الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

Colorectal Surgery

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بسم الله الرحمن الرحيم

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We would also like to acknowledge that the CanMEDS framework is a copyright of the Royal College of Physicians and Surgeons of Canada, and many of the description's competencies have been acquired from their resources (Please refer to: CanMEDS 2015 physician competency framework; Frank JR, Snell L, Sherbino J, editors. CanMEDS 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015.).

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STATEMENT OF THE SCIENTIFIC COMMITTEE OF COLON AND RECTAL SURGERY

The Committee believes that trainees must understand in detail the objectives of the training and the nature of the skills and competencies that will be conferred upon them during the fellowship. Accordingly, the Committee instructs the program director to supply each trainee enrolled in the Saudi Fellowship in Colon and Rectal Surgery with a copy of the curriculum prior to the start of the training. The program director must review the content of the curriculum and ensure that all questions by the trainees are addressed during a meeting between the program director and the trainees. The meeting must be attended by the chief fellow, who can help give a perspective on the fellowship from the viewpoint of the trainees.

It is recommended that the overview of the curriculum be delivered in a lecture format.

Definitions

- A fellow is a trainee who completed training under a board in general surgery and is under training in the Saudi Fellowship in Colon and Rectal Surgery. The term "fellow" is used mainly in clinical practice to differentiate the trainee in the fellowship from the residents who have not completed their training under the board of general surgery.

- A training instructor refers to any colon and rectal surgeon at a training center who provides training to the trainee.

- A training center refers to an accredited healthcare facility where training is conducted and delivered as part of the Saudi Fellowship in Colon and Rectal Surgery.

- The Scientific Committee for the Saudi Fellowship in Colon and Rectal Surgery is the body governing the said fellowship.

- A program director is a consultant colon and rectal surgeon who oversees the trainees and conducts daily training management.

- The Examination Committee for the Saudi Fellowship in Colon and Rectal Surgery is the body responsible for conducting final written and clinical examination upon completion of the training.

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INTRODUCTION

Colon and rectal surgery is a surgical specialty aimed at providing highly specialized care to those afflicted with diseases of the colon, rectum, and anus.

The Saudi Fellowship in Colon and Rectal Surgery was established in 2008 to train surgeons in the field of colon and rectal surgery through a structured program over a period of 3 years. The program imparts the trainee (fellow) with the skills and competencies to be an independent surgeon who can investigate, diagnose, treat, and prevent colon and rectal diseases according to the best available scientific evidence, with a holistic approach. It also equips the trainee with the tools to improve the practice of colon and rectal surgery through clinical and basic scientific research and publication. The fellowship incorporates the CanMEDS roles throughout the training.

The training is conducted at certified training centers, which must fulfill a rigorous process of certification managed by the Saudi Commission for Health Specialties (SCFHS). Currently, all governmental sectors have accredited training centers for colon and rectal surgery in the major cities of the Kingdom of Saudi Arabia.

MINIMUM TRAINING REQUIREMENTS

The program conducted by the Saudi Fellowship in Colon and Rectal Surgery will provide training over a period of 3 years. The details of training are as follows:

1. A total of 24 months are spent at certified training centers in the field of colon and rectal surgery. At the end of this rotation, the trainee will be knowledgeable in the science of colorectal diseases and the etiology, diagnosis, treatment, and prevention of such diseases. The rotation can be divided into segments, which must run for at least 6 months.
2. Some of the rotations can be spent at an international center accredited in colon and rectal surgery training, upon the approval of the Scientific Committee and in compliance with SCFHS bylaws and executive policies.
3. Six months can be spent in an elective rotation at a non-training center in Saudi Arabia, which provides colorectal surgery under the supervision of a certified colorectal surgeon, upon the approval of the program director.
4. One month is spent in the area of gastroenterology. At the end of this rotation, the trainee will be competent in the etiology, investigation, and medical management of inflammatory bowel diseases.
5. One month is spent in the area of gastrointestinal radiology. At the end of this rotation, the trainee will be competent in the interpretation of radiological investigations in the field of colon and rectal surgery, such as plain x-ray, fluoroscopy, CT scan, MRI, ultrasound, PET scan, PET-CT, and virtual colonoscopy.
6. One month is spent in the area of gastrointestinal pathology and molecular genetics. At the end of this rotation, the trainee will be able to interpret histopathologic findings on gross examination and microscopy. This will help the trainee interpret findings during colonoscopy and the intraoperative phase of surgery. The trainee will also learn how to interpret the results of molecular genetic testing for hereditary colorectal diseases.
7. One month is spent in the area of enterostomal therapy. At the end of this rotation, the trainee will be competent in the science of enterostomal care, pouching the different ostomies and managing their complications effectively.
8. One month is spent in the area of anorectal physiology. At the end of this rotation, the trainee will be able to conduct anorectal physiology tests efficiently and interpret such tests collectively in order to diagnose and treat the different functional disorders.
9. Two weeks are spent in the area of gastrointestinal radiation oncology. At the end of this rotation, the trainee will understand the mechanism of radiation, planning, and field configuration and the complications of radiation and their management.
10. Two weeks are spent in the area of gastrointestinal medical oncology. At the end of this rotation, the trainee will be able to understand the mechanisms of chemotherapy treatment, as well as the treatment-related complications and their management.
11. Six months are dedicated to basic or clinical research in the field of colon and rectal diseases. At the end of this rotation, the trainee must have an ethically approved research proposal and have developed a coded data entry form. Moreover, he/she must have collected the results of the study and finalized a manuscript pertaining to the research. The abstract must be presented at a national or an international meeting. The trainee is also encouraged to publish the final manuscript in a peer-reviewed medical journal.

The training specified above includes the minimum requirements. An additional training period may be required upon the recommendation of the program director to ensure the competency of the trainee. The non-surgical rotations must be spent at tertiary care training centers where a well-established colorectal therapy unit with an anorectal physiology lab is available, along with

hereditary tumor registry and clinics as well as multidisciplinary clinics with well-established colorectal cancer/inflammatory bowel disease and colorectal motility disorder boards, and where endoscopy privileges are granted to the trainee. The research rotation must be spent at a tertiary care center with a well-established research center under the supervision of a colorectal surgeon with dual appointment as an academic researcher.

International Training Regulations

Please refer to the updated executive policy of SCFHS on admission and registration.
Website: www.scfhs.org.sa

TRAINING OBJECTIVES

Definition

Colon and rectal surgery is a surgical specialty that aims to provide highly specialized care to those afflicted with diseases of the lower gastrointestinal tract, specifically the colon, rectum, anus, and perianal area.

The Saudi Fellowship in Colon and Rectal Surgery trains surgeons in the field of colon and rectal surgery through a structured program over a period of 3 years. The program imparts the trainee with the skills and competencies to be an independent surgeon who can investigate, diagnose, treat, and prevent colon and rectal diseases according to the best available scientific evidence, with a holistic approach. The training also equips the trainee with the tools to improve the practice of colon and rectal surgery through clinical and basic scientific research and publication. The trainee will be knowledgeable in the surgical techniques of endoscopy and minimally invasive surgery, including but not limited to rigid proctosigmoidoscopy, laparoscopy, flexible sigmoidoscopy, endoscopic ultrasonography, endoscopic stenting, and colonoscopy. Finally, the trainee will be imparted with the skill to perform and interpret anorectal physiology testing, as well as to manage ostomies and their complications.

Goals

The main goal of the Saudi Fellowship in Colon and Rectal Surgery is to graduate independent qualified surgeons who will

1. Have the expertise to independently investigate and treat patients with surgical diseases who are cared for within the discipline of colon and rectal surgery.
2. Have the capability to participate in the progress of colon and rectal surgery through education, research, and publication.
3. Embrace their role as a medical expert, collaborator, leader, health advocate, scholar, and professional, as envisioned by the CanMEDS competencies.

Upon completion of the training, the trainee will be able to assume a consultant role in the field of colon and rectal surgery. He/she will possess basic and clinical scientific expertise and be able to provide an expert opinion regarding colorectal diseases. Any treatment provided must be guided by the clinical practice guidelines or scientific evidence adopted by peers in the field of colon and rectal surgery.

Throughout the training, the trainee must abide by the ethical standards of practice in the Kingdom of Saudi Arabia, in observance of the Bill of Patient's Rights acknowledged by the SCFHS.

COLON AND RECTAL SURGERY COMPETENCIES

At the completion of the training in the Saudi Fellowship in Colon and Rectal Surgery, the fellow will have acquired the following competencies and function effectively as a

1. Medical expert
2. Communicator
3. Collaborator
4. Leader
5. Health advocate
6. Scholar
7. Professional

Medical Expert

The competencies of the medical expert are acquired through the development of basic science knowledge, clinical knowledge, problem-oriented knowledge, technical diagnostic skills, technical therapeutic skills, and professional attitudes.

A. Basic science knowledge

This entails competent knowledge of the following:

1. Embryology, anatomy, and physiology of the intestine, colon, rectum, and anus.
2. Pharmacology, as it relates to diseases of the intestine, colon, rectum, and anus.
3. Microbiology of the intestinal tract.
4. Fluid and electrolyte management for surgical disorders of the intestine, colon, rectum, and anus.
5. Surgical nutrition.
6. The principles of radiation and medical oncology for colorectal diseases and malignant anal disorders.
7. Basic concepts in molecular biology and genetics for colorectal cancer.

B. Clinical science knowledge

This entails competent analysis of the clinical situation and accurate extraction of pertinent data, such as

1. Conducting history and physical examination with emphasis on relevant areas.
2. Establishing an appropriate differential diagnosis.
3. Selecting the appropriate laboratory, radiologic, and other diagnostic tests necessary to help establish a diagnosis and demonstrate proficiency in the interpretation of these investigations.
4. Establishing an appropriate management plan while demonstrating knowledge of both operative and non-operative management of colorectal diseases.
5. Demonstrating an understanding of the preoperative evaluation of the surgical patient and the physiologic responses produced by general, regional, and local anesthetics; and possession of the ability to discuss the indications and contraindications of these various methods.
6. Managing the routine preoperative, operative, and postoperative phases of treatment of the colorectal surgical patient while demonstrating the ability to treat potential complications of the procedure.
7. Establishing a plan for the follow-up of the surgical patient.

