

Colorectal Surgery Learning Objectives
Department of Surgery
University of Massachusetts Medical School

MEDICAL KNOWLEDGE/PATIENT CARE LEARNING OBJECTIVES

1A. Colon cancer

Preoperative decision making:

PGY1 Residents:

- What patient characteristics guide tumor therapy?
- What preoperative studies will you order to evaluate patients with colon cancer?
- Explain the value of each test.

PGY3 and 5 Residents:

- What tumor characteristics guide therapy?
- (In addition to those items listed above)

Intraoperative decision making and evaluations:

PGY1 Residents:

Describe the following staging systems:

- TNM
- Modified Astler-Coller
- Dukes original 1932 version

PGY3 and 5 Residents

- What specific aspects of evaluation for cancer should be mentioned in the operative report?
- (In addition to those items listed above)

Postoperative care:

PGY1 Residents:

- Describe the standard recovery plan

PGY 3 Residents:

- Postoperative adjuvant therapies and follow-up
 - Which patients with colon cancer would you recommend for adjuvant therapy?
 - What kind of adjuvant therapy?
- (In addition to those items listed above)

PGY5 Residents:

- When the patient asks you the nature of the therapy, how will you counsel?

- How will you plan to follow the patient after they leave the hospital?

1B. Rectal cancer

Preoperative decision making:

PGY1 Residents:

- What patient characteristics guide tumor therapy?

PGY3 and 5 Residents:

- What tumor characteristics guide therapy?
- What preoperative studies will you order to evaluate patients with rectal cancer?
- Explain the value of each test.

(In addition to those items listed above)

Intraoperative decision making and evaluations:

PGY1 Residents:

Describe the following staging classifications:

- TNM
- Modified Astler-Coller
- Dukes original 1932 version

PGY 3 and 5 Residents:

- What specific aspects of evaluation for cancer should be mentioned in the operative report?

(In addition to those items listed above)

Postoperative care:

PGY1 Residents:

- Describe the standard recovery plan.

PGY 3 Residents:

- Postoperative adjuvant therapies and follow-up
- Which patients with rectal cancer would you recommend for adjuvant therapy?
- What kind of adjuvant therapy?

(In addition to those items listed above)

PGY5 Residents:

- When the patient asks you the nature of the therapy, how will you counsel?
- How will you plan to follow the patient after they leave the hospital?

1C. Polyps

PGY 3 and 5 Residents:

- What clinic factors influence treatment of colon and rectal polyps?
- When is colonoscopy/polypectomy not adequate?
- What polyps are amenable to transanal excision?
- When is colotomy/polypectomy indicated?
- When is standard colon resection indicated?

1D. Diverticulitis

PGY 1 Residents:

- What is the pathophysiology of the formation of colonic diverticula?
- Describe what is meant by “uncomplicated” and “complicated” diverticulitis, listing the most common complications.
- Outline the management of diverticulitis as an inpatient. As an outpatient.
- Outline appropriate antibiotic choices.
- Discuss the role of, rationale for, and timing of endoscopic colon evaluation.

PGY 3 and 5 Residents:

- Discuss the indications for surgical resection.
- Outline the controversies regarding the management in patients under age 50.
- Regarding surgery, describe the extents of resection, both proximally and distally and the rationale for this.
- Outline the role for laparoscopy and describe the operative steps.
- Discuss the incidence of postoperative recurrence.

2. Surgical Objectives

2A. Proper cancer evaluation

PGY 3 and 5 Residents:

- What constitutes a complete and thorough evaluation for colon or rectal cancer staging?

2B. Pelvic dissection

PGY 3 Residents:

- At what level do you ligate the vascular pedicle for rectal cancer?
- Describe the same thing for a right colon lesion, left colon and a sigmoid colon cancer.
- Describe your rectal cancer dissection including mesenteric and bowel margins.

PGY 5 Residents:

- What are possible complications of pelvic dissection?
- What positioning and instruments are used to facilitate exposure in the deep pelvis?
- During pelvic dissection, what structures can be injured?
- Describe your technique for preventing, detecting and managing such injuries.
- Clearly define your full extent of rectal resection for cancer.
- When do you perform abdominoperineal resection vs coloanal anastomosis vs low anterior resection?
- What is your technical approach to stapling for low anterior resection?
- Describe the most common pitfalls of stapling and how you would manage each potential complication.
- How do you perform a mucosectomy?
- Where do you begin the dissection and how do you complete the dissection?

2C. Perineal excision of the anus

PGY 5 Residents:

- How wide should the incision be?
- What landmarks do you use to define the extent of proctectomy?
- Which part of the dissection is completed into the pelvis first? Last?
- How do you manage the perineal wound?
- How do you manage the pelvis after proctectomy?

2D. Creation of the stoma

PGY 3 and 5 Residents:

- Selection of stoma site, where is the best position for the colon? For the ileum?
- How large should the stoma opening be?
- Which part of the bowel should be used? Following an abdominoperineal resection?
- How do you avoid the following complications: Retraction, deformity, ischemia, hernia development?
- What technique of maturation do you prefer?

