Post - Doctoral Fellowship Programme in Colorectal Surgery

Syllabus

Contents

DURATION OF THE COURSE : **ONE YEAR**

PART 1- COLON AND RECTAL SURGERY

1.1 Benign Anorectal

1. Haemorrhoids
2. Anal Fissure
3. Abscess/Fistula
4. Pilonidal
5. Hidradenitis Suppurativa
6. Anal Stenosis
7. Anaesthesia
8. Pruritis Ani
9. Sexually Transmitted Diseases
10. Benign Colon
11. Diverticular Disease
12. Volvulus
13. Rectal Bleeding
14. Massive Lower GI Bleeding
15. Vascular Malformation
16. Endometriosis
17. Colorectal Trauma
18. Foreign Bodies
19. Colitis Cystica Profunda

1.2 Colorectal Neoplasia

1. Colorectal Cancer
2. Rectal Cancer
3. Anal Neoplasia

4. Presacral Tumour

1.3 Inflammatory Bowel Disease

1. Ulcerative Colitis
2. Crohn's Disease
3. Other Inflammatory Conditions

1.4 Stomas

1.5 Functional Disorders

1. Faecal Incontinence
2. Rectal Prolapse
3. Solitary Rectal Ulcer
4. Constipation
5. Miscellaneous

PART 2 - ALLIED SUBJECTS

2.1 Anatomy and Embryology

1. Anorectal
2. Colon and Small Bowel

2.2 Endoscopy

1. Proctoscopy
2. Rigid sigmoidoscopy
3. Flexible Sigmoidoscopy
4. Pouchoscopy
5. Colonoscopy

2.3 Patient Preparation

2.4 Instrumentation

2.5 Anaesthesia

2.6 Advanced Techniques

1. Laparoscopy
2. General Considerations
3. Indications and Contraindications
4. Complications

5. Procedures

2.7 Physiology

1. Normal Defaecation
2. Physiologic Tests
3. Investigations
4. Radiology
5. Plain films
6. Contrast studies
7. Fistulograms and sinograms
8. Abdominal ultrasound
9. Computed Tomography
10. Nuclear Medicine Scans
11. Angiography
12. Dynamic Proctography
13. Magnetic Resonance Imaging
14. Positron Emission Tomography
15. Evaluation of DVT/PE
16. Endoanal/ Endorectal Ultrasound
    i Anatomy
    ii Technical

2.8 Pathology

i. Anus and Anal
ii. Small Intestine, Colon and Rectum

2.9 Miscellaneous

ι. Ethics
ιι. Socioeconomics

PART 1-

COLON AND 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.*

1.Haemorrhoids

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

1.Describe proposed aetiologies of internal and external haemorrhoids

2.Describe the anatomical distinctions between internal and external haemorrhoids.

3.Describe the classifications for internal haemorrhoids.

4.Describe the signs and symptoms of the following:

- Thrombosed external haemorrhoids
- Internal haemorrhoids by stage
- Skin tags

5. Describe the indications, contraindications, and complications of nonoperative management of haemorrhoids.

- Topical applications
- Stool modifications/softeners

6. Describe the indications, contraindications, complications and technique of the following:

- Rubber-band ligation
- Injection sclerotherapy
- Infrared coagulation
- Excisional haemorrhoidectomy
- Haemorrhoidal artery ligation
- Stapled haemorrhoidopexy

2. Anal Fissure

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

1. Describe the proposed aetiologies of anal fissure

2. Describe the anatomical location of a classic anal fissure

3. Describe the signs and symptoms of anal fissure

4. Describe the, including indications, contraindications and complications of non-operative management of anal fissure

5. Describe the Indications, contraindications, operative technique and complications of operative management of anal fissure

- lateral internal sphincterotomy
- anal advancement flap

3. Abscess and Fistula

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

1. Describe the origin of cryptoglandular abscess and fistula
2. Describe the classification of anorectal cryptoglandular abscess-based on anatomical spaces
3. Describe the Parks classification of anal fistula
4. Describe the natural history of surgically-treated anal abscess, including the risk of fistula formation
5. Describe the operative strategy for anal fistula based on sphincter Involvement / location
6. Describe the complications resulting from abscess/fistula surgery
- Recurrence
- incontinence

