's diverticulum       | BST  |
| • Hirschprung's disease       | SPEC |

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

## II. Rigid Sigmoidoscopy

A. Trainees will be able to do the following

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

## III. Flexible Sigmoidoscopy

A. Trainees will be able to do the following:

- |                               |     |
|-------------------------------|-----|
| 1. List the indications       | BST |
| 2. List the contraindications | BST |

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

#### IV. Pouchoscopy

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

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

#### V. Colonoscopy

##### A. Trainees will be able to do the following

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

- |   |      |
|---|------|
| 8. Describe snare excision and discuss the complications and management of snare excision through the colonoscope | HST  |
| 9. Discuss the use of CO <sub>2</sub> insufflation during colonoscopy   | SPEC |

## VI. Patient Preparation

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

- |                           |      |
|---------------------------|------|
| 1. Proctoscopy            | BST  |
| 2. Rigid sigmoidoscopy    | BST  |
| 3. Flexible sigmoidoscopy | BST  |
| 4. Pouchoscopy            | SPEC |
| 5. Colonoscopy            | BST  |

## VII. Instrumentation

A. Trainees will describe instrument set up and use for the following examinations:

- |                           |     |
|---------------------------|-----|
| 1. Proctoscopy            | BST |
| 2. Rigid sigmoidoscopy    | BST |
| 3. Flexible sigmoidoscopy | HST |
| 4. Colonoscopy            | HST |

## VIII. Anaesthesia

A. Trainees will be able to do the following:

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

## IX. Special Considerations

A. Trainees will be able to do the following:

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

## 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                          | SPEC |
| • Tattooing                           | HST  |
| • Colonic stenting                    | SPEC |
| • Laser ablation                      | SPEC |
| • Saline injection for polypectomy    | HST  |
| • Reduction of volvulus               | BST  |
| • Decompression of pseudo-obstruction | BST  |
| • Control of lower GI bleeding        | BST  |
| • Argon beam plasma coagulation       | SPEC |
| • Endoscopic submucosal resection     | SPEC |
| • Dye spraying                        | SPEC |

#### 2. Describe the technique and management of complications for the following procedures:

- |                                       |      |
|---------------------------------------|------|
| • Dilatation                          | SPEC |
| • Tattooing                           | SPEC |
| • Colonic stenting                    | SPEC |
| • Laser ablation                      | SPEC |
| • Reduction of volvulus               | HST  |
| • Decompression of pseudo-obstruction | HST  |
| • Control of lower GI bleeding        | HST  |
| • Argon beam plasma coagulation       | SPEC |
| • Endoscopic submucosal resection     | SPEC |
| • Dye spraying                        | SPEC |

# LAPAROSCOPY

**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. SPEC
2. Discuss the equipment and its set up, patient positioning, and instrumentation for the performance of a laparoscopic colorectal procedure. SPEC
3. Discuss the physiologic impact of laparoscopic surgery as it relates to cardiovascular, respiratory, and immunologic function. SPEC

## 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 SPEC
  - Malignant SPEC

## 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. BST
2. Discuss the prevention, identification, and management of complications occurring during laparoscopic surgery in relation to specific conditions and procedures. SPEC

## 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 SPEC
  - Segmental colectomy SPEC
  - Left hemicolectomy/sigmoid resection SPEC
  - Subtotal colectomy SPEC
  - Anterior/low anterior resection SPEC
  - Abdominoperineal resection SPEC
  - Ostomy creation and closure HST
  - Rectopexy SPEC
  - Diagnostic laparoscopy with or without biopsy, liver biopsy, and lysis of adhesions HST
2. Discuss the clinical situations and indications for conversion from laparoscopic to open procedures. HST

## V. Special Considerations

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

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

# 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 | SPEC |
| 2. Associated congenital anomalies  |      |
| • Clinical presentations  | SPEC |
| • Delayed passage of meconium   | SPEC |
| • Intestinal obstruction  | SPEC |
| • Necrotising enterocolitis   | SPEC |
| • Megacolon   | SPEC |
| • Chronic constipation  | SPEC |
| 3. Making the diagnosis of Hirschsprung's disease                                 |      |
| • History and physical examination  | SPEC |
| • Imaging studies   | SPEC |
| • Anorectal manometry   | SPEC |
| • Rectal biopsy   | SPEC |
| 4. Differential diagnosis   | SPEC |
| 5. Medical management   | SPEC |
| 6. Surgical management  | SPEC |
| 7. Special considerations   |      |
| • Total colonic aganglionosis   | SPEC |
| • Total intestinal aganglionosis  | SPEC |
| • Short-segment Hirschsprung's disease  | SPEC |
| • Neuronal intestinal dysplasia   | SPEC |
| • Adult Hirschsprung's disease  | SPEC |