2E. Clinical Cases

PGY 3 and 5 Residents:

- (Patient #1) You see a 48-year-old female with "hemorrhoidal bleeding" for 12 months. A barium enema examination at home demonstrated an apple core lesion in the descending colon. You examine the patient and find a small " 1 cm" firm mass in the periumbilical region and a large diffuse mass in the lower abdomen. What is your clinical assessment? How would you proceed? Additional tests? To surgery? How would you counsel the patient?

- (Patient #2) 75-year-old male found on routine flexible sigmoidoscopy to have a circumferential lesion at 12 cm. Proximal examination is not possible due to small size of the lumen. Patient reports a 20 pound weight loss and diarrhea. What is your assessment? How would you proceed? Best therapy?

3. *IBD*

PGY 1 Residents:

- How is Crohn's disease differentiated from Ulcerative colitis? Microscopic, Macroscopic?
- What are the indications for operation in Crohn's disease/ Ulcerative colitis?
- Discuss medical management of IBD.
- What is fulminant colitis and how is it managed?

PGY 3 and 5 Residents:

- What are the possible operations for ulcerative colitis and discuss the relative pros and cons of each procedure.
- What is the management of severe perianal Crohn's disease? How are abscesses and fistulae managed in these patients?
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4. *Perianal problems and Office proctology (All residents levels)*

- Abscesses
- Fistulae
- Warts
- Infections
- Malignancies
- Rectal prolapse

5. *Constipation (All resident levels)*

- Work-up
- Diagnostic tests
- Management
- Surgical management

6. *Incontinence (All resident levels)*

- Work-up
- Diagnostic tests
- Medical and surgical management
- Options for surgical management

7. *Surgical techniques in colorectal surgery (PGY3 and 5 Residents only – see Technical Skills Document)*

8. *Role of screening*

PGY 1 Residents:

- What screening modalities are available for colorectal cancer?

PGY 3 and 5 Residents:

- Understand the relative cost: benefit ratio and limitations of each of the screening techniques

9. Pelvic dissection/anatomy (PGY5 Residents only – See Technical Skills Document)

10. Manometry and special investigations

PGY 3 and 5 Residents:

- Understand the principles of manometry and normal values anorectal applications
- Define EMG and the role in investigation of incontinence.
- What information can be gained from defecography?
- Understand the role and application of endoanal ultrasound in colorectal surgery.

Practice-Based Learning and Improvement

PGY 1 Residents:

- Participation in weekly Tumor Board Conference.
- Participation in weekly Colorectal Conference
- Begin and maintain a logbook of colorectal cancer and inflammatory bowel disease patients and their complications/outcomes. Critically evaluate these outcomes.
- Demonstrate knowledge of macroscopic, radiologic, and histologic anatomy of the colon, rectum, and anus. Reviewing CT scans, PET scans, and contrast enema studies with surgeons and radiologists. Reviewing the microscopic findings with the pathologist.
- Assimilate, describe and critically evaluate the UMMHC Colon and Rectal surgery standardized orders, patient instructions, and patient education information.

PGY 3 and 5 Residents:

- Discuss the literature regarding colorectal cancer screening, the use of neoadjuvant therapy for rectal cancer, current medical management of inflammatory bowel disease, and the various treatment modalities for fistula in ano.

Interpersonal and Communication Skills

PGY 1 Residents:

- Write thorough and succinct notes on patients with attention to appropriate findings on physical exam.
- Interact with consulting team members in an effective manner.
- Convey treatment plans to Colorectal care team.

PGY 3 Residents:

- Present patients at multidisciplinary Tumor Board Conference.

PGY 5 Residents:

- Observe critical diagnoses being conveyed to patients and learn to deliver this information to patients and family members in an understandable and compassionate way.

Systems-based Practice

PGY 1 Residents:

- Describe the system through which patients with abnormal colonoscopy progress (PCP, gastroenterologist, surgeon) and the importance of each individual component.
- Describe the system through which malnourished patients are prepared for major surgical interventions, including the use of enteral and parenteral nutrition.

PGY 3 Residents:

- Describe the system through which patients with rectal cancer progress, beginning with special attention to the limitations of CT scan, endorectal ultrasound, MRI in the staging process. In addition, the role of other specialties including Gastroenterology, Medical Oncology, and Radiation Oncology.
- Describe the system through which patients undergoing adjuvant/neoadjuvant therapy progress (timing of chemotherapy in relation to surgery, administration, side effects, and pre-treatment studies).
- Describe the system through which patients with inflammatory bowel disease are managed in concert with Gastroenterology, focusing on the pre and postoperative manipulation of medications.

PGY 5 Residents:

- Discuss the surgeon's role in the ambulatory management, the establishment of rapport, and the leadership of the multidisciplinary management of colon and rectal cancer.
- Discuss applicability of new and emerging technology (MRI, transanal excision (including transanal endoscopic microsurgery), PET scanning, fistula plugs, laparoscopy).
- Under the supervision of faculty, demonstrate clinical/surgical judgment by facilitating and accomplishing the multidisciplinary management of new colorectal cancer patients.

Professionalism

All Resident Levels

- Review of medical history and meeting with patient prior to surgical procedures.
- Arriving on time to operating room and endoscopy suite.
- Collegial relations with other physicians, nursing staff, and medical students.
- Punctuality and participation at conferences.
- Appropriate dress when participating in clinic.

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