C. Problem-oriented knowledge

This entails comprehensive understanding of the etiology of the disease process and the basic science mechanisms involved. Moreover, the trainee must be able to obtain accurate data on the clinical situation, through history, examination, investigations, and consultations, and formulate therapeutic options, with an algorithm for treatment based on an accurate assessment of the risks, benefits, and suitability to the patient. The trainee must have detailed knowledge of the following clinical entities:

Basic sciences

- Colorectal anatomy
- Colorectal physiology
- Colorectal genetics
- Colorectal biochemistry
- Colorectal pharmacology
- Science of laxatives
- Analgesia in colorectal surgery

Congenital malformation of the colon and rectum

- Atresia and stenosis of the colon
- Imperforate anus
- Vestibular fistula
- Vaginal fistula
- Hirschsprung's disease
- Acrodermatitis enteropathica

Inflammatory disorders

- Diverticulitis and diverticulosis of the colon
- Mucosal ulcerative colitis
- Inflammatory polyps (pseudopolyps)
- Toxic megacolon
- Transmural inflammatory disease (Crohn's disease)
- Indeterminate colitis

Non-infectious disorders

- Eosinophilic colitis
- Microscopic colitis
- Collagenous colitis
- Neutropenic enterocolitis
- Diversion colitis (disuse colitis or starvation colitis)
- Disinfectant colitis (pseudolipomatosis)
- Corrosive colitis
- NSAID-induced colitis
- Toxic epidermal necrolysis
- Drug-induced necrotizing enterocolitis

Viral infectious disorders

- Herpes simplex proctitis
- Acquired immunodeficiency syndrome
- Cytomegalovirus infection
- Vaccinia

Bacterial infectious disorders

- Infectious colitides
- Pseudomembranous colitis
- Campylobacter enteritis
- Yersinia enterocolitis
- Salmonellosis and typhoid fever
- Tuberculosis
- Gonococcal proctitis
- Syphilis proctitis
- Shigellosis
- Brucellosis
- Actinomycosis

Fungal infectious disorders

- Candidiasis
- Histoplasmosis
- Sporotrichosis
- Coccidioidomycosis
- Chromomycosis
- Cryptococcosis
- Nocardiosis
- Mycetoma

Parasitic infectious disorders

- Amebiasis
- Balantidiasis
- Cryptosporidiosis
- Giardiasis
- Trypanosomiasis
- Schistosomiasis
- Ascariasis
- Strongyloidiasis
- Trichuriasis
- Anisakiasis
- Tapeworm (*Taenia saginata*)
- Hydatid disease
- Amebiasis cutis
- Trichomoniasis
- Oxyuriasis (pinworm, enterobiasis)
- Larva migrans (creeping eruptions)

- Larva currens
- Cimicosis (bedbug bites)
- Pediculosis
- Scabies

Vascular disorders

- Mesenteric occlusive disease
- Mesenteric non-occlusive disease
- Radiation enteritis
- Radiation proctitis
- Lower gastrointestinal hemorrhage
- Ischemic colitis
- Arteriovenous malformations
- Abdominal angina

Polyposis syndromes

- Hyperplastic (metaplastic polyposis)
- Juvenile polyposis syndrome
- Cronkhite–Canada syndrome
- Peutz–Jeghers syndrome (PJS)
- Cowden syndrome (CS)
- Bannayan–Riley–Ruvalcaba syndrome (BRRS) (Ruvalcaba–Myrhe–Smith syndrome)
- Familial adenomatous polyposis (FAP)
- Attenuated familial adenomatous polyposis (AFAP)
- Gardner syndrome
- Turcot syndrome
- MYH-associated polyposis (MAP) (MUTYH-associated polyposis)
- Hereditary mixed polyposis syndrome (HMPS)
- Serrated polyposis syndrome (SPS)
- Polymerase proofreading-associated polyposis (PPAP)

Colorectal polypoid tumors

- Benign polyps of the colon and rectum
- Villous polyps
- Adenomatous polyps
- Inflammatory polyps

Heterotopias and hamartomas

- Endometriosis
- Hamartoma
- Dermoid cyst
- Teratoma
- Colitis cystica profunda (enterogenous cysts)
- Ectopic tissue

Epithelial tumors

- Carcinoid
- Neuroendocrine cancer
- Epithelioma
- Anal squamous intra-epithelial lesions
- Giant condyloma acuminatum (Buschke and Lowenstein tumor)
- Bowen's disease
- Perianal Paget's disease
- Basal cell carcinoma
- Cloacogenic carcinoma
- Malignant melanoma
- Verrucous squamous carcinoma
- Keratoacanthoma
- Pseudosarcomatous carcinoma
- Carcinoma of the anal glands and ducts
- Adenosquamous carcinoma (adenoacanthoma)
- Stem cell carcinoma

Lymphoid and vascular tumors

- Lymphoid hyperplasia
- Malignant lymphoma
- Extramedullary plasmacytoma
- Hemangioma
- Lymphangioma
- Hemangiopericytoma
- Kaposi's sarcoma
- Angiosarcoma

Mesenchymal tumors

- Fibroma
- Inflammatory fibroid polyp
- Fibrosarcoma
- Malignant fibrous histiocytoma
- Leiomyoma
- Leiomyosarcoma
- Rhabdomyosarcoma
- Lipoma
- Liposarcoma
- Lymphocytic sarcoma
- Myxosarcoma
- Reticular cell sarcoma

Neural tumors

- Neurofibroma
- Neurilemmoma (schwannoma)

- Ganglioneuroma
- Granular cell tumor

Exogenous, extrinsic, and miscellaneous conditions

- Metastatic tumor
- Barium granuloma
- Oleoma
- Sarcoidosis
- Wegener's granulomatosis
- Amyloidosis
- Malacoplakia (malakoplakia)
- Sacrococcygeal chordoma
- Ependymoma
- Extramedullary (extra-adrenal) myelolipoma
- Pneumatosis cystoides intestinalis
- Colonic and rectal duplication
- Tailgut cyst
- Inflammatory cloacogenic polyp
- Coccygodynia
- Anterior sacral meningocele
- Giant cell tumor of the sacrum

Colorectal cancer

- Colon cancer
- Rectal cancer
- Carcinoma of the perianal skin and anal margin
- Squamous cell cancer of the anus (epidermoid cancer)
- Transitional cloacogenic carcinoma

Cutaneous conditions

Inflammatory

- Pruritus ani
- Psoriasis
- Lichen planus
- Lichen sclerosus et atrophicus
- Atrophoderma
- Contact dermatitis (allergic dermatitis)
- Fecal dermatitis
- Seborrheic dermatitis
- Atopic dermatitis
- Radiodermatitis
- Pyoderma gangrenosum
- Behçet syndrome
- Lupus erythematosus
- Dermatomyositis

- Scleroderma
- Erythema multiforme
- Familial benign chronic pemphigus (Hailey–Hailey)
- Pemphigus vulgaris
- Cicatricial pemphigoid
- Herpes simplex proctitis

Infectious

- Pilonidal sinus
- Suppurative hidradenitis
- Fournier's gangrene (necrotizing perineal infection)
- Tinea cruris (jock itch, crotch itch)
- Deep mycosis
- Amebiasis cutis
- Schistosomiasis cutis
- Condylomata lata
- Chancroid
- Granuloma inguinale (granuloma venereum, donovanosis)
- Chlamydia infection (lymphogranuloma venereum, lymphogranuloma inguinale, lymphopathia venereum)
- Molluscum contagiosum
- Herpes genitalis
- Condylomata acuminata (venereal warts)
- Acanthosis nigricans
- Leukoplakia
- Mycosis fungoides
- Leukemia cutis
- Bowenoid papulosis

Functional conditions without anatomic distortion

- Chronic constipation
- Fecal impaction
- Ogilvie syndrome (intestinal pseudo-obstruction)
- Stercoral ulcer
- Hypotonic/atonic colon (colonic inertia)
- Megacolon/megarectum
- Rectal outlet obstruction/obstructed defecation (anismus)
- Spastic pelvic floor syndrome
- Uncoordinated defecation
- Paradoxical puborectalis
- Proctalgia fugax (levator ani syndrome, levator spasm)
- Fecal incontinence (neurogenic, myopathic)

Functional conditions with anatomic distortion

- Internal intussusception
- Rectal prolapse

- Rectocele
- Solitary rectal ulcer syndrome (giant hyperplastic polyp)
- Descending perineum syndrome
- Perineal hernia
- Enterocele
- Omentocele
- Volvulus
- Fecal incontinence (anal sphincter injury)

Diarrhea

- Acute diarrhea
- Chronic diarrhea
- Extracolonic diarrheas
  - Gastric
  - Pancreatic
  - Bile salt deficiency
  - Primary, i.e., non-tropical sprue, tropical sprue
  - Secondary, i.e., malignancy, Whipple's disease
  - Post-irradiation syndrome
  - Intestinal fistula

Anorectal disorders

- Perianal abscess
- Pelvirectal abscess
- Fistula-in-ano
- Perianal sinus
- Anovaginal fistula
- Rectovaginal fistula
- Hemorrhoidal disease
- Fissure-in-ano
- Dermoid cyst
- Anal stenosis
- Pruritus ani

Trauma

- Blunt trauma
- Penetrating trauma
- Endoscopic trauma
- Foreign bodies in the colon and rectum
- Anorectal trauma

Enterostomal therapy

- Preoperative care
- Stomal selection and siting
- Postoperative care

- Management of stomal complications
- Management of high-output ileostomy
- Management of pyoderma gangrenosum
- Management of high-output enterocutaneous fistula

D. Technical diagnostic skills

Upon completion of training, the trainee must be able to demonstrate proficiency in the following diagnostic skills:

1. Digital exam
2. Anoscopy
3. Rigid proctoscopy
4. Flexible sigmoidoscopy
5. Diagnostic colonoscopy
6. Therapeutic colonoscopy
7. Endoscopic stenting
8. Mucosal biopsy
9. Anal manometry
10. Pudendal nerve motor latency testing
11. EMG recruitment assessment
12. Defecography
13. Endorectal and endoanal ultrasound examination
14. Biofeedback training
15. Gross and microscopic evaluation of surgical specimens under the supervision of the attending pathologist
16. Interpretation of all radiologic examinations of the small intestine, colon, rectum, and anus, i.e., the interpretation of plain abdominal series; double- and single-contrast barium enemas; small bowel follow-through; enteroclysis; abdominal and pelvic ultrasound; thoracic, abdominal, and pelvic CT scans; MRI of the abdomen and pelvis; CT colonography, MRI enterography and nuclear imaging, including bone and PET scans

E. Technical therapeutic skills

Upon completion of training, the trainee must be able to demonstrate proficiency in implementing therapeutic procedures, including identification of proper indications, technical conduct, management of complications, and appropriate follow-up.

The trainee is expected to practice as a primary surgeon under the direct supervision of the attending colorectal surgeon while performing the following therapeutic procedures:

General procedures

- Hyperalimentation
- Total parenteral nutrition
- Elemental and special diets
- Stomal therapy
- Chemotherapy
- Radiation therapy

Anorectal procedures

- Sigmoidoscopic polypectomy
- Endoscopic control of bleeding
- Incision and drainage of perianal abscesses
- Excision of thrombosed hemorrhoids
- Injection of hemorrhoids with a sclerosing solution
- Elastic ligation of hemorrhoids
- Hemorrhoidectomy
- Anal fistulotomy
- Anal insertion of seton for fistula-in-ano
- Anal insertion of fistula plug
- Endoanal advancement flap for fistula-in-ano or rectovaginal fistula
- Fibrin glue for fistula-in-ano
- Anal sphincterotomy
- Anoplasty for stricture
- Lay open pilonidal sinus
- Excision of hidradenitis suppurativa
- Excision/fulguration of condyloma acuminata
- Chemical treatment of condyloma acuminata
- Transanal polypectomy
- Endoanal excision of rectal villous adenoma or cancer
- Perineal proctosigmoidectomy
- Delorme procedure
- Anal sphincteroplasty
- Levatorplasty
- Rectovaginal fistula repair
- Gracilis transposition
- Martius flap

Endoscopic procedures

- Colonoscopic examination with polypectomy and biopsy
- Decompression of colonic pseudo-obstruction
- Detorsion of volvulus
- Colonic stenting
- Endoscopic closure of perforation
- Endoscopic control of bleeding
- Endoscopic submucosal resection
- Endoscopic mucosal resection

Operative procedures

- Right hemicolectomy (open & laparoscopic)
- Left hemicolectomy (open & laparoscopic)
- Partial colectomy (open & laparoscopic)
- Total or subtotal colectomy with ileorectostomy (open & laparoscopic)
- Anterior resection (open & laparoscopic)
- Low anterior resection (open & laparoscopic)

- Hartmann's procedure (open & laparoscopic)
- Reversal of Hartmann's procedure (open & laparoscopic)
- Abdominoperineal excision (open & laparoscopic)
- Pull-through colo-anal anastomosis (open & TaTME)
- Small bowel resection (open & laparoscopic)
- Abdominal colostomy (open & laparoscopic)
- Colostomy closure
- Colostomy relocation
- Ileostomy creation (loop and end)
- Ileostomy revision and relocation
- Paracolostomy hernia repair
- Ventral hernia repair
- Lysis of small bowel adhesions
- Ileoanal pouch (ileal pouch–anal anastomosis) (open & laparoscopic)
- Rectal prolapse procedure–abdominal rectopexy (open & laparoscopic)

Miscellaneous procedures

- Electrocoagulation of rectal tumor

F. Professional attitude skills

1. Perform a consultation, including the presentation of well-documented assessments and recommendations in both written and/or verbal form in response to a request from another healthcare professional.
   1.1. Perform a focused and detailed history and physical examination.
   1.2. Formulate a differential and provisional diagnosis.
   1.3. Order or perform and then interpret the required investigations.
   1.4. Formulate a treatment plan for the patient.
   1.5. Communicate the consultation, both verbally and in written format, including a clear plan of action or recommendations.