## II. Anorectal Malformations (Imperforate Anus)

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

- |   |      |
|---|------|
| 1. The incidence, aetiology, and classification | SPEC |
| 2. Specific defects                             |      |
| • Cutaneous fistula                             | SPEC |
| • Anal stenosis                                 | SPEC |
| • Rectourethral fistula                         | SPEC |
| • Rectovesical fistula                          | SPEC |
| • Rectal atresia                                | SPEC |
| • Vaginal fistula                               | SPEC |
| • Vestibular fistula                            | SPEC |

- Anorectal agenesis without fistula SPEC
  - Cloaca SPEC
3. Associated abnormalities
- Spinal/sacral SPEC
  - Urogenital SPEC
  - Cardiovascular SPEC
  - Sacrococcygeal teratoma SPEC
4. Diagnosis
- Physical findings SPEC
  - Imaging studies SPEC
5. Management
- Diversion SPEC
  - Posterior sagittal anorectoplasty SPEC
6. Management of incontinence

### III. Other Paediatric Disorders

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

1. Constipation/encopresis SPEC
2. Rectal prolapse SPEC
3. Anal fissure BST
4. Meckel's diverticulum HST
5. Polyposis syndromes SPEC
6. Intussusception SPEC
7. Necrotising enterocolitis SPEC
8. Malrotation SPEC
9. Sexual abuse
  - Physical findings SPEC
  - Condyloma acuminata SPEC

# 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:

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

## II. Physiologic Tests

A. Trainees will be able to do the following:

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

## 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.

SPEC

### 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)
- Cap versus balloon

SPEC

SPEC

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)
- Anal cancer (staging, surveillance)
- Anal fistula/abscess (peroxide enhancement)
- Pain

SPEC

SPEC

SPEC

SPEC

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)
- Retrorectal lesions (cyst, tumour)
- Perirectal abscess

SPEC

SPEC

SPEC

# 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. BST
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) BST
  - Small-bowel obstruction BST
  - Large-bowel obstruction BST
  - Critical caecal distension BST
  - Appendicolith BST
  - Caecal volvulus BST
  - Sigmoid volvulus BST
  - Toxic megacolon BST
  - Ischaemic colitis (thumbprinting) BST
  - IBD-associated changes (ankylosing spondylitis, sacroileitis) BST
  - Rectal foreign body (biplanar) BST
  - Retroperitoneal/mediastinal air (chest and abdominal films) HST
  - Synergistic infection (subcutaneous, subfascial gas) HST
  - Mesenteric infarction (air in biliary tree) HST
  - Chordoma (sacral destruction) SPEC
  - Gardner's syndrome (mandibular osteoma) SPEC
  - Imperforate anus ("invertogram") SPEC
  - Meningomyelocele ("scimitar") SPEC

## II. Contrast Studies

A. Trainees will be able to do the following:

1. Describe the performance of contrast radiographic examinations. BST
2. List the indications for and recognise the critical findings in the following conditions as seen on barium enema:
  - Carcinoma ("apple core") BST
  - Diverticulosis BST
  - Ulcerative colitis (chronic changes, backwash ileitis, stricture) BST
  - Crohn's disease (colitis, recurrence at ileocolic anastomosis) BST
  - Ischaemic colitis (thumbprinting, stricture) BST
  - Sigmoid volvulus BST
  - Caecal volvulus BST
  - Lipoma of colon BST
  - Lymphoma SPEC
  - Ileal pouch SPEC
  - Ileocolic intussusception HST
  - Acquired megacolon SPEC
  - Barium perforation (rectum and colon) HST

