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Evaluation & Management of a Patient with Benign or Malignant Colon Disease

Description of the Activity	General surgeons are often called to evaluate patients presenting with benign or malignant diseases of the colon in the inpatient, outpatient, and emergency department (ED) settings. Patients may present without symptoms in the elective setting or more acutely with perforation, obstruction, or bleeding requiring urgent intervention in the ED; therefore, these surgeons must be able to diagnose and treat a variety of conditions to provide patient-centered care.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's referring providers, medical records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis, including inflammation, infection, obstruction, and malignancy. ➢ Recognize the acuity of a patient's presentation, and determine whether elective or emergency surgery is indicated. ▪ If surgery is not indicated, determine the need for additional testing, and identify treatment alternatives (antibiotics, anti-inflammatory medications, endoscopic therapies, palliative care). ▪ If surgery is needed electively, determine the other required workup or resuscitation. • Complete staging of the malignancy. • Determine if any bowel preparation or perioperative antibiotics are required. • Perform perioperative optimization, including nutritional optimization, smoking cessation, diabetes control, and reduction of steroid use. • Conduct an interdisciplinary discussion for patients with cancer. ▪ Obtain informed consent with cultural humility. • Describe the indications, risks, benefits, alternative therapies, and potential complications of the planned procedure, and incorporate a discussion of the goals of care. • Ensure patient/caregiver comprehension using applicable language services and audio/visual aids. • Ensure that the patient/caregiver(s) can ask questions, and address any expressed concerns, taking patient/caregiver preferences into account. • Document the consent discussion. ➢ Collaborate with the anesthesia team for perioperative pain control. ➢ Synthesize an operative plan that demonstrates understanding of the operative approach (open and minimally invasive approaches), anatomy, physiology, indications, contraindications, risks, benefits, alternatives, and potential complications of: ▪ Ostomy procedures (ileostomy, colostomy) ▪ Partial colectomy (right, left, sigmoid) ▪ Subtotal colectomy ▪ Total abdominal colectomy ❖ Intraoperative ➢ Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions. ➢ Perform the techniques required to manage colon disease. ▪ Position the patient to: • allow for access (lithotomy, split leg, supine).

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	• expose the operative field, taking precautionary measures to prevent iatrogenic injury. ▪ Determine necessary adjuncts to the procedure (ureteral stents, endoscope) if needed. ▪ Perform high ligation of feeding vessels in cases of malignancy. ▪ Mobilize the hepatic and splenic flexures to facilitate a tension-free anastomosis. ▪ Obtain appropriate margins (assess tissue quality and margins for oncologic surgery). ▪ Perform and evaluate the anastomosis. ▪ Recognize unexpected intraoperative findings, calling consulting services as necessary. ➢ Partner with perioperative health care professionals (eg, nursing team, anesthesia team) to create and maintain an intraoperative environment that promotes safe patient care. ❖ Postoperative ➢ Recognize and manage the complications that can occur after colon surgery, including those requiring intervention. ▪ Anastomotic complications, including leak, intra-abdominal abscess, bleeding, and stricture formation ▪ Ostomy complications ▪ Postoperative bleeding ▪ Surgical site complications ➢ Communicate a postencounter plan to the patient/caregiver(s) and other health care team members that considers location, postencounter needs, outcome expectations, and follow-up. ➢ Develop a postencounter plan that includes analysis of patient-specific barriers to care. ➢ Communicate a postencounter surveillance plan as indicated in cases of malignancy to the patient/caregiver(s) and other care team members.
Scope	❖ In scope ➢ Colitis (Crohn's, infectious, ischemic, ulcerative) ➢ Colon malignancy ➢ Colonic bleeding ➢ Colonic polyps not amenable to endoscopic resection ➢ Diverticulitis (complicated, uncomplicated) ➢ Large bowel obstruction, including volvulus, stricture, and Ogilvie syndrome ❖ Out of scope ➢ Colonic inertia ➢ Hereditary colon cancers ➢ Hirschsprung disease ➢ Polyposis syndromes