1.2. Identify and respond appropriately to relevant ethical issues arising in patient care.
1.3. Demonstrate the ability to prioritize professional duties when faced with multiple clinical problems.
1.4. Demonstrate compassionate patient-centered holistic care, which is extended to members of the family and caregivers.
1.5. Recognize and respond to the ethical dimensions in medical decision-making.
1.6. Demonstrate medical expertise in situations outside patient care, such as providing expert legal testimony or advising governmental agencies.

2. Execute preventive and therapeutic interventions effectively.
   2.1. Implement a management plan in collaboration with the patients and their families.
   2.2. Demonstrate appropriate and timely application of preventive and therapeutic intervention.
   2.3. Ensure that an appropriate informed consent for treatment is obtained from the patient or the legal caregiver.

3. Establish and maintain up-to-date clinical knowledge, skills, and attitudes appropriate for a colorectal surgeon.

Communicator

Definition

As a communicator, the trainee must communicate effectively with the patient and their families and caregivers to establish a healthy physician–patient relationship throughout the medical encounter.

Key enabling competencies

The trainee must be able to

1. Develop rapport, trust, and an ethical relationship with the patient and their families and caregivers.
   - 1.1. Recognize that being a good communicator is a core clinical skill and that effective physician–patient communication can foster patient and physician satisfaction, as well as adherence and improved clinical outcomes.
   - 1.2. Establish positive therapeutic relationships with the patient and their families and caregivers, characterized by understanding, trust, respect, honesty, and empathy.
   - 1.3. Respect the confidentiality, privacy, and autonomy of the patients and their families and caregivers.
   - 1.4. Listen effectively.
   - 1.5. Demonstrate awareness of and responsiveness to nonverbal cues, by being sensitive to non-verbalized fears, anxieties, and needs for privacy.
   - 1.6. Facilitate a structured clinical encounter effectively.

2. Elicit and synthesize accurately the relevant information and perspectives of patients, their families, colleagues, and other professionals.
   - 2.1. Gather information on the disease and beliefs, concerns, expectations, and illness experiences of the patients.
   - 2.2. Seek out and synthesize relevant information from other sources, such as the family and caregivers of the patient, and other professionals.

3. Convey relevant information and explanations accurately to patients, their families and caregivers, colleagues, and other professionals.
   - 3.1. Deliver information to patients, their families and caregivers, colleagues, and other professionals in a humane manner, such that it is understandable and encourages discussion and participation in the decision-making process.
   - 3.2. Communicate unpleasant news to the patients and their families and caregivers in an empathic manner.

4. Develop a common understanding on issues, problems, and plans with patients, their families and caregivers, and other professionals to develop a consensus care plan.
   - 4.1. Effectively identify and explore problems that must be addressed from a patient's encounter, including the patient's background, responses, concerns, and preferences.
   - 4.2. Respect diversity and differences, including but not limited to the impact of gender, religion, and cultural beliefs on decision-making.
   - 4.3. Encourage discussion, questions, and interaction in the encounter.

4.4. Engage patients, their families and caregivers, and relevant health professionals in a shared decision-making process to develop a plan of care.
4.5. Address challenging communication issues effectively, such as obtaining informed consent and delivering unpleasant news; address anger, confusion, and misunderstanding.
4.6. Demonstrate awareness of the patients' own feelings and biases, and recognize any personal reactions, which may be detrimental to the physician–patient relationship.

5. Convey effective oral and written information on a medical encounter.
5.1. Maintain clear, accurate, and appropriate records of any clinical encounter and management plans.
5.2. Accurately and succinctly record the data collected from the laboratory tests and radiological studies.
5.3. Communicate opinions clearly through consultation letters, telephone calls, electronic mails, and other means of communication to family physicians, other consultant specialists, and allied health professionals.
5.4. Present verbal reports of clinical encounters and management plans clearly and concisely, such that it motivates the cooperation of the patients and ensures the participation of other health professionals.
5.5. Effectively present any medical information on a medical issue to the public or media.

Collaborator

Definition

As a collaborator, the trainee must work effectively within the healthcare team to achieve optimal holistic patient care.

Key enabling competencies

A trainee must be able to
1. Participate effectively and appropriately in a professional healthcare team.
1.1. Describe the roles and responsibilities of the colorectal surgeon to other professionals.
1.2. Describe the roles and responsibilities of other professionals within the colorectal surgery healthcare team, including but not limited to clinical pharmacists, dieticians, nurses, enterostomal therapists, physiotherapists, endoscopy nurses, and imaging technologists.
1.3. Recognize and respect the diversity of roles, responsibilities, and competencies of other professionals in relation to their own.
1.4. Work with others to assess, plan, provide, and integrate care for patients.
1.5. Work with others to assess, plan, provide, and review other tasks, such as research problems, educational work, program review, or administrative responsibilities.
1.6. Participate in multidisciplinary team meetings.
1.7. Enter into interdependent relationships with other professions to provide quality care.
1.8. Describe the principles of team dynamics.

1.9. Respect team ethics, including confidentiality, resource allocation, and professionalism.
1.10. Demonstrate progressive leadership in a healthcare team, as appropriate.

2. Work effectively with other health professionals to prevent, negotiate, and resolve inter-professional conflict.
   2.1. Demonstrate a respectful attitude toward other colleagues and members of an inter-professional team.
   2.2. Work with other professionals to prevent conflicts.
   2.3. Employ collaborative negotiations to resolve conflicts.
   2.4. Respect differences of opinions and address misunderstandings with and limitations of other professionals.
   2.5. Recognize one's own differences, misunderstandings, and limitations that may contribute to inter-professional tension.
   2.6. Reflect on inter-professional team function.

Leader

Definition

A trainee must be an integral participant in the healthcare team and must organize sustainable consistent practices based on clinical practice guidelines accepted by peers or supported by the most up-to-date scientific evidence. Moreover, a trainee must make decisions regarding resource allocation and contribute effectively to the healthcare team.

Key enabling competencies

A trainee must be able to

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems.
   1.1. Work collaboratively with others in their organizations.
   1.2. Participate in a systemic quality process evaluation and improvement, such as patient safety initiatives.
   1.3. Describe the structure and function of the healthcare system as it relates to colorectal surgery, including the role of the colorectal surgeon.
   1.4. Describe the principles of healthcare financing, including physician remuneration, budgeting, and organizational funding.

2. Manage effectively their practice and career.
   2.1. Set priorities and manage time to balance patient care, practice requirements, outside activities, and personal life.
   2.2. Manage practices, including finances and human resources.
   2.3. Demonstrate knowledge on issues pertaining to running a private office, including staffing, billing, and maintaining patient records.
   2.4. Implement processes to ensure personal practice improvement.
   2.5. Employ information technology appropriately for patient care.

3. Allocate finite healthcare resources appropriately.
   3.1. Recognize the importance of justly allocating healthcare resources, as well as balancing effectiveness, efficiency, and access with optimal patient care.
   3.2. Apply evidence and management processes for effective cost-appropriate care.
   3.3. Access appropriate diagnostic and therapeutic technology in a timely and efficient manner to benefit their patients.
   3.4. Organize a priority list for patients awaiting surgery.

4. Serve in administrative and leadership roles.
   4.1. Chair or participate effectively in committees and meetings.
   4.2. Lead or implement change in healthcare.
   4.3. Plan relevant elements of healthcare delivery (e.g., work or operation schedules).

Health Advocate

Definition

As a health advocate, a trainee must use his/her expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Key enabling competencies

A trainee must be able to

1. Respond to the health needs and issues of the patient as part of clinical care.
   1.1. Identify the health needs of the individual patient.
   1.2. Identify opportunities for advocacy, health promotion, and disease prevention in individuals to whom they provide care.
   1.3. Take advantage of opportunities to discuss lifestyle changes that can influence the health of the patient.

2. Respond to the health needs of the community that they serve.
   2.1. Define the health needs of the communities that they serve.
   2.2. Identify opportunities for advocacy, health promotion, and disease prevention in the communities that they serve, and engage in activities appropriately.
   2.3. Demonstrate an understanding of the role that community-based support groups play.
   2.4. Appreciate the possibility of competing interests between the communities served and other populations.

3. Identify health determinants for the populations that they serve.
   3.1. Identify health determinants of the populations, including barriers to access to care and resources.
   3.2. Identify vulnerable or marginalized populations within those served, and respond appropriately.

4. Promote the health of individual patients, communities, and populations.
   4.1. Describe an approach to implementing changes in a health determinant to the populations that they serve, such as screening or early detection of certain diseases.

4.2. Describe how public policy impacts the health of the population served.
4.3. Identify points of influence in the healthcare system and its structure.
4.4. Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity, and idealism.
4.5. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or a community with that of a leader or a gatekeeper.
4.6. Describe the role of the medical profession in advocating collectively for health and patient safety.
4.7. Understand the role and function of the Saudi Society of Colon and Rectal Surgery, the Saudi Chapter of Enterostomal Therapy, and other provincial and international colorectal societies.

Scholar

Definition

As a scholar, a trainee must demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application, and translation of medical knowledge.

Key enabling competencies

A trainee must be able to

1. Maintain and enhance professional activities through ongoing learning.
   1.1. Observe the principles of maintaining competence.
   1.2. Maintain an inquisitive attitude.
   1.3. Provide the commitment required for ongoing self-study to maintain competence.
   1.4. Describe the strategies for implementing a personal knowledge management system.
   1.5. Recognize and reflect on learning issues in practice.
   1.6. Conduct a personal practice audit.
   1.7. Pose an appropriate learning question.
   1.8. Access and interpret the relevant evidence.
   1.9. Integrate new learning into practice.
   1.10. Evaluate the impact of any changes in practice.
   1.11. Document the learning process.
   1.12. Maintain surgical logs through an electronic logbook.
   1.13. Demonstrate continuous evaluation of their own capabilities and limitations.

2. Conduct a critical evaluation of medical information and its sources, and apply this appropriately to practice decisions.
   2.1. Describe the principles of critical appraisal.
   2.2. Appraise retrieved evidence critically to address a clinical question.
   2.3. Integrate critical appraisal conclusions into clinical care.

3. Facilitate the learning of patients, families, students, fellows, residents, other health professionals, the public, and others.
   3.1. Describe the principles of learning that are relevant to medical education.
   3.2. Identify collaboratively the learning needs and desired learning outcomes of others.
   3.3. Select effective teaching strategies and content to facilitate the learning of others.

3.4. Demonstrate an effective lecture or presentation.
3.5. Assess and reflect on a teaching encounter.
3.6. Provide effective feedback.
3.7. Describe the principles of ethics with respect to teaching.