- Colonic fistula SPEC
  - Hirschsprung's disease SPEC
3. Recognise the critical findings in the following conditions as seen in water-soluble contrast radiographic studies:
- Anastomotic leak BST
  - Obstruction BST
  - Pseudo-obstruction HST
  - Diverticulitis HST
4. Recognise the critical findings in the following conditions as seen in small bowel contrast studies:
- Upper GI series
    - Duodenal Crohn's disease HST
    - SMA syndrome HST
  - Single contrast, small bowel follow-through
    - Crohn's disease small bowel HST
    - Crohn's disease with enteric fistula HST
    - Jejunal diverticular disease HST
    - Peutz-Jeghers polyposis HST
    - Malrotation HST
5. List the indications for and describe the performance of endoscopic retrograde cholangiopancreatography (ERCP) studies.
- Sclerosing cholangitis HST
  - Cholangiocarcinoma HST

### III. Abdominal Ultrasound

A. Trainees will be able to do the following:

1. Describe the performance of Abdominal Ultrasound BST
2. List the indications for and recognise critical findings of the following conditions:
- Diverticulitis (abscess) BST
  - Hepatic metastasis/abscess BST
  - Ileal Crohn's disease abscess HST
  - Appendicitis HST
  - Ovarian/ pelvic disease HST

### IV. Computed Tomography

A. Trainees will be able to do the following:

1. Describe the performance of computed tomography (CT). BST
2. List the indications for and recognise critical findings of abdominal CT in the following conditions:
- Colorectal carcinoma (staging) HST
  - Postoperative intra-abdominal sepsis (leak/abscess) HST
  - Diverticulitis (abscess colovesical fistula) HST
  - Hepatic metastasis/abscess HST
  - Ileal Crohn's disease (psoas abscess) HST
  - Appendicitis HST
  - Desmoid tumor: abdominal wall SPEC
  - Graft pseudoaneurysm with aortoenteric fistula HST

3. List the indications for and recognise the critical findings of pelvic CT in the following conditions:
- Carcinoma of the rectum (staging) SPEC
  - Pelvic abscess HST
  - Chordoma SPEC
  - Developmental cyst SPEC
  - Cancer of prostate invading rectum SPEC
  - Supralevator abscess SPEC
  - Hemangioma of rectum SPEC

## V. Nuclear Medicine Scans

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

1. Describe the performance of nuclear medicine scans. BST
2. List the indications for and recognise the critical findings in the following conditions as seen with isotope studies:
  - Meckel's scan BST
  - Bleeding scans
    - Tc sulfacolloid HST
    - Tagged red blood cell (RBC) HST
3. Carcinoembryonic antigen (CEA) scan SPEC
4. Indium-labeled white blood cell (WBC) scan SPEC
5. Gallium scan SPEC

## VI. Angiography

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

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

## VII. Dynamic Proctography

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

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

## VIII. Magnetic Resonance Imaging

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

- |  |      |
|--|------|
| 1. Describe the performance of magnetic resonance imaging (MRI) examinations                                 | BST  |
| 2. List the indications for and recognise critical findings of MRI examinations in the following conditions: |      |
| • Fistula in ano   | SPEC |
| • Rectal cancer  | SPEC |
| • Presacral cysts and tumors   | SPEC |

## 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  | SPEC |
| • Recurrence of cancer   | SPEC |

## 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):

- |                          |     |
|--------------------------|-----|
| 1. Venous duplex scans   | HST |
| 2. VQ scans              | HST |
| 3. Pulmonary Angiography | HST |

## XI. Fistulograms and Sinograms

### A. Trainees will be able to list the indications for, describe the performance of, and recognise the critical findings in fistulograms and sinograms performed for the evaluation of chronic perianal suppurative disease.

HST

# 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  | BST  |
| 2. Infective Conditions:                           |      |
| • Human papillomavirus (HPV)                       | SPEC |
| • Anal herpes                                      | SPEC |
| • Condyloma accuminata                             | BST  |
| • Hidradenitis suppurativa                         | BST  |
| • HIV associated anal ulcer                        | SPEC |
| 3. Neoplastic Conditions:                          |      |
| • AIN (Bowen's disease)                            | SPEC |
| • Paget's disease                                  | SPEC |
| • Basal cell carcinoma                             | BST  |
| • Squamous cells carcinoma-anal canal, anal margin | BST  |
| • Malignant Melanoma                               | BST  |
| • Kaposi's sarcoma                                 | SPEC |
| • Buschke-Lowenstein tumour                        | SPEC |
| 4. Inflammatory Conditions:                        |      |
| • Crohn's disease                                  | BST  |
| 5. Dermatoses                                      |      |
| • Psoriasis  | BST  |
| • Contact dermatitis                               | BST  |

