

Elective: General Surgery - Acute Care Service

OVERVIEW

The Acute Care Surgery Service (ACSS) at St. Boniface General Hospital is intended to provide Clinical Clerk the opportunity for concentrated exposure to acute care general surgery cases beginning with presentation in the emergency department. The rotation emphasizes clinical assessment, physiologic stabilization, diagnostic evaluation and prioritized management along a continuum of care beginning in the emergency department and culminating in hospital discharge or transfer.

The Acute Care Surgery Service experience offers phenomenal exposure to the acute clinical problems commonly seen by the practicing general surgeon. Each new case provides the opportunity to challenge ability and to further competency and prompts the student to develop a well-informed, evidence-based and systematic approach to common serious conditions.

INTRODUCTION

Location(s):

St. Boniface General Hospital

Preceptors:

Attending Surgeons

Dr. Clifford Yaffe, Associate Professor
Section Head for General Surgery
Dr. John Bracken, Professor
Dr. Chris Andrew, Assistant Professor
Dr. Virginia Fraser, Lecturer
Dr. David Hochman, Assistant Professor
Dr. Brendan McCarthy, Assistant Professor
Dr. Ethel McIntosh, Assistant Professor
Dr. David Reimer, Community Surgeon
Dr. Richard Silverman, Assistant Professor
Dr. Hugh R Taylor, Lecturer
Dr. Deborah Wirtzfeld, Assistant Professor
Dr. Nobby Woo, Community Surgeon
Dr. Ben Yip, Assistant Professor

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LEARNING OBJECTIVES (CanMEDS)

At the completion of the Acute Care Service General Surgery rotation, the Clinical Clerk is required to attain sufficient knowledge as follows:

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Medical Expert

As Medical Experts, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills and professional attitudes in their provision of patient-centered care.

Basic/General Areas

Preoperative assessment, including:

- Risk assessment
- Pulmonary assessment
- Cardiovascular assessment
- Renal assessment
- Metabolic assessment

Perioperative assessment, including:

- Components of informed consent
- Components/formulation of operative/procedure note; postoperative orders; postoperative note
- Indications/efficacy of monitoring techniques
- Fluid/electrolyte management
- Hemostasis/use of blood products
- Risk factors for alcohol withdrawal syndromes

Postoperative assessment, including:

- Pharmacologic action/side effects of analgesics
- Epidural/nerve blocks
- Time to recovery of digestive function
- Characteristics of a healing wound
- Postoperative nutritional/fluid/electrolyte requirements

Postoperative complications, including:

- Differential diagnosis and appropriate diagnostic work-up and management of postoperative fever
- Wound infection
- Fascial dehiscence/incisional hernia

Causes/work-up/treatment of respiratory complications, including:

- Atelectasis
- Pneumonia
- Aspiration
- Pulmonary edema
- ARDS
- Pulmonary embolism (including DVT)
- Fat embolism

Diagnostic work-up/treatment of oliguria, including:

- Pre-renal causes
- Renal causes
- Post-renal causes

Pathophysiology/causes/treatment of postoperative hypotension, including:

- Hypovolemia
- Sepsis

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- Cardiogenic shock secondary to myocardial infarction; fluid overload; arrhythmias; pericardial tamponade
- Medication effects

Management of postoperative chest pain and arrhythmias

Management of abnormal bleeding postoperatively, including:

- Inherited and acquired factor deficiencies
- DIC
- Transfusion reactions

Diagnosis and management of postoperative gastrointestinal disorders, including:

- Stress gastritis/ulceration
- Paralytic ileus
- Acute gastric dilatation
- Intestinal obstruction
- Fecal impaction
- External gastrointestinal fistulas

Diagnosis and management of postoperative metabolic disorders, including:

- Hyperglycemia
- Adrenal insufficiency
- Thyroid storm

Evaluation and management of disorders causing alteration of cognitive function postoperatively, including:

- Hypoxia
- Perioperative stroke
- Medication effects
- Metabolic/electrolyte abnormalities
- Functional delirium
- Convulsions

Shock, including definition and pathophysiology, resuscitation, investigation and management of the following:

- Hemorrhagic shock
- Septic shock
- Cardiogenic shock
- Neurogenic shock
- Anaphylactic shock

Specific Surgical Problems

Abdominal masses, including etiologies, assessment and management of the following:

- Hepatomegaly
- Splenomegaly
- Pancreatic mass
- Retroperitoneal mass/abdominal aortic aneurysm
- Carcinomatosis

Presentation, diagnostic strategy and initial treatment of patients presenting with the following common or catastrophic abdominal conditions:

- Acute appendicitis
- Cholecystitis
- Biliary colic

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- Cholangitis
- Pancreatitis
- Peptic ulcer disease with or without perforation
- Gastroesophageal reflux
- Gastritis/duodenitis
- Inflammatory bowel disease
- Enterocolitis
- Small bowel obstruction
- Incarcerated hernia
- Colonic obstruction
- Cecal/sigmoid volvulus
- Splenomegaly/splenic rupture
- Mesenteric ischemia
- Leaking abdominal aortic aneurysm
- Postoperative abdominal pain

Groin masses, including:

- Differential diagnosis of inguinal pain/mass
- Anatomic difference between direct and indirect hernias
- Indications, surgical options and normal postoperative course for:
 - Inguinal hernia repair
 - Femoral hernia repair
- Definition and significance of:
 - Incarcerated hernia
 - Strangulated hernia
 - Richter's hernia
 - Sliding hernia

Presentation, diagnostic strategy and management of abdominal wall masses, including:

- Desmoid tumours
- Rectus sheath hematoma
- Hernia, including:
 - Umbilical hernia
 - Spigelian hernia
 - Incisional hernia
 - Epigastric hernia

Breast problems, including:

- Differential diagnosis, diagnostic strategy/imaging and management of a breast mass, including:
- Fibrocystic change/cyst
- Abscess
- Fibroadenoma
- Breast cancer
- Diagnosis and management of the patient with an abnormal mammogram
- Diagnosis and management of the patient with nipple discharge
- Management of breast cancer/DCIS, including:
 - Clinical staging
 - Pathology considerations such as hormone receptor analysis/tumour DNA analysis
 - Therapeutic options, including:
 - Role of surgery/when to consult a surgeon

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- Role of radiotherapy
- Role of chemotherapy
- Role of hormonal therapy
- Surgical options including reconstruction

Gastrointestinal hemorrhage, including:

- Initial resuscitation/management
- Indications for blood transfusion
- Presentation, assessment, diagnostic strategy and management of the following causes of upper GI hemorrhage:
 - Peptic ulcer
 - Variceal hemorrhage
 - Mallory-Weiss tear
 - AV malformation
 - Dieulafoy's lesion
 - Stress gastritis
- Presentation, assessment, diagnostic strategy and management of the following causes of lower GI hemorrhage:
 - Diverticulosis
 - Angiodysplasia/AV malformation
 - Meckel's diverticulum
 - Ulcerative colitis
 - Colorectal cancer
 - Hemorrhoids

Jaundice, including:

- Differential diagnosis of prehepatic, hepatic and posthepatic jaundice
- Presentation, pathophysiology, diagnostic strategy and management principles/options of the following:
 - Choledocholithiasis
 - Cholangitis
 - Cholangiocarcinoma
 - Pancreatic carcinoma
 - Periampullary carcinoma
 - Hepatocellular carcinoma
 - Hepatic abscess
 - Autoimmune hemolysis
 - Hepatitis

Colorectal problems, including:

- Colorectal cancer, including:
- Presentation Diagnostic work-up Genetic considerations Clinical/pathologic staging Treatment principles, including:
 - Surgical principles/complications
 - Adjuvant/neoadjuvant therapy
 - Surveillance
 - Screening strategies
- Diverticular disease, including:
 - Presentation
 - Diagnostic work-up

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- Management of the following:
 - Diverticulitis/ abscess/perforation
 - Colonic fistula
 - Obstruction/stricture
- Inflammatory bowel disease/colitis, including presentation, pathophysiology, diagnostic work-up and management principles for the following:
 - Ulcerative colitis
 - Crohn's disease
 - Pseudomembranous colitis
 - Ischemic colitis
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- Perianal problems, including:
 - Anal fissure
 - Fistula
 - Perianal/ischiorectal abscess
 - Hemorrhoids

At the Completion of the Acute Care Service General Surgery rotation, the Clinical Clerk will be able to:

- Perform an appropriate assessment of the general surgery patient
- Elicit a history that is relevant and accurate
- Perform a focused physical examination that is relevant and accurate

Select medically appropriate investigations.

Demonstrate skills in formulating a differential diagnosis and in organizing an effective management plan

Demonstrate proficient use of procedural skills as follows

- Venipuncture
- Intravenous insertion
- Nasogastric intubation
- Urinary catheterization
- Skin suturing
- Removal of skin/subcutaneous lesion

Communicator

Physicians effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

- Establish rapport, trust and a therapeutic relationship with patients and families.
- Listen effectively.
- Elicit relevant information and perspectives of patients, families, and the health care team.
- Convey relevant information and explanations to patients, families and the health care team.
- Convey effective oral and written information about a medical encounter.
- Maintain clear, accurate, appropriate, and timely records of clinical encounters and operative procedures
- Address challenging communication issues effectively
 - Obtain informed consent
 - Deliver bad news
 - Disclose adverse events

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- Discuss end-of-life care
- Discuss organ donation
- Addressing anger, confusion and misunderstanding using a patient centred approach

Collaborator

Physicians effectively work within a healthcare team to achieve optimal patient care.