7. Differentiate cryptoglandular abscess and fistula from other causes
8. Describe the assessment of abscess/fistula by techniques designed to elucidate pathological anatomy
- digital examination
- Goodsall's rule
- Fistulogram
- Injections
- MRI
- endoanal ultrasound

9. Describe the preoperative management of anorectal abscess
10. Describe the postoperative management of anorectal abscess
11. Describe the treatment options and appropriate procedure based on anatomical spaces
- Laying open
- Drainage seton
- Cutting seton
- Advancement flap
- Fibrin glue
- Fistula plug

12. Describe the operative techniques for low and high fistula-in-ano
- Laying open
- Drainage seton
- Cutting seton
- LIFT and VAAFT

13. Describe Modification of therapy for associated conditions
- Inflammatory bowel disease

14. Describe the Classification evaluation and treatment of recto-vaginal fistula

4. **Hidradenitis Suppurativa**

A. Trainees in colon and rectal surgery will be able to do the following
1. Describe the pathophysiology, symptoms, non-operative management, and operative management of hidradenitis suppurativa

5. **Pilonidal Sinus**

A. Trainees in colon and rectal surgery will be able to do the following
1. Describe the pathophysiology, symptoms, non-operative management, and operative management of pilonidal disease

6. **Anal Stenosis**

A. Trainees in colon and rectal surgery will be able to do the following
1. Describe the aetiology,symptoms, non-operative management, and operative managementof anal stenosis

7. **Pruritis Ani**

A. Trainees in colon and rectal surgery will be able to do the following
1. Describe the aetiology symptoms,and managementof pruritus ani.

DIVERTICULAR DISEASE

I. Pathophysiology

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.

2. Describe appropriate diagnostic studies and their sequence in the evaluation of both acute and chronic colonic diverticular disease.

III. Treatment

A. Trainees will be able to do the following:
1.Discuss the medical and dietary management of colonic diverticular disease.
2.Describe the appropriate medical management for acute diverticulitis including the criteria for inpatient versus outpatient care.
3.Discuss the preoperative assessment and the indications for surgery, surgical procedures, and complications for acute diverticulitis.
4. Discuss the role of laparoscopy in the management of perforated diverticular disease.
5.Describe the appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis.
6.Describe the surgical procedures for dealing with complications (fistula, stricture, recurrent episodes) of acute diverticulitis.
7. Describe the techniques for an appropriate resection for diverticular disease including the extent of resection, use of ureteral stents, and indications for diversion.
8. Describe patient selection and the techniques for appropriate reversal of Hartmann's procedure including the use of ureteral stents, and indications for diversion.

VOLVULUS

I. Pathophysiology
A. Trainees will able to do the following:
1. Describe the aetiologies of volvulus of the colon.
2. Discuss the incidence and epidemiology of volvulus of the colon

II. Clinical Manifestations

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.
2. Describe appropriate surgical and endoscopic procedures for colonic volvulus based upon its site and indication for surgery

RECTAL BLEEDING

I. General Considerations

A. Trainees will be able to do the following:
1. List the possible aetiologies of lower GI bleeding.
2. Describe the appropriate evaluation of the patient based upon the patient's age and other medical Conditions

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
2. List the possible aetiologies of massive lower GI bleeding.
3.Outline an algorithm for the evaluation of lower GI bleeding including:
- Upper Gastrointestinal Endoscopy
- Colonoscopy
- Selective Mesenteric Angiography
- CT angiography
- On Table Colonoscopy with Antegrade Lavage

II. Treatment
A. Trainees will be able to do the following:
1.Describe the angiographic treatment of lower GI bleeding
2.Describe endoscopic treatment of lower GI bleeding including coagulation, injection therapy, and laser ablation.
3.Describe the indications for surgery, appropriate surgical procedures, and their possible complications based upon cause, location, patient age, and medical condition.