4. Contribute to the development, dissemination, and translation of new knowledge and practices.
   4.1. Describe and exemplify the principles of research and scholarly inquiry.
   4.2. Describe and observe the principles of research ethics.
   4.3. Demonstrate an understanding of the ethics of animal and human experimentation.
   4.4. Demonstrate an ability to incorporate gender, cultural, and ethnic perspectives in research methodology, data presentation, and analysis.
   4.5. Pose scholarly questions.
   4.6. Formulate a scientific research study to answer clinical questions.
   4.7. Conduct a systematic search for evidence.
   4.8. Demonstrate the use of databases for literature searches and reviews.
   4.9. Select and apply appropriate methods to address a clinical or research question.
   4.10. Describe basic statistical methods used in clinical trials.
   4.11. Disseminate the findings of a study.

5. Complete at least one research project under the mentorship of an attending colorectal surgeon or other faculty supervisor, which must be presented at least at a national or international scientific event or published in a peer-reviewed medical journal.

6. Participate in the peer-review process of a research proposal or a manuscript.

Professional

Definition

As a professional, a trainee must be committed to the health and well-being of patients, individuals, and society through ethical practice, profession-led regulations, and high standards of personal behavior.

Key enabling competencies

A trainee must be able to
1. Demonstrate commitment to patients, the profession, and society through ethical practice.
   1.1. Exhibit appropriate professional behaviors, including honesty, integrity, commitment, compassion, respect, and altruism, in practice.
   1.2. Demonstrate personal responsibility to patients by availability and confidentiality.
   1.3. Demonstrate commitment to delivering the highest quality of care and maintenance of competence.
   1.4. Demonstrate adherence to the best available practice, including referral to other qualified practitioners when appropriate.
   1.5. Demonstrate meticulous accuracy in reporting clinical and scientific information.
   1.6. Recognize and respond appropriately to ethical issues encountered in practice.
   1.7. Manage conflicts of interest, including financial issues and those related to vendors.

1.8. Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law in the Kingdom of Saudi Arabia.
1.9. Maintain appropriate professional relations with the patients and their families and caregivers.
1.10. Demonstrate a commitment to patients, the profession, and society through participation in a profession-led regulation.

2. Participate in the Saudi Society of Colon and Rectal Surgery and related international professional organizations.
   2.1. Demonstrate an understanding of the professional, legal, and ethical codes of practice.
   2.2. Demonstrate knowledge of the ethical problems of the use of human or animal tissue or products for treatment, e.g., the use of porcine products.
   2.3. Demonstrate a working knowledge of regional and local laws and regulations related to the practice of medicine in general and colorectal surgery in particular.
   2.4. Demonstrate an understanding and appreciation for the legal rights of patients and their families and caregivers, in matters related to informed consent, delegated consent, and informed decision-making.
   2.5. Fulfill the regulatory and legal obligations required for current practice.
   2.6. Demonstrate accountability to professional regulatory bodies.
   2.7. Recognize and respond to unprofessional behaviors portrayed by others in practice.
   2.8. Participate in a peer review of practice and audits.

3. Demonstrate commitment to a healthy lifestyle and sustainable practice.
   3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice.
   3.2. Strive to heighten personal and professional awareness and insight.
   3.3. Recognize other professionals in need and respond with help appropriately.
   3.4. Identify a colleague, a mentor, or a faculty member with whom they may discuss personal and professional goals, conflicts, and stresses.

Goals	CanMEDS role	A trainee is expected to be a competent specialist in colorectal surgery capable of assuming a consultancy role in the field.
		The trainee must acquire working knowledge of the theoretical and clinical bases of the specialty and have the technical skills to provide treatment in accordance with the clinical practice guidelines or the best scientific evidence.
Competencies	Medical expert	Function effectively with increasing levels of responsibility according to the year of training. This must integrate all the CanMEDS roles to provide optimal, ethical, and patient-centered holistic medical care.
		Establish and maintain clinical knowledge, skills, and attitudes appropriate to colorectal surgery.
		Perform a complete and appropriate clinical assessment of the patient.
		Use preventive and therapeutic interventions effectively. Use and interpret diagnostic tests relevant to the clinical setting.
		Demonstrate proficient and appropriate use of procedural skills.
		Seek appropriate consultation from other health professionals, recognizing the limits of their expertise.
	Communicator	Develop rapport, trust, and ethical relationship with the patients and their families and caregivers.
		Elicit and synthesize accurately the relevant information and perspectives from the patients, their families and caregivers, colleagues, and other professionals.
		Convey accurately the relevant information and explanations to the patients, their families and caregivers, colleagues, and other professionals.
		Develop a common understanding on issues, problems, and plans with the patients, their families and caregivers, and other professionals, to develop a consensus care plan.
		Convey effective oral and written information on a medical encounter.

	Collaborator	Participate effectively and appropriately in an inter-professional healthcare team.
		Work effectively with other health professionals to prevent, negotiate, and resolve inter-professional conflicts.
	Leader	Participate in activities that contribute to the effectiveness of their healthcare organizations and healthcare systems.
		Allocate finite healthcare resources appropriately.
		Serve in administrative and leadership roles in the field of colorectal surgery.
	Health advocate	Respond to the health needs and issues of the individual patient as part of patient care.
		Identify the health determinants for the communities and populations they serve.
		Promote the health of individual patients, communities, and populations.
	Scholar	Maintain and enhance professional activities through ongoing learning.
		Critically evaluate medical information and its sources and apply this appropriately to in-practice decisions.
		Facilitate the learning of patients, their families and caregivers, students, fellows, residents, other health professionals, and the public in general.
		Contribute to the development, dissemination, and translation of new knowledge and practices.
		Complete at least one research project under the mentorship of an attending colorectal surgeon, which must be presented at least at a national or an international scientific event and published in a peer-reviewed medical journal.
	Professional	Demonstrate commitment to the patients, profession, and society through ethical practice and profession-led regulation.
		Demonstrate commitment to a healthy lifestyle and sustainable practice.

PROCEDURES AND CLINICAL SKILLS TRAINING: SPECIFIC OBJECTIVES

Current Procedural Terminology (CPT*) Coded Procedures

The trainee is expected to achieve the following percentages of the total procedure load as follows:

Surgical trainee level	Percentage achieved of the objective/10 months of surgical training	Total percentage achieved of surgical objective targets
After 10 months of surgical training	25%	25%
After 20 months of surgical training	35%	60%
After 30 months of surgical training	40%	100%

*The CPT codes are used in order to categorize the procedures and evaluate the operative experience of the trainee in a detailed analysis.

Operative procedure log

The Saudi Fellowship in Colon and Rectal Surgery requires a minimum requirement within each of the following 17 operative categories. Trainees displaying insufficient numbers in five or more categories will not be allowed to proceed with the final certification process until they are able to provide sufficient case numbers to meet the requirements. See Appendix 1.

Appendix 1

The Saudi Fellowship in Colon and Rectal Surgery

Operative Procedure Standards Policy

CPT Codes by Category

Category			Subcategory		CPT codes
No.	**Description**	**Minimum requirement**	**No.**	**Description**	
1	**Procedures for hemorrhoids**	**34**	01	Excisional hemorrhoidectomy	46255, 46250, 46260
			02	Non-excisional hemorrhoidectomy	46221, 46500, 46934, 46935, 46936
			03	Excisional thrombosed external hemorrhoid	46320
2	**Abscess/fistula**	**32**	04	Incision and drainage of abscess (non-Crohn's disease)	46040, 46045, 46050, 46060
			05	Anal fistulotomy or fistulectomy	46270, 46275, 46280, 46285
			11	Drainage of fistulotomy, perineal Crohn's disease	46000, 46040, 46045, 46050, 46060
			15	Endorectal flap procedure for ano-vaginal/ano-perineal fistula	57300+ 14040, 46288
			16	Repair of rectovaginal fistula (other than with flap)	57300
3	**Procedures for fissure**	**9**	06	Lateral internal sphincterotomy	46080
4	**Pilonidal/other**	**12**	08	Excision or exteriorization, pilonidal disease	11770, 11771, 11772
			09	Excision or exteriorization, hidradenitis suppurativa	11470, 11471
			10	Excision or fulguration, condyloma acuminata	46924, 46922

			60	Excision of perianal lesion	46922 also 11400-11406
5	**Anoplasty**	**5**	07	Anoplasty for stricture or ectropion	Adult 46700 Infant 46705
			14	Repair of incontinent anal sphincter	46750
6	**Transanal excision/tumor**	**7**	13	Transanal excision or fulguration of rectal tumor	45170 snare 45307
7	**Prolapse procedures**	**4**	17	Perineal procedure for rectal prolapse (resection, cerclage, etc.)	45123, 45130
			51	Resection or fixation of rectal prolapse or intussusceptions	44111, 44050
8	**Rigid sigmoidoscopy**	**20**	20	Diagnostic/screening	45300
			21	Therapeutic (fulguration, snare)	45315, 45308, 45309
			22	Detorsion of volvulus	45321
			23	Other sigmoidoscopy procedure	
9	**Flexible sigmoidoscopy**	**25**	24	Flexible sigmoidoscopy	45330
10	**Colonoscopy**	**138**	25	Diagnostic colonoscopy (inflammatory bowel disease)	45378
			26	Diagnostic colonoscopy (other)	45378
			27	Colonoscopic polypectomy	45383, 45384, 45385
			28	Decompression of volvulus or pseudo-obstruction	45337 sigmoidosc-opy
			29	Endoscopic laser therapy	
			30	Dilatation of strictures	45303 rigid
			31	Other	
11	**Segmental colectomy**	**37**	32	Partial colectomy for cancer (left, right, segmental)	44140
			46	Resection for diverticular disease	44140
			61	Resection for other reasons	44140
12	**Low anterior resection**	**11**	33	Resection for cancer stapled anastomosis	44145
			34	Resection for cancer sutured anastomosis	44145

13	**Abdominoperineal resection**	**4**	35	Abdominoperineal resection for cancer	45110, 45126
14	**Resection for Crohn's disease**	**4**	36	Small bowel	44120
			37	Ileocolic resection	44160
			38	Colectomy with proctectomy	44152, 44155 Total
			39	Colectomy without proctectomy	Total 44150
15	**Resections for CUC/FAP**	**3**	40A	Resection for ulcerative colitis with proctectomy	44155
			40B	Resection for ulcerative colitis without proctectomy	44150
			41	Resection for polyposis syndrome colectomy with proctectomy	44155
			42	Resection for polyposis syndrome colectomy without proctectomy	44150
16	**IPAA/coloanal**	**7**	43	Ileoanal procedure (ulcerative colitis or polyposis)	44152 or 44153, 45113
			44	Coloanal procedure	45119, 45112
17	**Stomal procedures**	**19**	48	Creation, revision, relocation, or closure of colostomy or cecostomy	44343, 44320, 44340, 44620, 44626, 44345, 44346
			49	Creation, revision, relocation, or closure of ileostomy	44314, 44312, 44310, 44620, 44625

TEACHING AND LEARNING

Training will be delivered through a certified training center (see Training Center). It will be based on the general and specific objectives of the fellowship program. It will be delivered using the Wiseman approach, through practice-based learning.