- Demonstrate a team approach to health care
- Participate effectively in an interprofessional and interdisciplinary health care team.
- Recognize and respect the diversity of roles, responsibilities, and competences of other health professionals in the management of the surgical patient.
- Work with others to assess, plan, provide, and integrate care of the surgical patient.

Leader

Physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.

- Employ information technology appropriately for patient care.
- Allocate finite health care resources

Health Advocate

Physicians responsibly use their expertise and influence to advance the health and well-being of individual patients, communities and populations.

- Concern for the best interest of patients
- Identifying health needs of individual patients, and advocate for the patient in cases where appropriate
- Promote and participate in patient safety

Scholar

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

- Demonstrate the ability for continuing self learning
- Discuss the principles of surgery and the application of basic sciences to surgical treatment.
- Demonstrate appropriate presentation skills, including formal and informal presentations.
- Critically evaluate medical information and its sources and apply this appropriately to clinical decisions.
- Critically appraise the evidence in order to address a clinical question.
- Integrate critical appraisal conclusions into clinical care.

Professional

As Professionals, students are committed to health and well-being of individuals through ethical practice, profession-led regulation and high personal standards of behavior.

- Exhibit professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism.

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- Demonstrate a commitment to delivering the highest quality care.
 - Recognize and respond appropriately to ethical issues encountered in practice.
 - Recognize and respect patient confidentiality, privacy and autonomy.
 - Participation in peer review
 - Manage conflicts of interest
 - Maintain appropriate relations with patients.
 - Demonstrate awareness of industry influence on medical training and practice
 - Recognition of personal and clinical limitations
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INFORMATION

Required Reading

Lawrence Essentials of General Surgery, 3rd ed.

Teaching Unit

The majority of admitted patients on the Acute Care Surgery Service (ACSS) are managed on 7A South and 7A West. Occasionally patients are located “off-service” on other wards and in the Intensive Care Unit. Computerized patient lists are available at the main desk on 7A South and 7A West.

Evaluations

The student is evaluated by the entire ACSS faculty. Input is also elicited from residents and from the nursing staff. A written evaluation is submitted to the appropriate authority for review and signing by the student.

The Service encourages feedback from the students. Therefore, the Service evaluation form should be completed and returned to the Surgical Education Office.

Call Responsibilities

- Students are on-call in-hospital, to a maximum of 1-in-4.
- It will be the responsibility of individual students to contact the chief resident responsible for the call schedule with their requests no later than two weeks prior to the start of the rotation or selective.

On-Call Facilities

An on call room is provided.

First Day Instructions

The student is to page the Acute Care senior resident the day before the start of the rotation through hospital paging at 237-2053.

Expectations

- At the start of his/her rotation on the ACSS, the student should arrange to meet the Senior ACSS resident and the attending ACSS day surgeon for the week, to discuss objectives and expectations while on the Service.
- The written learning objectives (see below) should be reviewed by the student at the beginning of the rotation.
- The student is encouraged to discuss his/her progress with any of the surgical faculty or residents on the Service. This must be initiated and arranged by the student.

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- The ward rounds usually begin at 0700 hours on weekdays, unless otherwise specified by the resident team leader. Weekend rounds usually begin at 0800 hours. The student functions as a member of the surgical team and participates in ward rounds with the residents.
- The student functions under the direct guidance of the resident and the ACSS attending day surgeon, with close back-up by the ACSS night surgeon. The resident allocates cases to the student and supervises and scrutinizes the patient assessments performed by the student. In this manner, the student is exposed to interesting cases for assessment and study.
- The student is encouraged to undertake all practical ward procedures (e.g. intravenous lines/nasogastric tube insertion), initially under the supervision of the resident until proficiency allows “solo” performance by the student.

WARD ACTIVITIES

Operating Room Activities

The student is encouraged to attend the operations of the patients that he/she has assessed or admitted. Understanding of the operative procedure and the surgical anatomy are best attained in the operating room.

Clinic

Thursday

0800-0930 ACSS outpatient clinic, ACF Surgery

Teaching Sessions

There are many opportunities for the student to learn while on the A-Service General Surgery rotation. These include informal teaching on the ward and in the operating room. In addition, there are scheduled formal teaching activities, including:

Academic Schedule

Monday

0900-1000 Clerkship Seminar

Tuesday

0900-1000 Clerkship Seminar

Wednesday

0745-0900 Surgery Grand Rounds

0900-1000 Clerkship Seminar

1130-1230 GI Rounds

Thursday

0900-1000 Clerkship Seminar

1200-1300 Combined GI Rounds, alternate weeks

Friday

0800-0900 Clerkship Seminar