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1 **Limited Participation** Demonstrates understanding of information and has very basic skills **Framework:** What a learner directly out of medical school should know The attending can show and tell.	• Obtains an H&P relevant to colon disease with cultural humility but may omit some elements (eg, family history of CRC or IBD); develops a limited differential • Demonstrates basic understanding of the pathophysiology of common colon disease (eg, diverticular perforation/abscess) • Demonstrates basic knowledge of preoperative care coordination (eg, lab tests, communication with ostomy therapists) for a routine colectomy in a patient with no other comorbidities • Demonstrates understanding of how to report a patient safety event	• Demonstrates basic understanding of colon anatomy • Assists with surgical positioning and preparation of a patient; maintains a sterile field • Follows intraoperative directions; handles instruments safely but tentatively; displays a lack of coordination between both hands; performs basic skills (suturing and knot tying) inefficiently • Assists with adequate exposure by retracting • Performs superficial wound closure	• Manages routine postop care of an uncomplicated patient and demonstrates knowledge of ERAS protocols • Demonstrates understanding of and executes the discharge plan for a routine patient with direction (eg, ostomy, wound, and drain management); respectfully communicates with a patient/caregiver(s) but provides superficial information, particularly for anything not routine • Manages initial resuscitation with IV fluids and antibiotics (when necessary), requiring support for more complex decision-making • Identifies and notifies supervisors of changes in a patient's condition (eg, fever, leukocytosis, tachycardia) that may indicate complications, such as anastomotic leak or abscess
2 **Direct Supervision** Demonstrates understanding of the steps of the operation but requires direction through principles and does not know the nuances of a basic case	• Demonstrates understanding of the pathophysiology of most benign and malignant colon pathologies but may miss a more nuanced or unusual presentation; offers a complete treatment plan for a straightforward condition but needs help to plan more complex treatment • Evaluates a patient and identifies important information (eg, recent endoscopy, prior bowel resection, family history of CRC or IBD); incorporates this information into diagnostic testing orders and development of a treatment plan • Initiates orders for admission of a patient with colon and rectal disease undergoing	• Demonstrates understanding of when to use MIS versus open techniques, triangulation of port sites, and safe entry into the abdomen; places laparoscopic trocars and closes skin independently • Uses surgical energy safely throughout the case • Actively retracts and assists during the procedure; identifies some structures (eg, white line of Toldt, duodenum); looks for the ureter but cannot identify it independently • Performs basic surgical tasks, such as tying mesenteric vessels and deploying the linear stapler with instruction	• Evaluates and initially manages a patient with a straightforward postop problem (eg, oliguria, fever, SSI, ileus) but needs help to synthesize a complete management plan for a more severe postop complication (eg, hypotension due to postop bleeding, infection related to anastomotic leak) • Communicates routine interdisciplinary postop instructions and updates to a patient/caregiver(s) and other health care providers; coordinates transition of care in a complex setting but may omit specific concerns to watch for (eg, high ileostomy output) • Independently incorporates ERAS protocols but needs help to recognize when deviations are needed