II. Special Considerations
A. Trainees will be able to do the following:

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

VASCULAR MALFORMATIONS

I. Angiodysplasia

A. Trainees will be able to do the following:
1. Discuss the aetiology of angiodysplasia.
2. Describe the clinical presentation and endoscopic findings of angiodysplasia.
3. Discuss indications for intervention, and the operative and nonoperative management of angiodysplasia.

II. Haemangioma

ENDOMETRIOSIS

A. Trainees will be able to do the following:
1. Discuss the pathophysiology of endometriosis.
2. Describe the clinical presentation and endoscopic and laparoscopic findings of endometriosis.
3. Discuss indications for intervention and the operative and nonoperative management of endometriosis.

COLORECTAL TRAUMA
FOREIGN BODIES

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

II. Aetiology

III. Colorectal Cancer Screening

IV. Clinical Presentation
V. Staging and Prognostic Factors

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.
2. Describe the indications and contraindications, operative technique, pre- and postoperative care, outcomes and the complications of colon cancer.
3 Describe the following operations in the management of Colon cancer:
- Segmental resection
- En-bloc resections of adjacent organs
- Extended resections to include total abdominal colectomy
  Total proctocolectomy with IPAA
- Stomas/mucous fistula/Hartmann's procedure

4. Discuss special considerations in the operative management of Colon cancer:
- Ureteric stenting
- Oophorectomy
- Colonic stents
- Pregnancy
- On-table lavage
- Perforation
- Synchronous lesions

5. Discuss the rationale and indications for the use of adjuvant chemotherapy

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
--Kraske trans-sacral
--York-Mason trans-sphincteric

--Transanal endoscopic microsurgery (TEM)
--Transanal resection of tumour (TART)

• Sphincter-sparing resections
--High Anterior resection (above the peritoneal reflection)
--Low Anterior resection (below the peritoneal reflection)
--Total mesorectal excision
--Coloanal anastomosis with or without colonic J pouch
- Intersphincteric resection with coloanal anastomosis
• Abdomino-perineal resection
• Pelvic exenteration
2. Discuss the use of current preoperative staging techniques and the role of:-
• Preoperative radiotherapy
• Postoperative radiotherapy
3. Discuss the rationale and indications for the use of adjuvant chemoradiotherapy.

Chemotherapy
Knowledge should include:
(1) Classes of drugs
(2) Mechanisms of action
(3) Toxicities
(4) Combination therapy and available protocols

Radiation therapy
(1) Applied physics and technology
(2) Mechanism of action
(3) Toxicity
(4) Combination protocols with chemotherapy

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

IX. Pain Management

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
• Ileal
• Colonic
• Rectal
2. Lymphoma
• Classification
• Treatment
• Risk factors
3.Gastrointestinal Stromal Tumours
4. Tumours metastasising to the colon

ANAL NEOPLASIA

I. General Considerations

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

II. Anal Canal Neoplasia

A. Trainees will be able to discuss the histology, biology and treatment of anal canal malignancies including the following:
1.Epidermoid carcinoma
• Treatment based on stage
2. Other anal canal malignancies
• Adenocarcinoma (including anal gland & within fistulae)
• Small cell cancer
• Melanoma

III. Anal Margin Neoplasia

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

1.Squamous cell carcinoma

• Clinical features - including Giant verrucous Tumour (Buschke-Löwenstein)

• Differential diagnosis

• Surgical Management

2. Basal cell carcinoma

3. Bowen's disease

4. Paget's disease

5. Giant verrucous Tumour (Buschke-Löwenstein)

PRESACRAL LESION

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

1. Congenital lesions

• Epidermoid cysts

• Teratoma

• Anterior sacral meningocoele

• Rectal duplication cysts

2. Neoplastic lesions

• Osseous

--Ewing's sarcoma

--Giant-cell Tumour

• Chordoma

• Neurogenic

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

II. Aetiology

III. Epidemiology

IV. Clinical Manifestations

V. Differential Diagnosis

ULCERATIVE COLITIS

I. Medical Management

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.