## 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                                    | BST  |
| 2. Hyperplastic polyp                        | HST  |
| 3. Neoplasia                                 |      |
| • Adenoma                                    | BST  |
| • Tubular adenoma                            | BST  |
| • Villous adenoma                            | BST  |
| • Tubulovillous adenoma                      | BST  |
| • Serrated Adenoma                           | SPEC |
| • Flat Adenoma                               | SPEC |
| • Malignant polyp and Haggitt classification | SPEC |

4. Carcinoma	
• Mechanisms of spread-direct local, lymphatic, vascular	BST
• Adenocarcinoma	BST
• Staging Dukes and TNM	BST
• Minimum Data Set.	SPEC
• Significance of grading	BST
• Malignant ascites (cytology)	BST
• Familial adenomatous polyposis (including desmoids and upper GI tumours)	SPEC
• Carcinoid	BST
5. Other Neoplastic Conditions	
• Lymphoma	BST
• Sarcoma	SPEC
• Gastrointestinal stromal tumour	SPEC
• Chordoma	SPEC
• Liposarcoma	SPEC
• Osteosarcoma	SPEC
• Understand the indications and limitations of Frozen Sections and Cytology	SPEC
6. Inflammation	
• Ulcerative colitis (pseudopolyp, stricture, toxic dilatation)	BST
• Crohn's disease (aphthous ulcer)	BST
• Pouchitis	SPEC
• Infectious colitis (amoebic, tubercular, pseudomembranous)	BST
• Ischaemic colitis	BST
• Solitary rectal ulcer	SPEC
• Microscopic colitis	SPEC
• Cytomegalovirus (CMV) colitis	SPEC
7. Miscellaneous Conditions	
• Amyloid	SPEC
• Endometriosis	SPEC
• Lipoma	SPEC
• Pneumatosis cystoides intestinalis	SPEC
• Meckel's diverticulum with ectopic mucosa	BST
• Vascular ectasia	HST
• Melanosis coli	HST
• Hirschsprung's disease	SPEC

### III. Miscellaneous

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

1. Developmental cysts (epidermoid, dermoid, teratoma)	SPEC
2. Erythema nodosum	BST
3. Pyoderma gangrenosum	BST
4. Sclerosing cholangitis	HST
5. Cholangiocarcinoma	HST

# 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:

- I. Doctor-patient relationships
  - Primary care vs secondary care BST
  - Doctors in diagnostic and support services BST
    - i) Radiology
    - ii) Pathology
    - iii) Chemistry
    - iv) Microbiology
    - v) Endoscopy
  - Confidentiality BST
2. Consent
  - When should consent be obtained BST
  - Who should obtain consent BST
  - What information should be given BST
  - What risks should be discussed BST
  - Withdrawal of consent BST
  - Documenting consent BST
3. Communicating bad news
  - Applying principles of effective communication BST
  - Adapting communication style to the needs of the listener BST
  - Using appropriate balance between giving false hope and removal of all hope BST
4. Addressing ethical issues surrounding death
  - Do not resuscitate (DNR) HST
  - Advanced directives (Living Wills) HST
  - Withdrawal of life support HST
  - Withholding life support/care HST
  - Futile care HST
5. Patient complaints
  - Responding to patient questions HST
6. Interprofessional relationships
  - With General Practitioner BST
  - With other hospital consultants BST
  - With nursing staff BST
  - With other health care professionals BST

7.New technology

- When does technology become standard of care? HST
- Issue of genetics
  - Confidentiality HST
  - Counseling HST
- Availability of technology HST
- Personal competency BST