Practice-based Learning

1. Practice educational activity, which includes
   - 1.1. Daily morning rounds
   - 1.2. Weekly morbidity and mortality rounds
   - 1.3. Grand rounds/guest speaker lectures
   - 1.4. Case presentations
   - 1.5. Weekly journal club, critical appraisal, and evidence-based medicine
   - 1.6. Multidisciplinary meetings
   - 1.7. Weekly gastrointestinal or inflammatory bowel disease club meeting

2. Weekly academic activity, which includes
   - 2.1. Weekly topic review
   - 2.2. Weekly clinical problem and skill analysis
   - 2.3. Weekly research and evidence-based medicine meeting

3. Work-based learning, which includes
   - 3.1. Daily round-based learning
   - 3.2. On-call duty-based learning
   - 3.3. Clinical-based learning (outpatient and inpatient)
   - 3.4. Colorectal surgery procedure learning
   - 3.5. Endoscopic procedure learning

4. Self-directed learning (SDL)
   - 4.1. Colorectal surgery club under the auspices of the Saudi Society of Colon and Rectal Surgery
   - 4.2. Annual Saudi-International Colorectal Diseases Forum under the auspices of the Saudi Society of Colon and Rectal Surgery
   - 4.3. Workshops and simulation courses
   - 4.4. Mock examination held by the Saudi Society of Colon and Rectal Surgery or the Scientific Committee

Time management of learning and educational activities

A dedicated protected time must be allocated to formal teaching activities, which include

1. A daily morning round report
2. A weekly journal club, critical appraisal, or evidence-based medicine meeting
3. Hospital grand rounds
4. Multidisciplinary meetings for colorectal cancer, inflammatory bowel disease, and functional colorectal disorders
5. A weekly topic review
6. Simulation workshops
7. The annual Saudi-International Colorectal Diseases Forum

8. A colorectal surgery club
9. A gastrointestinal, colorectal, or inflammatory bowel club
10. A monthly meeting with the assigned mentor to review performance and obtain feedback

Practice-based learning objectives linked to CanMEDS competencies

1. Practice educational activity

Activity	Objectives	CanMEDS competencies
Morning round reports	Educate trainee and all the staff members, monitor patient care, and review management decisions and their outcomes.	Professional Medical expert Leader Scholar
	Develop competence in short presentations on all admitted patients in a scientific and informative manner.	
	Develop confidence in presenting long cases systematically.	
	Generate appropriate differential diagnosis and proper management plan.	
Morbidity and mortality rounds	Identify areas of improvement for clinicians involved in the case management.	Professional Medical expert Leader Scholar
	Prevent errors that lead to complications.	
	Modify behavior and judgment based on previous experiences.	
	Identify system issues that may affect patient care, such as outdated policies and changes in patient identification procedures.	
Grand rounds or guest speaker lectures	Increase the medical knowledge and skills of the trainee, and ultimately improve patient care.	Medical expert Professional
	Understand and apply current clinical practice guidelines in the field of colorectal surgery.	
	Describe the latest advances in the field of colorectal surgery and research opportunities.	
	Identify and explain areas of controversy in the field of colorectal surgery.	
Case presentations	Formulate a list of all problems identified in the history and physical examination.	Medical expert Scholar
	Develop a proper differential diagnosis for each case.	
	Formulate a diagnosis/treatment plan for each case.	

	Present a case follow-up in a focused, problem-based manner that includes pertinent new findings and proper diagnostics and treatment plan.	
	Demonstrate commitment to improve case presentation skills by seeking regular feedback on presentations.	
	Record and present data accurately and objectively.	
Journal club, critical appraisal, evidence-based medicine	Promote professional development.	Medical expert Scholar Health advocate
	Keep up to date with the literature.	
	Disseminate information and build up debate on good practice.	
	Ensure that professional practice is evidence-based.	
	Learn and practice critical appraisal skills.	
	Provide an enjoyable educational and social discussion.	
Multidisciplinary meetings	Provide the knowledge, technical skills, and experiences necessary for the trainee to interpret and correlate clinical findings and laboratory data, such as radiological imaging with the pathological changes.	Medical expert Communicator Collaborator Leader
	Promote effective communication and sharing of expertise with peers and colleagues.	
	Promote the development of investigative skills to better understand pathologic processes as they apply to both individual patients and the general patient population.	
	Promote the acquisition of knowledge, provide experience in laboratory investigations and management, and encourage trainees to assume a leadership role in educating other physicians and allied health professionals.	
Gastrointestinal, colorectal, or inflammatory bowel club	Interact with gastroenterologists, oncologists, pathologists, radiologists, hepatic surgeons, and colorectal therapists in a collaborative approach to patient care.	Collaborator Communicator Medical expert Scholar
	Analyze clinical scenarios and interpret the literature using a critical approach.	

	Learn the importance of first-hand information compared with the shortcomings of second-hand information.	
	Use clinical practice guidelines in the decision-making process.	
	Identify the potential limitations of published research and its applicability to clinical practice.	

2. Academic activity

Activity	Objectives	CanMEDS competencies
Weekly topic review	Review colorectal topics in terms of etiology, pathology, signs and symptoms, diagnosis, management, and prevention.	Medical expert Scholar
Weekly clinical problem and skill analyses	Develop the skill to extract data and, at the same time, differentiate first-hand from second-hand information. Appreciate the limitations of second-hand information.	Medical expert Scholar Professional Communicator
	Develop the skill to analyze a clinical situation and organize the pertinent data logically.	
	Apply the most recent clinical practice guideline or, if not available, the best scientific evidence to decision-making.	
	Identify all options for management, in terms of their shortcomings, complications, success rates, and failures.	
	Develop an algorithm for management based on success rates, least risk of complications, and patient suitability.	
	Develop the ability to convey management plans to patients and their families and caregivers using an effective strategy.	
	Prepare the trainee for his/her examinations.	
Weekly research and evidence-based medicine meetings	Learn how to develop a scientific proposal for research.	Scholar Communicator
	Acquire NIH certification for conducting research on humans and animals.	
	Communicate with the subjects and enroll them in the study.	
	Understand how to develop a database and code the data.	

	Analyze data statistically.	
	Write an abstract for a national or an international presentation.	
	Write and submit a manuscript for publication.	
	Prepare a rebuttal for peer-reviewed comments.	

3. Work-based learning

Activity	Objectives	CanMEDS competencies
Daily round-based learning	Present problem-oriented history and physical examination findings with pertinent investigations to the rounding team.	Medical expert Communicator Health advocate Professional
	Document history and physical examination findings according to an accepted format, including a complete written database, problem list, and a focused subjective, objective, assessment, and plan (SOAP) note.	
	Develop a patient management plan in consultation with others.	
On-call duty-based learning	Assume a leadership role on the on-call team.	Medical expert Leader Scholar Health advocate Professional
	Provide expert opinion to other services when consulted.	
	Assess all admissions and develop a detailed care plan according to clinical practice guidelines or the best available evidence.	
	Prioritize clinical problems based on their urgency and impact on the life of the patient.	
	Communicate plans of care to the patients, their families and caregivers, and the rest of the medical team.	
	Delegate based on the level of subordinate clinical duties and tasks.	
	Monitor residents and nurses during the execution of tasks.	
Clinical-based learning (outpatient and inpatient)	Develop an efficient approach in order to elicit a detailed history and conduct examination in a tight-scheduled outpatient clinic.	Medical expert Communicator Health advocate Collaborator

	Conduct an extensive review of the medical record and summarize it in a concise and succinct medical note that includes all pertinent details in a logical chronological sequence.	
	Develop a decision based on clinical practice guidelines or the best available scientific evidence.	
	Offer options to the patient based on an algorithm guided by the success rate of the option, its limitations and risks, and patient suitability.	
	Communicate in a simple format to the patients and their families and caregivers the options of care, and then help them establish a final plan of care.	
	Resolve conflicts with the patients and their families and caregivers, and enlist the patient advisors and the colorectal therapists for mediating as patient advocates.	
	Document a detailed legible medical note or enter a succinctly detailed enough note in the electronic medical record.	
Colorectal surgery procedure learning	Identify the indications for surgical procedures.	Medical expert Professional Communicator Collaborator Medical expert Professional Communicator
	Assess the readiness and tolerability of the patient to the surgical procedure.	
	Identify the best procedure for a clinical setting.	
	Anticipate the difficulties to be encountered during a certain procedure and the strategy to overcome these.	
	Anticipate the complications of the chosen procedure and identify them immediately when they occur.	
	Develop a strategy of time-effectiveness during operation.	
	Communicate to the patients and their families and caregivers the risks and benefits of and alternatives to the procedure.	

	Obtain an informed consent from patients and their families and caregivers.	
	List on the consent form the complications with a frequency of occurrence of more than 1%.	
	Consult other services to prepare the patient for surgery preoperatively or help in management postoperatively.	
Endoscopic procedure learning	Identify the indications for an endoscopic procedure.	Medical expert Professional Communicator
	Assess readiness and tolerability of the patient to the endoscopic procedure.	
	Choose the best preparation protocol for the endoscopic procedure.	
	Use the Saudi Clinical Practice Guidelines to govern any decision on screening for colorectal cancer.	
	Communicate to the patients and their families and caregivers the risks and benefits of and alternatives to the procedure.	
	Obtain an informed consent from patients and their families and caregivers.	
	List on the consent form the complications with a frequency of occurrence of more than 1%.	

4. Self-directed learning

Activity	Objectives	CanMEDS competencies
Colorectal surgery club under the auspices of the Saudi Society of Colon and Rectal Surgery	Present in the club the clinical cases and the management and review of the latest literature.	Medical expert Professional Scholar
	Debate the management presented, detailing its shortcomings and other plausible options.	
	Identify the gaps for improvement in clinical care.	

Annual Saudi-International Colorectal Diseases Forum under the auspices of the Saudi Society of Colon and Rectal Surgery	Learn the most recent trends in colorectal surgery.	Medical expert Communicator Scholar
	Identify the gaps between what is presented and what is practiced during his/her training, as well as the strategy to bridge that gap.	
	Interact with faculty members and develop rapport.	
	Critique and debate with faculty members as regards their presentations based on scientific evidence.	
Workshops and simulation courses	Acquire operative and endoscopic skills in laparoscopy and endoscopy.	Medical expert Scholar
	Learn how to use the latest surgical and endoscopic technologies.	
	Learn the indications for and limitations and success rates of new technologies.	
Mock examination held by the Saudi Society of Colon and Rectal Surgery or the Scientific Committee	Develop the skill to analyze questions and their possible answers in a timely manner.	Medical expert Professional Communicator Scholar
	Identify gaps in learning to be bridged by further reading.	
	Acquire the skill to handle oral examination.	
	Develop an efficient approach in order to handle clinical oral examinations.	

Core Education Program (CEP)

This includes two formal teaching and learning activities:
1. Core specialty topics (80%)
2. Trainee-selected topics (20%)
3. Professional development topics
4. Practical skills training

1.1. Core specialty topics:
- Format of presentation: interactive lectures, case discussions, videos, and quizzes
- Duration: 1 hour per week
- Topics

Topic	Objectives
1. Anatomy, embryology, and physiology of the colon, rectum, and anus	Describe the basic science mechanisms pertinent to the clinical setting or disease pathology.
2. Diet and laxatives in colorectal surgery	Identify the impact of colorectal surgery on malnourishment.
	Learn the differences between laxatives and the indications for each category.

	Identify the different modalities to prepare the colon and rectum for surgery or endoscopy.
3. Hemorrhoids	Classify hemorrhoids.
	Appreciate the etiology of hemorrhoids.
	Learn the treatment options.
4. Anal fissure	Learn the etiology of anal fissures.
	Determine the impact of surgical treatment.
	Identify the risk of incontinence for each surgical option.
	Determine the limitations of all treatment options.
5. Anorectal abscess and fistula	Understand the classification of abscesses and fistulas, and their relation to the sphincter complex.
	Learn the method of abscess drainage.
	Identify the surgical options to treat fistulas.
6. Complex, rectovaginal, and recto-urethral fistula	Understand the limitations and success rates of the several surgical options.
7. Fecal incontinence	Learn the different types of fecal incontinence.
	Identify overflow incontinence (not true incontinence) and differentiate it from true fecal incontinence.
	Learn methods of investigation.
	Identify the surgical options and their limitations.
8. Obstructed defecation and hypotonic or atonic colon	Understand the mechanism of obstructed defecation.
	Appreciate the difference between pure hypotonia/atonia and combined hypotonia/atonia with obstructed defecation, and their respective treatment options.
9. Colorectal trauma	Learn the classification of rectal trauma.
	Identify the treatment options for colon and rectal trauma.
	Determine the treatment options for foreign bodies in the colon and rectum.
10. Rectal prolapse, solitary rectal ulcer syndrome	Appreciate the different anatomic abnormalities of the anorectum.
	Understand that surgical correction to achieve anatomic normality does not mean return to functional normality.
	Identify the different approaches and learn how to select the best approach for the clinical setting.
11. Congenital anorectal malformations	Learn the congenital anomalies encountered by the colorectal surgeon during adulthood.
12. Cutaneous conditions	Develop the clinical expertise to diagnose the different cutaneous perianal skin abnormalities and their treatment.
13. Colorectal manifestations of acquired immunodeficiency syndrome	Learn the different common infections and malignancies affecting patients with acquired immunodeficiency syndrome.