III. Surgical Management

A. Trainees will be able to describe the following:

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

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

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
- TPC with ileal pouch anal anastomosis (IPAA)

(double staple versus mucosectomy)

- Total colectomy

--With ileorectal anastomosis

--With ileostomy and rectal preservation (stump/mucous fistula)

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

IV. Postoperative Management

CROHN'S DISEASE
I. Medical Management

II. Cancer

III. Complications

IV. Surgical Management
A. Trainees will be able to do the following:
1. Describe the indications for surgery for Crohn's disease including:
• Intractability
• Intestinal Obstruction
• Fistula/ Abscess
• Complications refractory to or not amenable to medical therapy
• Complications of extra-intestinal manifestations or of medications
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
• Segmental colectomy
• Small-bowel resection
• Total colectomy
--With ileorectal anastomosis
--With ileostomy and rectal preservation (stump/mucous fistula)
• Ileocolic resection
• Strictureplasty
• Duodenal Bypass
• Fistulae
• Abdominal fistula/abscess

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
• Recto-vaginal fistula
• Fissure
• Stricture
• Ulceration
• Incontinence

- Abscess
- Skin tags
- Haemorrhoids

OTHER INFLAMMATORY CONDITIONS
I. Ischaemic Colitis

II. Radiation Bowel Disease

III. Miscellaneous Colitis
A. Trainees will be able to do the following:
1. Discuss the aetiology, clinical presentation, evaluation and therapeutic options for the following:
- Diversion colitis
- Neutropenic enterocolitis
- Collagen-Vascular colitis
- Microscopic Colitis

IV. Infectious Colitis

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

II. Preoperative Evaluation

III. Stoma Creation

IV. Postoperative Care

V. Complications

VI. Stoma Management

VII. Stoma Physiology

VIII. Patient Education and Counselling

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

II. Evaluation

III. Nonoperative Management

IV. Operative Management

RECTAL PROLAPSE

A. Trainees will be able to do the following:

1. Describe the incidence and epidemiology of rectal prolapse.
2. Describe the pathophysiology and associated anatomical findings of rectal prolapse together with its clinical presentation including functional disturbances and physical findings.
3. Differentiate between mucosal prolapse, prolapsing internal haemorrhoids, and rectal prolapse and describe the physical findings associated with rectal prolapse.
4. Describe the condition known as internal intussusception, together with its radiological findings and identify the treatment options.
5. Discuss the significance of constipation and incontinence in the management of rectal prolapse.
6. Outline the appropriate management of incarcerated and strangulated rectal prolapse.
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.
8. Describe the operative techniques of the following procedures:

- Perineal operations
  --Perineal rectosigmoidectomy
  --Delorme's procedure
  --Anal encirclement
- Abdominal operations

--Abdominal rectopexy with or without resection
--Anterior resection
--Laparoscopic approaches
9. Describe the evaluation and management of a patient with recurrent rectal prolapse.

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

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.
2. Define constipation and describe its epidemiology
3. Classify types and causes of constipation and outline differential diagnoses in a patient with constipation.
4. Take a directed history for a patient with constipation and perform a directed physical examination.
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.

II. Specific Conditions: Outlet Obstruction

A. Trainees will be able to do the following:
1. Describe the diagnostic criteria for anismus (nonrelaxing puborectalis syndrome).
2. Describe the roles of the following in the management of anismus, including the indications, complications and expected outcomes of each:
- Medical management
- Biofeedback
- Botulinum toxin

• Surgery
3. Describe the clinical presentation of symptomatic rectocoele.
4. Discuss the indications, techniques, complications and expected results of surgical procedures used in the management of symptomatic rectocoele.
5. Describe the diagnostic criteria for enterocoele and sigmoidocoele along with non-operative and operative treatment options including complications and expected outcomes.