## 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  | SPEC |
| 2. Endoscopy   | SPEC |
| 3. Radiology (ultrasound, CT, MR, angiography, video proctography, contrast radiology)             | SPEC |
| 4. Nuclear Medicine  | SPEC |
| 5. Oncology  | SPEC |
| 6. Pathology   | SPEC |
| 7. Outpatient services   | SPEC |
| 8. Day case surgery  | SPEC |
| 9. Operating theatre facilities  | SPEC |
| 10. Emergency facilities   | SPEC |
| 11. Record facilities  | SPEC |
| 12. Stoma care   | SPEC |
| 13. Nurse practitioners  | SPEC |
| 14. Screening  | SPEC |
| 15. Patient information  | SPEC |
| B. Trainees will be able to identify and discuss issues relating to consultant practice including: |      |
| 1. Appraisal   | SPEC |
| 2. Job plans   | SPEC |
| 3. Continuing medical education  | SPEC |
| 4. Clinical governance and audit (unit and personal)   | SPEC |
| 5. Requirements for colorectal training unit status  | SPEC |
| 6. Requirements for colorectal cancer unit status  | SPEC |

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

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

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)                          | SPEC |
| 2. Describe how legislation and government agencies have impact on the practice of medicine.             | SPEC |
| 3. Discuss the roles of national, regional, and local professional medical organisations.                | SPEC |
| 4. Describe the structure and function of the Association of Coloproctology of Great Britain and Ireland | SPEC |
| 5. Discuss the structure and function of Trust management and Clinical Directorates.                     | SPEC |
| 6. Discuss and describe current national trials facilities   | SPEC |

# PRESENTATION SKILLS

**GOAL:** Following completion of appropriate training in colon and rectal surgery Trainees will be able to deliver an effective medical presentation

## I. Preparation of a Presentation

A. Trainees will be able to formulate an appropriate plan for organising a medical presentation including, but not limited to, the following points:

- |  |     |
|--|-----|
| 1. Defining the target audience  | BST |
| 2. Determining a presentation format   | BST |
| 3. Developing an outline for a presentation  | BST |
| 4. Developing effective content with use of the following elements when appropriate: |     |
| • Introduction   | BST |
| • Goals/aims/hypotheses  | BST |
| • Methods  | BST |
| • Results  | BST |
| • Discussion   | BST |
| • Summary/conclusions  | BST |
| • Statistical methods  | BST |

## II. Preparation of Audiovisuals

A. Trainees will demonstrate an understanding of the following aspects of audiovisual development:

- |  |     |
|--|-----|
| 1. Slide construction  |     |
| • Appropriate fonts and size   | BST |
| • Appropriate backgrounds  | BST |
| • Appropriate use of colour  | BST |
| • Appropriate volume of information on each slide  | BST |
| 2. Video preparation   |     |
| • Clarity of subject   | BST |
| • Use of action  | BST |
| 3. Computer-assisted presentations   |     |
| • Coordination of equipment needs  | BST |
| • Appropriate use of multimedia  | BST |
| 4. Poster presentations  |     |
| • Appropriate creation of a poster presentation  | BST |
| • Describe differences in the preparation of a poster presentation compared to an oral presentation. | BST |

### III. Delivery of a Presentation

A. Trainees will be able to describe the following elements in the delivery of an effective medical presentation:

1. Physical presence and posture
  - Use of body language and gestures BST
  - Voice modulation BST
  - Eye contact BST
  - Facial expressions BST
2. Appropriate use of lecture aids BST
3. Controlling nervousness
  - Practicing the presentation BST
  - Knowledge of material BST
  - Stress-management techniques BST



**Part 3**

**COMPETENCIES**

COMPETENCY	CODE	COMMENT	GRADE
<b>Consent</b>			
Principles of obtaining Informed Consent			BST
<b>Benign Anorectal</b>			
Injection of haemorrhoids	H5230		BST
Banding of Haemorrhoids	H5240		BST
Infra red coagulation			BST
Haemorrhoidectomy	H5100		HST
Excision of lesion of anus	H4800		HST
Lateral sphincterotomy	H5620		HST
Drainage through perineal region	H5800		BST
Lay open low fistula	H5510	INDEX CASE	HST
Lay open high fistula <i>Drainage Seton</i> <i>Cutting Seton</i> <i>Advancement flap</i>	H5520	INDEX CASE	SPECIALIST
Rectovaginal fistula			SPECIALIST
Laying open pilonidal sinus	H6020		BST
Excision and suture pilonidal sinus	H5940		BST
<b>Benign Colon</b>			
Excision of left hemicolon	H0900		HST
Excision of sigmoid colon (Hartmann's)	H1000		HST
Reversal of Hartmann's	H3390		SPECIALIST
Operation for intestinal fistula			SPECIALIST