14. Polypoid syndromes	Identify the different hereditary colorectal tumor syndromes and their genetic basis, method of diagnosis, and prevention of inheritance.
15. Colon cancer	Learn the staging of colon cancer and the treatment modalities as per the clinical practice guidelines.
16. Rectal cancer	Determine the staging of rectal cancer and the treatment modalities as per the clinical practice guidelines.
17. Anal cancer	Learn the staging of anal cancer and the treatment modalities as per the clinical practice guidelines.
18. Rare tumors of the colon, rectum, and anus	Identify the rare tumors and their treatment modalities.
19. Diverticular disease	Learn the clinical practice guidelines and the best evidence to guide treatment options.
20. Vascular colorectal diseases	Determine the vascular colorectal disease conditions and their surgical management.
21. Ulcerative colitis	Learn the treatment options based on the clinical practice guidelines.
22. Crohn's disease	Identify the treatment options based on the clinical practice guidelines.
23. Intestinal stomas and enterostomal therapy	Learn about the different stomas, their complications, and how to handle each complication.
24. Miscellaneous colitides	Determine the different colitides and their treatment options.
25. Anorectal physiology	Learn the different interpretations of anorectal physiologic tests and their clinical implications.
26. Constipation	Differentiate constipation from atonia, hypotonia, and obstructed defecation.
	Learn to educate the patient about healthy lifestyle and diet to prevent constipation. Utilize the best medical treatment suitable to the patient.
27. Anal viral conditions	Identify the methods to diagnose viral infections of the anus and the treatment options.
28. Anal benign tumors	Learn the different tumors of the anus and their treatment options.

2.1. Trainee-selected topics (20%)
- The trainee can create a list of topics of his/her interest to learn during the fellowship.
- The topics are chosen based on the needs of the trainees.
- All the topics must be planned and cannot be random.
- All the topics must be approved by the Scientific Committee.
- Training centers may work with the trainees to determine the topics.
- The topics may include conferences, workshops, or courses.

- Examples: statistical courses; critical appraisal workshops; manuscript writing workshops; EndNote, Zotero, or other bibliographic software workshops that can be used during research; conflict resolution workshops; and communication skills workshops.

3.1. Professional development topics
- Learn the art of presentation and making professional slides.
- Understand the principles of research and writing a proposal and a manuscript.
- Run an awareness day or a health advocacy group.
- Write public health articles for the media or the social media.
- Develop a wider portfolio through acquiring more skills and publications and participating in scientific activities.

4.1. Practical skills training

Each trainee is enrolled in two simulation courses. One course is dedicated to learning laparoscopy in the dry lab on a simulator followed by a workshop in the wet lab on an animal model. The other is dedicated to colonoscopy using the simulator. The courses are arranged through the Saudi Society of Colon and Rectal Surgery.

Simulation activity	Objective
Fundamentals of laparoscopic/advanced laparoscopy	Simulator-based training (1 day)
	Animal lab training (1 day)
Fundamentals of colonoscopy	Simulator-based training (2 days)

ASSESSMENT

1. Purpose of Assessment

Assessment will guide trainees and trainers to achieve the targeted learning objectives. On the other hand, reliable and valid assessment will provide excellent means for training improvement as it will inform the following aspects: curriculum development, teaching methods, and quality of the learning environment.

Assessment can serve the following purposes:

i. Assessment for learning: Trainers will use information from trainees' performance to inform their learning for improvement.
ii. Assessment as learning: Assessment criteria will drive trainees' learning.
iii. Assessment of learning: Assessment outcomes will represent a quality metrics that can improve the learning experience.

2. Formative Assessment

2.1 General Principles

Trainees, as adult learners, should strive for feedback throughout their journey of competency from "novice" to "mastery" levels. Formative assessment (also referred to as continuous assessment) is the component of assessment that is distributed throughout the academic year aiming primarily to provide trainees with effective feedback. Input from the overall formative assessment tools will be utilized at the end of the year to make the decision of promoting each individual trainee from the current to the subsequent training level. Formative assessment will be defined based on the Scientific Committee recommendations (usually updated and announced for each individual program at the start of the academic year). According to the executive policy on continuous assessment (available online: www.scfhs.org), formative assessment will have the following features:

i. Multisource: minimum of four tools
ii. Comprehensive: covering all learning domains (knowledge, skills, and attitude)
iii. Relevant: focusing on workplace-based observations
iv. Competency-milestone oriented: reflecting trainee's expected competencies that match the trainee's developmental level

Trainees should play an active role in seeking feedback during their training. On the other hand, trainers are expected to provide timely and formative assessment. The SCFHS will provide an e-portfolio system to enhance the communication and analysis of data arising from formative assessment.

The marking of each assessment tool should comply with the SCFHS executive policy of continuous assessment, and be in compliance with the scientific committee of the specialty. It should be emphasized that there is no individual weight for each tool and that the trainee should satisfactorily pass each tool; comprehensive assessment can be applied for borderline failure (refer to policy).

2.2 Formative Assessment Tools

The evaluation and assessment of a trainee throughout the program is undertaken in accordance with the Commission's training and examination rules and regulations (please refer to the SCFHS website).

The formative assessment tools are summarized in the following table*:

(*Fellows and instructors are advised to refer to the most updated list of tools that was approved the scientific committee of the specialty.)

Assessment domain	F1 & F2	F3
Knowledge	• End-of-year written exam • Structured oral examination (SOE) • Academic Activities	• Academic activities
Skills	• Research • Logbook	• Research • Logbook
Attitude	• ITER	• ITER

Evaluation of Attitude: In-Training Evaluation Report (ITER)

The performance of the trainee will be evaluated jointly by the training instructors, who will assess the following competencies:

1. Performance of the trainee during daily work and on-call.
2. Performance and participation in academic activities.
3. Performance of the trainee during patient interactions in the outpatient setting. Trainers must provide a timely and specific feedback to the trainee every month during the rotation.
4. Performance of the trainee during procedures. Timely and specific collegial feedback must be provided to the trainee after each procedure. This is mandatory.
5. The CanMEDS-based competencies must be evaluated during each rotation:
   - 5.1. The assigned training instructors at the end of any rotation will provide a standardized evaluation of the trainee (see Appendix 2: Standard Evaluation Form).
   - 5.2. An evaluation form must be completed and submitted every 3 months (mid-evaluation and end-of-rotation evaluation).
   - 5.3. The evaluation form must be submitted to the program director within 2 weeks of the end of each 3-month rotation.
   - 5.4. The program director will ultimately convey the content of the evaluations to the Training Committee within 4 weeks following the end of the rotation.
   - 5.5. The trainee must be counseled in an interview with the program director regarding the content of the evaluation, sign the evaluation form, and write his/her comments.
   - 5.6. The trainee must complete 360-standard evaluation forms (Appendices 3 and 4) to evaluate all his/her training instructors at the end of the rotation.
   - 5.7. The result of those trainees' evaluations must be conveyed by the program director to the concerned training instructors.

Final In-Training Evaluation Report (FITER)

1. A summative continuous evaluation report is prepared for each trainee at the end of each academic year.
2. The scores for all the evaluations for that year must be added and divided by the total number of the evaluations.

Evaluation of Knowledge

Knowledge is evaluated through structured oral examination (SOE) and academic lecture assignments.

1. The assessment tools of knowledge include an SOE, which is conducted once a year.
2. Each candidate must be assigned to the following during his/her rotation: academic (lecture presentations and student and resident teaching) or clinical assignments (case presentations during club meetings). These are preferably documented by an electronic tracking system, when applicable, on an annual basis. The candidate must present a lecture on a colorectal topic fortnightly at his/her training center.
3. The score for this item can be calculated through the division of the total number of colorectal lectures (including case presentations during clubs, lectures presented to the medical students and residents) over the anticipated number of delivered lectures per year, which is 20 multiplied by 100.

Evaluation of Skills

Skills are evaluated through the logbook procedures performed by the trainee and the research conducted during his/her fellowship.

1. Each candidate must conduct research in the field of colorectal diseases. The research ethical committee at the institution where the research is conducted must grant research approval. The candidate must also enroll in workshops and training courses to enhance his/her research skills. These include critical appraisal workshop, manuscript writing workshop, EndNote workshop, and NIH workshop on conducting research on humans and animals. The score for this component is rated as follows:
   a. 5% for each workshop enrolled into (minimum of 2 workshops)
   b. 5% for writing the abstract for the proposal
   c. 10% for writing the proposal
   d. 20% for collecting the data
   e. 10% for conducting the analysis
   f. 5% for writing the final abstract
   g. 20% for writing the final manuscript
   h. 10% for abstract presentation at a national or international conference
   i. 15% for publication of the manuscript
2. Calculation of the final score: the total scores for items achieved in a year are multiplied by a factor of 2.
3. A score above 100% will only be awarded a 100% rating. The passing score is 60%.
4. The logbook must be submitted every 6 months for evaluation by the program director. The candidate must achieve 17% of his/her target logbook requirements every rotation with a 6-month duration. A percentage less than 10% during a rotation should be investigated by the program director to find out if the low operative experience is due to a low load of operations at the training center, and attempts should be made through rotation changes to rectify the shortage in operative experience. The calculation of the score is as follows:

5. Logbook score: (number of procedures per year/120) × 100.
6. The number 120 is replaced by 60 if the trainee had a non-surgical rotation of 6 months during his/her training year.
7. Rigid proctosigmoidoscopy procedures are not counted in the number of procedures used for this calculation. Consequently, the trainee must perform the required number of rigid proctosigmoidoscopies as stated in Appendix 1 in order to qualify for certification.

End-of-Year Written Examination

The end-of-year written examination will be limited to F1 and F2 trainees. The trainee must pass the written examination to be promoted from one year to the next. The number of examination items, eligibility, and passing score are established in accordance with the Commission's training and examination rules and regulations. The examination details and a blueprint are published on the Commission's website (www.scfhs.org.sa) and included in this curriculum. The blueprint for the end-of-year written examination is the same as the one for the final written examination.

Evaluation Regulations

The trainee will be evaluated during his/her training. The rules governing the evaluation process will be as follows:

1. The bylaws of the SCFHS governing the examination and evaluation process must be observed.
2. The promotion of the trainee from the first year to the second year should be dependent on his/her passing the required assessment tools in the three domains: attitude, knowledge, and skills.
3. The following are the components of the annual evaluation that must be passed:
   a. Attitude: FITER
   b. Knowledge:
      i. End-of-year written examination
      ii. SOE (for F1 & F2 only)
      iii. Academic lectures presented (for F1 & F2 only)
   c. Skills:
      i. Logbook
      ii. Research
4. Annual examination, which consists of two parts: written and clinical (systemic oral examination, SOE). The trainee must pass both parts of the examination to be promoted.
5. The promotion of the trainee from the first year to the second year and from the second year to the third year is dependent on his/her passing the components of the annual evaluation as delineated in item no. 3.
6. To be promoted from the first to the second year or the second to the third year, the trainee must achieve a minimum average evaluation score of 60% in his/her FITER for the entire year without a score of less than 50% in any single rotation.
7. A score of less 50% in the evaluation of any rotation demands repetition of the rotation at the same institution. Any request to change institutions should be approved by a majority of the Scientific Committee, provided that valid and documented reasons are presented by the trainee. Those reasons should prove the presence of a personal conflict supported by a report from the Chairman of the Training Committee. The Chairman of the Scientific Committee has the privilege to shift the rotation if he/she foresees a benefit in this shift of rotations in situations other than the personal conflict.