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.
2. Describe appropriate evaluation and management of a patient with recurrent constipation following
TAC.

MISCELLANEOUS

I. Irritable Bowel Syndrome

II. Chronic Rectal Pain Syndromes

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

II. Colon and Small Bowel

EMBRYOLOGY

I. Anorectal

II. Colon and Small Bowel

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

II.Rigid Sigmoidoscopy

III.Flexible Sigmoidoscopy

IV. Colonoscopy

V. Patient Preparation

VI. Instrumentation

VII. Anaesthesia

VIII. Special Considerations

A. Trainees will be able to do the following:

1. State the indications for antibiotic prophylaxis including appropriate antibiotics and dosage.

2. Describe the preparation and management of patients on anticoagulants, hypoglycaemic drugs

3. Describe the preparation and performance of endoscopy through a stoma

LAPAROSCOPY

LAPAROSCOPIC COLORECTAL SURGERY

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

I.General Considerations

A. Trainees will be able to do the following:

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

II.Indications and Contraindications

A. Trainees will be able to do the following:

1. Discuss the indications and contrainidcations for laparascopic management of the following
categories of colon and rectal disease:

- Benign
- Malignant

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

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
- Segmental colectomy
- Left hemicolectomy/sigmoid resection

• Subtotal colectomy
• Anterior/low anterior resection
• Abdominoperineal resection
• Ostomy creation and closure
• Rectopexy
• Diagnositic laparoscopy with or without biopsy, liver biopsy, and lysis of adhesions

V. Special Considerations
A. Trainees will be able to do the following:
1.Discuss the preoperative and intraoperative methods of identifying the relevant lesion.

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

INVESTIGATIONS IN COLORECTAL SURGERY
RADIOLOGY

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

I. Plain Films
II. Contrast Studies

III. Abdominal Ultrasound

IV. Computed Tomography

V. Nuclear Medicine Scans
A. Trainees will be able to do the following:
1. Describe the performance of nuclear medicine scans.
2. List the indications for and recognise the critical findings in the following conditions as seen with isotope studies:

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

VI. Angiography
A. Trainees will be able to do the following:
1. Describe the performance of conventional, CT and MR angiography.
2. List the indications for and recognise critical findings on angiographic examinations relevant to colorectal surgery:
・Colonic bleeding
・Small bowel bleeding
・Rectal varices
・SMA occlusion

VII. Dynamic Proctography
A.Trainees will be able to do the following:
1. Describe the performance of X-ray and isotope dynamic proctography (DPG).
2. List the indications for and recognise the critical findings in the following conditions as seen on dynamic proctography:
・Rectocoele
・Rectal prolapse (occult, complete)
・Nonrelaxing puborectalis

VIII. Magnetic Resonance Imaging

IX. Positron Emission Tomography

X. Evaluation of Deep Vein Thrombosis/Pulmonary Embolism

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.

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)
・Configuration of probe for anal and endorectal ultrasound
・2D and 3D imaging by ultrasound
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)

ETHICS

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

I. Issues for a Surgeon
A. Trainees will be able to identify, discuss, and communicate the ethical issues involved in the following situations:
1. Doctor–patient relationships
・Primary care vs secondary care
・Doctors in diagnostic and support services
i) Radiology
ii) Pathology
iii) Chemistry
iv) Microbiology
v) Endoscopy
・Confidentiality
2. Consent
3. Communicating bad news
4. Addressing ethical issues surrounding death

• Do not resuscitate (DNR)
• Withholding life support/care
5.Patient complaints
• Responding to patient questions
6. Interprofessional relationships
• With General Practitioner
• With other hospital consultants
• With nursing staff
• With other health care professionals
7.New technology
• When does technology become standard of care?
• Issue of genetics
• --Confidentiality
• --Counseling

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

II. Determinates of Clinical Practice

A. Trainees will be able to do the following:
1. Discuss government agencies related to health-care delivery
2. Describe how legislation and government agencies have impact on the practice of medicine.
3. Discuss the roles of national, regional, and local professional medical organisations.