COMPETENCY	CODE	COMMENT	GRADE
<b>Colorectal Cancer</b>			
Anterior Resection of Rectum (Colonic Pouch & Coloanal Anastomosis)	H3330	INDEX CASE	SPECIALIST
AP resection of rectum and anus	H3320		SPECIALIST
Open excision of lesion of rectum	H3400		SPECIALIST
Transanal resection for rectal cancer	H4000		SPECIALIST
Peranal excision of lesion of rectum	H4130		SPECIALIST
Transanal microsurgery			SPECIALIST
Posterior approach rectum			SPECIALIST
Posterior pelvic clearance			SPECIALIST
Reoperation pelvic malignancy			SPECIALIST
Excision of transverse colon	H0800		HST
Excision of Right Hemicolon	H0700		HST
Excision of Left hemicolon	H0900		HST
Excision of Sigmoid colon (Hartmann's)	H1000		HST
<b>Inflammatory Bowel Disease</b>			
Subtotal Colectomy & Ileostomy			HST
Panproctocolectomy and ileostomy	H0410		SPECIALIST
Total Excision of Colon and Ileorectal anastomosis	H0510		SPECIALIST
Ileoanal anastomosis and creation of pouch	G7250		SPECIALIST
Small bowel resection	G5810		HST
Strictureplasty - Crohns			SPECIALIST
Ileocaecectomy - Crohns			SPECIALIST
Reoperation IBD			SPECIALIST

	<b>COMPETENCY</b>	<b>CODE</b>	<b>COMMENT</b>	<b>GRADE</b>
<b>Stomas</b>				
	Ileostomy construction including revision	G7400		HST
	Attention to ileostomy	G7500		HST
	Closure of ileostomy	G7530		HST
	Parastomal hernia repair			SPECIALIST
	Colostomy construction including revision	H1590		HST
	Closure of colostomy	H1580		HST
	Laparoscopic Colostomy	H1581		SPECIALIST
	Primary repair of incisional hernia	T2500		HST
<b>Functional Disorders</b>				
	Repair of anal sphincter	H5020		SPECIALIST
	Perineal repair of prolapse of rectum	H4200	INDEX CASE	SPECIALIST
	Partial excision of rectum and sigmoid colon for prolapse	H3380	INDEX CASE	SPECIALIST
	Fixation of rectum for prolapse	H3500	INDEX CASE	SPECIALIST
	Laparoscopic Rectopexy	H3580	INDEX CASE	SPECIALIST
	Total Excision of Colon and Ileorectal anastomosis for Constipation	H0510		SPECIALIST

COMPETENCY	CODE	COMMENT	GRADE
<b>Endoscopy</b> Trainees will be able to demonstrate equipment assembly, preparation and performance of the following procedures:-			
Proctoscopy			BST
Rigid Sigmoidoscopy and biopsy	H2510		BST
Fibreoptic sigmoidoscopy, and biopsy and snare excision	H2500		HST
Fibreoptic colonoscopy and biopsy and snare excision	H2000	INDEX CASE	HST
Fibreoptic pouchoscopy and biopsy and snare excision			SPECIALIST
Endoscopic dilatation, tattooing, stenting, laser ablation, argon beam coagulation, dye spraying, endoscopic mucosal resection			SPECIALIST
Safe technique for patient monitoring and sedation			HST
<b>Laparoscopy</b> Trainees will be able to demonstrate equipment set up, patient positioning, port-site placement and instrumentation for the following procedures:-			
Right hemicolectomy/ Ileocolic resection			SPECIALIST
Left hemicolectomy / sigmoid resection			SPECIALIST
Subtotal colectomy			SPECIALIST
Anterior resection			SPECIALIST
Abdoperineal resection			SPECIALIST
Stoma creation and closure			SPECIALIST
Rectopexy			SPECIALIST
Diagnostic laparoscopy, with or without biopsy, liver biopsy and lysis of adhesions			HST

<b>COMPETENCY</b>	<b>CODE</b>	<b>COMMENT</b>	<b>GRADE</b>
<b>Presentation Skills</b>			
Create and deliver presentation with appropriate audiovisual equipment			BST