In order to be promoted from F1 to F2 and F2 to F3, the trainee must have a minimum score of borderline pass in each component of the following: FITER, academic lectures presented, end-of-year written examination, end-of-year clinical examination, SOE, logbook, and research. For more details on the assessment, please refer to the SCFHS executive policy of continuous assessment and promotion available at www.scfhs.org.

Certification of Training Completion

In order to be eligible to set for final specialty examinations, each trainee is required to obtain a "Certification of Training Completion." Based on the training bylaws and executive policy (please refer to www.scfhs.org), trainees will be granted a "Certification of Training Completion" once the following criteria are fulfilled:

a. Successful completion of all training rotations
b. Completion of training requirements as outlined by the scientific council/committee of specialty (logbook, research, etc.)
c. Clearance from SCFHS training affairs, which ensures compliance with tuition payment and completion of universal topics whenever it is applicable

A "Certification of Training Completion" will be issued and approved by the supervisory committee or its equivalent according to the SCFHS policies.

Before applying for the final certifying examination, the candidate must

1. Have fulfilled all minimum required rotations and completed his/her operative and endoscopic logbook, including all his/her educational assignments (assigned presentations/academic lectures).
2. Have met the minimum requirements within all the 17 operative categories.
3. Achieved a minimum average evaluation score for the whole year (F3) of 60% from the total score without a score of less than 50% in any single rotation for the entire 3-year training period; nonetheless, he/she is allowed to apply for certification if the rotation with a score less than 50% has been repeated and the new score is 60% or higher.
4. Have passed the final certifying written examination.
5. Have passed the final certifying clinical oral examination.
6. Have an active registration with the SCFHS.

3. Summative Assessment

3.1 General Principles

Summative assessment is the component of assessment that aims primarily to make informed decisions on trainees' competencies. Compared to the formative one, summative assessment does not aim to provide constructive feedback. For further details on this section, please refer to general bylaws and executive policy of assessment (available online: www.scfhs.org). In order to be eligible to set for the final exams, a trainee should be granted a "Certification of Training Completion."

3.2 Final Specialty Examination of the Fellowship

The final specialty examination is the summative assessment component that grants trainees the specialty's certification. It has two elements:

a) **Final written exam**: in order to be eligible for this exam, trainees are required to have a "Certification of Training Completion."

Final written examination blueprint

This blueprint applies to the annual and final written examinations (the table below is for demonstration only; please refer to the most updated blueprint published online at www.scfhs.org.sa).

Domains	No. of questions
Basic science, pharmacology GI medications	7
Anorectal & sexually transmitted diseases	12
Colorectal cancer	20
Inflammatory bowel	10
Emergency	5
Intraoperative & postoperative complications	15
Stomal therapy & motility disorders	10
Hereditary tumors and genetics	5
Endoscopy	3
Rare conditions	3
Medical and radiation oncology	5
Research, statistics, ethics, patient safety & professionalism	5
Total questions	100

b) **Final clinical and oral examination (FCOE)**: Trainees will be required to pass the final written exam in order to be eligible to set for the final clinical exam. It is a certifying examination conducted in the SOE format. This examination assesses a broad range of high-level clinical skills, including data gathering, problem solving, option generation, risk management, patient management, communication, and counseling. The examination is held once a year in the form of patient management problems. Eligibility and the passing score are established in accordance with the SCFHS training and examination rules and regulations. Examination details and a blueprint are published on the Commission's website: www.scfhs.org.sa. The FCOE is made up of 6 stations: 2 long cases and 4 short cases.

Final clinical and oral examination blueprint

(The table below is for demonstration only; please refer to the most updated blueprint published online at www.scfhs.org.sa.)

SOE	Domains					
Long	Cancer	Inflammatory bowel disease	Diverticular disease	Colorectal bleeding	Hereditary polyposis	
Short	Emergency	Intraoperative complication	Perioperative complication		Anorectal	Functional disorders

OSCE Case	No.	Fields	Mark
Long	2	Decision-making skill	60 (30 per long case)
		Emergency management	
		Office treatment	
		Operative knowledge	
		Handling of peri- and intraoperative complications	
Short	4	Clinical knowledge	40 (10 per short case)
		Ability to generate treatment options	
		Assessment of treatment risks	
		Procedure skill	
		Clinical practice guideline and clinical trial knowledge	
		Assessment of treatment success	
		Judicial use of investigations	
		Knowledge of medical treatment	
Total	6		100

3.3 Certification of Training Completion

In order to be eligible to set for final specialty examinations, each trainee is required to obtain a "*Certification of Training Completion.*" Based on the training bylaws and executive policy (please refer to www.scfhs.org), trainees will be granted "Certification of Training Completion" once the following criteria are fulfilled:

a. Successful completion of all training rotations
b. Completion of training requirements as outlined by the scientific committee of specialty (logbook, research, etc.).
c. Clearance from the SCFHS training affairs, which ensures compliance with tuition payment and completion of universal topics

A "Certification of Training Completion" will be issued and approved by the local supervisory committee or its equivalent according to the SCFHS policies.

A certificate acknowledging completion of training will only be issued to the fellow upon successful fulfillment of all program requirements. Trainees passing all requirements for final specialty certification are awarded the Saudi Fellowship in Colon and Rectal Surgery certificate abbreviated as SFCRS.

Revision of the Fellowship

The Scientific Committee of Colon and Rectal Surgery will conduct an evaluation process of the curriculum and the training process every 4 years. The evaluation process will depend on the following:

1. Questionnaire of the graduate fellows from the program.
2. Interview with the graduate fellows.
3. Audit review by international examiners.
4. Questionnaire for the training instructors (consultants and colorectal therapists).

5. Evaluation of the results of the examination process.
6. Evaluation of the trainers by the trainees (Appendices 3 and 4).
7. Conclusions drawn from each of the above will be reviewed and implemented by the Scientific Committee in order to improve the Saudi Fellowship in Colon and Rectal Surgery.

Admission Criteria

Applicants should comply with the SCFHS executive policies for admission and registration (available online).

Duties of the Trainee

1. The trainee should seek education in continuum. He/she should follow patients from the outpatient department to the inpatient department and again to the outpatient department to be exposed to the entire cycle of the treatment process. The trainee must achieve the following:
   i. The objectives of the program.
   ii. The skills and competencies required by the program.
   iii. The minimum operative load requirements.
   iv. Completion of the specified rotations.
   v. Attendance to at least 80% of the educational activities scheduled.
   vi. Publication of at least one article in a peer-reviewed journal or presentation of an abstract in a national or international meeting.
   vii. Passing of the annual written exam and SOE.
   viii. Passing of the certifying final written and oral examinations.
   ix. Compliance with the rules of the holidays.
   x. Compliance with the rules of on-call duty.
   xi. Active registration with the SCFHS.
   xii. Provide evaluation of the training instructors at the end of each rotation.
   xiii. Active participation in the Annual Colon and Rectal Surgery Forum held in the last week of March by the Saudi Society of Colon and Rectal Surgery.
   xiv. Active participation in the colorectal awareness days held by the Saudi Society of Colon and Rectal Surgery.
   xv. Adherence to the bylaws of the SCFHS.
   xvi. Adherence to the decisions rendered by the program director, Training Committee, and Scientific Committee for the Saudi Fellowship in Colon and Rectal Surgery.
   xvii. Compliance with the advice of the training instructors.
   xviii. In case of personal conflicts, the trainee must comply with the instructions of the training instructor at the training center where the conflict arose, pending the final ruling of the Training and Scientific Committees of the Saudi Fellowship in Colon and Rectal Surgery. Any violation of this rule will void and nullify the right of the trainee for his/her case to be presented at the level of the Training and Scientific Committees.
   xix. Rotations should not be changed without approval of the program director and the training centers involved with the exchange. Any conflict arising between the training centers or the program directors in this regard should be handled by a majority decision at the level of the Scientific Committee after a written request from the fellow. The causes of the change should be passed on to the Training and Certification Committee.

2. On-call duty
   a. On-call duty is composed of new consults, outpatient calls, emergency room calls, and responsibility for all inpatients on the service. The fellow is responsible only for colorectal surgery components in any training center or clinical unit.
   b. Consultants who have dual roles as general surgeons on top of their role as colorectal surgeons should assign the fellow only the colorectal surgery aspect of their practice.
   c. The trainee should be on call for at least 36% of the duration of his/her rotation.
   d. Management decisions during the duration of duty must be discussed with the attending staff.
   e. The trainee takes calls from home.
   f. Weekend rounds are to be conducted by the trainee if he/she is on call.
   g. The trainee is to have full on-call duty during daytime and nighttime during the colorectal surgery rotation.
   h. The trainee is also expected to have calls and weekend rounds during clinical rotations outside the specialty of colorectal surgery. However, on-call duty during weekdays starts after working hours and ends the next day with the start of regular hours.
   i. During the research rotation, the trainee is expected to take on-call duty. He/she covers during and after working hours in addition to the weekends.
   j. The trainee is on-call for colorectal surgery only. No calls for general surgery are permitted. Training centers are encouraged to create an on-call rotation for the trainee for all colorectal activities after working hours.
   k. During non-surgical rotations excluding the research rotation, the trainee is expected to take on-call duty. However, he/she covers only after working hours and during weekends. The working hours are covered by the trainees rotating in colorectal surgery.

3. Clinical rounds
   a. A daily round must be conducted every day prior to the consultant round.
   b. A sign-off round must be conducted prior to the end of a working day, and all information about the patients must be passed on to the on-call team.
   c. A preoperative round must be conducted to prepare the patients for surgery.
   d. A postoperative round after the operations must be conducted in order to convey the intraoperative findings to the patients and their families and caregivers.

4. Disciplinary actions and dismissal
   Disciplinary actions and dismissal from the program will be taken according to the rules and regulations of the SCFHS. Actions should be approved by a majority of the members of the Scientific Committee for the Saudi Fellowship in Colon and Rectal Surgery.
   a. The trainee is allowed to apply for the final certifying written examination for 3 consecutive years after training completion. If he/she elects not to apply for a certain year, then he/she has lost one of the three opportunities for certification.
   b. If the final certifying written examination has been passed, then the trainee has three attempts to pass the final certifying clinical oral examination within 3 years from passing the final certifying written examination.
   c. If the trainee was not able to pass the final certifying written or clinical oral examination after 3 years, then he/she must repeat the training for a duration determined by the Scientific Committee.

d. The trainee is allowed only one repetition of the training program. After which, he/she has 3 years to pass the certifying examinations. During those 3 years, he/she is allowed to repeat the certifying examination (written and, if passed, oral on an annual basis). If he/she failed to pass the certifying written or clinical oral examination within those 3 years, then he/she will be dismissed and will not be allowed any further chances in the future to obtain the Saudi Fellowship in Colon and Rectal Surgery. No exemptions from the Scientific Committee for the Saudi Fellowship in Colon and Rectal Surgery and the SCFHS are allowed.
e. Any violation of the rules mentioned under "Duties of the Trainee" should be included in the report made by the program director to the Scientific Committee.
f. Violations are a premise to deny the trainee the right to continue training, to take the annual written or SOE, and to take the certifying final written and clinical oral examinations. The decision should be taken at the level of the Scientific Committee for the Saudi Fellowship in Colon and Rectal Surgery.