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Framework: The learner can use the tools but may not know exactly what, where, or how to do it. The attending gives active help throughout the case to maintain forward progression.	nonoperative management (eg, fluids, diet, antibiotics, DVT prophylaxis) • Describes local quality improvement activities such as ERAS protocols and *C diff* protocols to prevent infection • Identifies the importance of patient comorbidities (DM, HTN, kidney/heart disease) preoperatively; identifies when consultation is needed before surgery (eg, cardiac risk stratification) but may not consider prehabilitation or genetic counseling	• Demonstrates some coordination of instruments; handles tissue inconsistently with both hands, especially laparoscopically; needs frequent adjustments of the camera to triangulate instruments	• Reports patient safety events through institutional reporting systems
3 **Indirect Supervision** Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case **Framework:** The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more	• Demonstrates knowledge of the impact of patient factors on the pathophysiology of colon disease (eg, smoking in patients with IBD; family history of early-onset colon cancer) • Manages a healthy patient needing elective or emergency treatment for colon disease; adapts the plan as needed for an evolving clinical situation (eg, abscess drainage); may need help to determine if additional workup is needed in a more complex case • Synthesizes an operative plan for a patient undergoing routine colon surgery that incorporates an understanding of the indications and risks but may need help to consider all alternatives in a more complex case • Participates in quality improvement strategies (ERAS, SSI reduction, interdisciplinary discussion, multimodal pain management) to improve postop outcomes for patients undergoing routine colon surgery	• Identifies the instruments/devices needed for a routine colon procedure; positions a patient to facilitate access and exposure (eg, lithotomy, tucking arms) and prevent pressure injury • Performs technical aspects of colon surgery (mobilization of the colon and flexures, high ligation of feeding vessels, tension-free bowel anastomosis, assessment of anastomotic integrity) with occasional guidance and assistance; progresses the case and asks for assistance when necessary • Recognizes when transition from an MIS to an open procedure is needed (eg, exposure, failure to progress) • Identifies tissue planes that have not been previously dissected but may need help to identify or manage variable anatomy or tissue planes in a reoperative field to prevent iatrogenic injury	• Identifies and evaluates a complex postop problem (eg, bowel obstruction, intra-abdominal abscess, ureteral/bladder injury) in a patient with significant comorbid disease and adapts ERAS protocols as needed • Executes discharge plans for a patient with multiple comorbidities; respectfully communicates with a patient/caregiver(s) regarding discharge instructions and complications to look for • Participates in local quality improvement initiatives, such as high ileostomy discharge protocols to minimize readmission after colon surgery

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complex cases or during a check-in for more routine cases.	• Identifies conditions that require interdisciplinary management and facilitates coordination of care (eg, CRC, anticoagulation, cirrhosis, malnutrition, immunosuppression, cardiopulmonary disease)		
4 **<u>Practice Ready</u>** Can manage more complex patient presentations and operations and take care of most cases **<u>Framework</u>:** The learner can treat all colon disease and has a strong understanding of surgical options and techniques for less common scenarios. The attending is available at the request of the learner but is not routinely needed for common presentations, though input may be needed for more complex presentations.	• Demonstrates substantial knowledge of pathophysiology, variations in presentation, and acuity of colon disease • Manages a complex patient needing elective or emergency treatment for colon disease; determines if additional workup is needed (eg, cardiac function tests, repeat endoscopic exams, imaging to evaluate progression of disease) • Initiates management of a patient with factors/comorbidities that negatively impact outcomes (eg, anticoagulation, immunosuppression, cardiopulmonary disease) • Synthesizes an operative plan that incorporates understanding of the indications, alternative strategies (eg, neoadjuvant therapy in CRC), and potential complications of surgery for colon disease • Demonstrates skills required to identify, develop, and implement quality improvement projects (eg, SSI prevention) • Coordinates care of a patient with barriers to health care access; facilitates care with referring providers (eg, oncologists, GI)	• Identifies the instruments, devices, and team members needed for a complex colon procedure; demonstrates to others how to safely position a patient to facilitate access and exposure • Independently performs the technical aspects of colon surgery (mobilization of the colon and flexures, high ligation of feeding vessels, tension-free bowel anastomosis, assessment of anastomotic integrity) • Anticipates challenges in a difficult case (eg, reoperative surgery) and asks for assistance as needed • Identifies normal and abnormal tissue planes; minimizes potentially preventable complications, such as iatrogenic enterotomy, serosal injury, or injury to adjacent structures (eg, duodenum, spleen, ureter) • Identifies variable anatomy or unexpected findings (eg, altered surgical anatomy, atypical blood supply) and adjusts the operative plan as indicated	• Independently diagnoses and manages routine and complex complications (eg, SSI, anastomotic leak, obstruction, urinary injury) in a patient, with consultation as needed and deviations from ERAS pathways as indicated • Leads discharge planning and anticipates postdischarge needs (eg, antimotility agents for elevated ostomy output, adjuvant therapy referral, CRC surveillance); collaborates with the health care team to address barriers (eg, access to Crohn's medical management, insurance barriers to adjuvant therapy or supplies, lack of social support, cultural concerns related to stoma, inability to manage ostomy care) • Discloses complications and safety events to a patient/caregiver(s)