5. Research
The trainee will be required to participate in ongoing clinical or basic science research in the field of colorectal surgery or colorectal diseases and produce at least one research proposal, one abstract, or publication during his/her training. The trainee must submit the abstract to a national or international meeting and the publication to a recognized peer-reviewed medical journal. It is expected that the trainee will contribute substantially to research and publication.

6. Holidays
a. The trainee is allowed 4 weeks of leave per year.
b. The trainee is allowed 14 days of leave per 6-month rotation.
c. In rotations less than 6 months, the trainee is allowed 3 days per month.
d. In rotations less than 1 month, no leave is allowed.
e. The trainee is allowed one Eid holiday per year.
f. A sick leave of more than 1 week requires the trainee to extend his/her training by the duration of his/her sick leave. This rule applies to sick leaves applied for by pregnant trainees.
g. In case of delivery, the trainee is awarded a maternity leave of 1 month. The duration of the leave must be compensated for an equivalent amount of training days at the end of training.
h. Compensation of sick leave and maternity leave should be carried out in one-segment rotation without interruption.
i. Carry-over of leaves is not allowed.

7. Salaries and benefits
It is the trainee's responsibilities to ensure guardian sponsorship to cover his/her work salary. The trainee will not receive any financial aid or salary from the Saudi Fellowship Program in Colon and Rectal Surgery during his/her training. The registration, annual, and examination fees will be paid to the SCFHS as per regulations in this regard.

LEGAL RULES AND REGULATIONS

The Fellowship is governed by the rules and regulations approved by the Board of Trustees for the SCFHS (Training and Examination) for the year 1425, No. 5/a/25 dated 16-2-1425H. Any update on these rules approved by the Board of Trustees for the SCFHS will apply to this fellowship.

The trainee must observe the Patient's Bill of Rights issued by the SCFHS.

RECOMMENDED READING

Apart from following the major colorectal journals, the trainee should familiarize him/herself with the colorectal surgical textbooks and all other relevant references available in the Medical Library.

- Corman's Colon and Rectal Surgery
- ASCRS Textbook of Colon and Rectal Surgery
- NCCN Guidelines for the Treatment of Colon, Rectal and Genetic/Familial High-Risk Assessment: Colorectal
- ECCO Guidelines for Ulcerative Colitis and Crohn's Disease
- ASCRS Clinical Practice Guidelines
- Saudi Clinical Practice Guidelines for Colorectal Cancer Screening

APPENDICES

The Saudi Fellowship in Colon and Rectal Surgery

Operative Procedure Standards Policy

The minimum requirements within each of the 17 operative categories have been established. Accordingly, fellows displaying insufficient case numbers in five or more categories will not be allowed to enter the certification process until they are able to furnish sufficient case numbers to meet the requirements.

Fellows should consult with their program directors for specific details on reaching the required numbers within his/her own institution. The Board recommends periodic evaluation prior to the conclusion of training to ensure that the expected numbers are met.

Appendix 1

The Saudi Fellowship in Colon and Rectal Surgery

Operative Procedure Standards Policy

CPT Codes by Category

Category			Subcategory		CPT codes
No.	**Description**	**Minimum requirement**	**No.**	**Description**	
1	**Procedures for hemorrhoids**	**34**	01	Excisional hemorrhoidectomy	46255, 46250, 46260
			02	Non-excisional hemorrhoidectomy	46221, 46500, 46934, 46935, 46936
			03	Excisional thrombosed external hemorrhoid	46320
2	**Abscess/fistula**	**32**	04	Incision and drainage of abscess (non-Crohn's disease)	46040, 46045, 46050, 46060
			05	Anal fistulotomy or fistulectomy	46270, 46275, 46280, 46285
			11	Drainage of fistulotomy in perineal Crohn's disease	46000, 46040, 46045, 46050, 46060
			15	Endorectal flap procedure for ano-vaginal/ano-perineal fistula	57300+ 14040, 46288
			16	Repair of rectovaginal fistula (other than with flap)	57300
3	**Procedures for fissure**	**9**	06	Lateral internal sphincterotomy	46080
4	**Pilonidal/other**	**12**	08	Excision or exteriorization for pilonidal disease	11770, 11771, 11772
			09	Excision or exteriorization for hidradenitis suppurativa	11470, 11471
			10	Excision or fulguration for condyloma acuminata	46924, 46922
			60	Excision of perianal lesion	46922 also 11400-11406

5	**Anoplasty**	**5**	07	Anoplasty for stricture or ectropion	Adult 46700 Infant 46705
			14	Repair of incontinent anal sphincter	46750
6	**Transanal excision/tumor**	**7**	13	Transanal excision or fulguration of rectal tumor	45170 snare 45307
7	**Prolapse procedures**	**4**	17	Perineal procedure for rectal prolapse (resection, cerclage, etc.)	45123, 45130
			51	Resection or fixation of rectal prolapse or intussusceptions	44111, 44050
8	**Rigid sigmoidoscopy**	**20**	20	Diagnostic/screening	45300
			21	Therapeutic (fulguration, snare)	45315, 45308, 45309
			22	Detorsion of volvulus	45321
			23	Other sigmoidoscopy procedures	
9	**Flexible sigmoidoscopy**	**25**	24	Flexible sigmoidoscopy	45330
10	**Colonoscopy**	**138**	25	Diagnostic colonoscopy (inflammatory bowel disease)	45378
			26	Diagnostic colonoscopy (other)	45378
			27	Colonoscopic polypectomy	45383, 45384, 45385
			28	Decompression of volvulus or pseudo-obstruction	45337 sigmoidoscopy
			29	Endoscopic laser therapy	
			30	Dilatation of strictures	45303 rigid
			31	Other	

11	**Segmental colectomy**	**37**	32	Partial colectomy for cancer (left, right, segmental)	44140
			46	Resection for diverticular disease	44140
			61	Resection for other reasons	44140
12	**Lower anterior resection**	**11**	33	Resection for cancer stapled anastomosis	44145
			34	Resection for cancer sutured anastomosis	44145
13	**Abdominoperineal resection**	**4**	35	Abdominoperineal resection for cancer	45110, 45126
14	**Resection for Crohn's disease**	**4**	36	Small bowel	44120
			37	Ileocolic resection	44160
			38	Colectomy with proctectomy	44152, 44155 Total
			39	Colectomy without proctectomy	Total 44150
15	**Resections for CUC/FAP**	**3**	40 A	Resection for ulcerative colitis with proctectomy	44155
			40 B	Resection for ulcerative colitis without proctectomy	44150
			41	Resection for polyposis syndrome colectomy with proctectomy	44155
			42	Resection for polyposis syndrome colectomy without proctectomy	44150
16	**IPAA/coloanal**	**7**	43	Ileoanal procedure (ulcerative colitis or polyposis)	44152 or 44153, 45113
			44	Coloanal procedure	45119, 45112
17	**Stomal procedures**	**19**	48	Creation, revision, relocation, or closure of colostomy or cecostomy	44343, 44320, 44340, 44620, 44626, 44345, 44346
			49	Creation, revision, relocation, or closure of ileostomy	44314, 44312, 44310, 44620, 44625

Appendix 2

الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

Fellow's In-Training Evaluation

Subspecialty :

Name: _____ Registration No.: _____ Level of Training: F1☐ F2☐ F3☐
Rotation: _____ Date From: _____ To: _____

No.	CRITERIA	PERFORMANCE EXPECTATION					
		Unsatis-factory (1-5)	Below Average (5-<6)	Meet (6-7)	Above Average (>7-<9)	Outstanding (9-10)	Not Applicable
I	Knowledge and Academic activity						
	1. Basic Science						
	2. Clinical Science						
	3. Current Literature 4. Participation in Scientific Activities						
	5. Research						
II	Clinical and Technical Skills						
	6. Organization of Work						
	7. Records and Reports						
	8. Interpretation and Utilization of Information						
	9. Clinical Judgement and Decision-Making						
	10. Indications for Procedures						
	11. Procedures and Operative Skills						
	12. Performance in Emergencies						
	13. Supervision and Consultations						
III	Attitudes and Ethics						
	14. Discipline and Reliability						
	15. Patient Relations						
	16. Inter-professional Relations						
	17. Ethical Standards						

Total Score: $\frac{\text{Total Score}}{\text{No. of Evaluated}} \times 10 =$ ☐

Comments:

_____
_____

Director: _____ **Signature:** _____ **Date:** _____
Fellowship Training Program

Fellow: _____ **Signature:** _____ **Date:** _____

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Appendix 3

TRAINER EVALUATION

SCIENTIFIC BOARD OF COLON AND RECTAL SURGERY

NAME OF TRAINER:			
Hospital:	**Rotation:**	**From:**	**To:**

(TICK THE APPROPRIATE BOX: □)

No	CRITERIA	1 UNSATISFACTORY	2 BELOW AVERAGE	3 AVERAGE	4 ABOVE AVERAGE	5 OUTSTANDING	NOT APPLICABLE
(A) TEACHING SKILLS							
1	Ability to convey basic scientific knowledge						
2	Ability to convey clinical knowledge						
3	Ability to convey operative experience						
4	Ability to reason, debate, and convince in a scientific way						
(B) PERSONAL ATTITUDE AND RELATIONSHIP							
5	Strength of trainee–trainer relationship						
6	Degree of non-authoritarian component in the relationship						
7	Emotional reinforcement experienced during training						
8	Degree of generosity component in the relationship						
9	Degree of peering component in the relationship						
(C) COMMUNICATION AND AVAILABILITY							
10	Punctuality						
11	Availability and attendance						

12	Communication						

Total score:	No. of evaluated items:	Percentage: Total score/No. of evaluated items * 20 =
Comments:		
Name of evaluator:	Signature:	Date:

Name: **Signature:** **Date:**

Director of Fellowship Training Program

Name: **Signature:** **Date:**

EVALUATED TRAINER

Appendix 4

FELLOW'S CONFIDENTIAL ROTATION EVALUATION FORM

Date of evaluation: _____

Resident's name: _____ **Level of training:** _____

Rotation: _____ **Evaluation period:** _____

RATING					
1 Poor	2 Marginal	3 Average	4 Above average	5 Outstanding	N/A Not applicable

1. Are the objectives of the rotation met?

Rating:	
Comments:	

2. Is the volume of patients adequate? Is the variety of cases adequate?

Rating:	
Comments:	

3. Are the operative cases appropriate for your level of training? Has your operating room responsibility increased appropriately during the rotation?

Rating:	
Comments:	

4. Are the frequency and quality of teaching adequate compared with other services?

Rating:	
Comments:	

5. Are the opportunities provided for active participation in rounds and discussions adequate?

Rating:	
Comments:	

USE RATING GIVEN ABOVE:

6. Rate the amount of teaching you received from the following:

Consultant	
Assistant	
Fellow	
Senior Resident	

Comments:

During your time in this service, rate the opportunity for you to get involved in the following:

Conducting research	
Presenting papers	
Writing for publication	
Senior Residency	

Comments:

7. Is the interaction with Fellows appropriate?

Comments:

8. Is the usefulness of the physician assistant on service adequate?

Comments:

9. Rate the education-to-service ratio on this rotation.

Comments:

Rate the feedback you received from your surgeon responsible for your supervision on the following (Use rating given above):

Knowledge	
Clinical judgment	
Operating room skills	
Interpersonal skills	

Comments:

10. Rate the quality of the overall learning experience in this rotation.

Rating:
Comments:

11. What are the important skills, behaviors, attitudes, and information learned from this rotation?

Comments:

12. What would you recommend to improve this rotation?

Comments:

References

- Frank JR, Snell L, Sherbino J, editors. CanMEDS 2015 Physician Competency Framework. Ottawa: Royal College of Physicians
  and Surgeons of Canada; 2015.).