COMPLEX GENERAL SURGICAL ONCOLOGY

ENTRUSTABLE PROFESSIONAL ACTIVITES

WITHOUT MILESTONE MAPPING

(CGSO EPAs)

THE AMERICAN BOARD OF SURGERY

EVALUATION AND MANAGEMENT OF BREAST CANCER

EVALUATION AND MANAGEMENT OF COLON CANCER

EVALUATION AND MANAGEMENT OF GASTRIC AND ESOPHAGEAL CANCER

EVALUATION AND MANAGEMENT OF A LIVER OR BILIARY MASS

EVALUATION AND MANAGEMENT OF MELANOMA AND ADVANCED CUTANEOUS MALIGNANCIES

EVALUATION AND MANAGEMENT OF OTHER GASTROINTESTINAL TUMORS

EVALUATION AND MANAGEMENT OF A PATIENT BEING TREATED WITH PALLIATIVE INTENT AT END OF LIFE WITH LIMITED TREATMENT OPTIONS

EVALUATION AND MANAGEMENT OF A PANCREATIC LESION OR CANCER

EVALUATION AND MANAGEMENT OF PERITONEAL SURFACE MALIGNANCY

EVALUATION AND MANAGEMENT OF ANAL AND RECTAL CANCER

EVALUATION AND MANAGEMENT OF A SOFT TISSUE SARCOMA

EVALUATION AND MANAGEMENT OF THYROID AND PARATHYROID TUMORS

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Evaluation & Management of Patients with Breast Cancer

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with signs and symptoms of a breast mass, breast imaging abnormalities, and biopsy-proven breast cancers. Surgical oncologists must be able to accurately and cost-effectively diagnose, treat, and provide surveillance for adult patients with breast disease/cancer and recognize complex disease that requires multidisciplinary treatment.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, personal and family history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ➢ Identify and treat benign breast lesions, high-risk breast lesions, and phyllodes tumors. ➢ Identify and treat malignant breast disease. ➢ Know the indications for and interpret breast imaging, including age- and risk-appropriate screening guidelines. ➢ Complete a cost-effective, evidence-based diagnostic or staging evaluation (breast magnetic resonance imaging, positron-emission tomography/computed tomography), including molecular testing (genetics). ➢ Use an evidence-based high-risk assessment tool, and implement a high-risk screening protocol. ➢ Identify patients for genetic testing, and manage patients with hereditary breast cancer. Refer patients to subspecialties as needed for risk-reduction interventions. ➢ Communicate a diagnosis and potential treatment options to a patient/caregiver(s) and a multidisciplinary team/consultants. Use shared decision-making to develop a treatment plan consistent with the patient's goals and beliefs. ➢ Coordinate with the multidisciplinary team regarding correct sequencing of oncologic treatment, including oncofertility evaluation as indicated, surgery, neoadjuvant or adjuvant chemotherapy, radiation, and other treatments as necessary. ➢ Recognize and mitigate patient-specific barriers to care. ➢ Present options and counsel patients regarding breast conservation, oncoplasty, and mastectomy. ➢ Refer as needed to the plastic surgery team for oncoplasty and immediate/delayed reconstructive options. ➢ Refer as needed to preoperative rehab/physical therapy (including lymphedema evaluation), psychosocial, and nutrition services. Perform medical clearance and optimize the patient. ➢ Manage patients with locally advanced breast cancer/metastatic disease, and offer palliative surgical options. ➢ Succinctly identify treatment goals (curative intent, life prolongation without curative option, palliation, end-of-life care). Communicate sympathetically in a culturally sensitive manner when de-escalation of care is indicated because of poor prognosis or based on the patient/caregiver's goals of care. ➢ Screen patients for and propose clinical trials when appropriate. ➢ Obtain informed consent with cultural sensitivity. ▪ Describe the indications, risks (potential skin/nipple/flap necrosis rates, re-excision rates, breast edema/lymphedema incidence, paresthesia, nerve injury), benefits, and alternative interventions. ▪ Ensure patient/caregiver comprehension using applicable language services and audio/visual aids as necessary.

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- Ensure that the patient/caregiver(s) can ask questions, and address any expressed concerns, taking patient/caregiver preferences into account.
- Document the consent discussion.

❖ Intraoperative

- ➢ Manage the perioperative environment, including room setup, equipment check, image availability as necessary, anesthetic approach, collaboration with the anesthesiology team, preprocedural time-out, specimen orientation and processing, counts, wound classification, and debriefing functions.
- ➢ Create and maintain an intraoperative environment that promotes safety and patient-centered care.
- ➢ Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury.
- ➢ Confirm the accessibility of necessary equipment.
- ➢ Perform the procedures required to manage breast cancer, including:
  - Partial mastectomy (with image guidance, wireless/seed localization)
    - Techniques for intraoperative margin assessment
    - Indications for oncoplastic techniques
  - Mastectomy: nipple-sparing, skin-sparing, modified-radical, risk-reduction procedures
  - Staging of the axilla:
    - Sentinel lymph node removal
    - Targeted lymph node dissection, removal of a clipped node
  - Axillary lymph node dissection, including identification of critical structures
  - Terminal duct excision/central duct excision
- ➢ Adapt operative steps and the operative plan to information discovered intraoperatively, calling consulting services as necessary.

❖ Postoperative

- ➢ Oversee postoperative care.
- ➢ Manage common early and late complications related to in-scope procedures, including:
  - Skin, nipple, flap necrosis
  - Seroma, lymphoceles, lymphedema, chest wall/breast edema
  - Chest wall numbness and pain
- ➢ Assess pathology, including margin evaluation and the need for genomic tumor profiling testing.
  - Evaluate the concordance of the pathology report to imaging, and direct treatment accordingly.
  - Determine if margins are clear or if further surgery is indicated.
- ➢ Review intraoperative and pathologic findings in a multidisciplinary tumor board, and modify the treatment plan if indicated.
  - Determine if nodal evaluation is complete or if further nodal surgery is indicated.
  - Describe indications for completion axillary lymph node dissection.
- ➢ Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs, postencounter needs, outcome expectations, and follow-up.

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	➢ Recognize and mitigate patient-specific barriers to care. ➢ Coordinate care with other specialties and ancillary care as needed (physical therapy, rehabilitation, nutrition services). ➢ Develop a plan for surveillance according to consensus guidelines. ➢ Counsel patients regarding quality of life, survivorship, and side effects of long-term therapies, including hormone blockers, radiation, and chemotherapy-related treatment effects.
Scope	❖ In scope ➢ Diagnoses ▪ Evaluation of: ○ High-risk and genetic predisposition scenarios ○ High-risk lesions (eg, atypical ductal hyperplasia, radial scar) ○ Imaging abnormality ○ Nipple discharge ○ Palpable mass ▪ Carcinoma arising from the breast ○ In situ disease ○ Invasive ○ Phyllodes ▪ Angiosarcoma of the breast ▪ Axillary lymphadenopathy related to breast disease ▪ Inflammatory breast cancer ➢ Procedures ▪ Mastectomy, total or partial ○ Image-guided partial mastectomy ○ Nipple-sparing ○ Skin-sparing ○ Total ○ Oncoplastic techniques ▪ Lymphadenectomy: sentinel, targeted, or complete ▪ Risk-reduction procedures ▪ Integration of reconstructive approaches ▪ Terminal duct excision/central duct excision ➢ Populations ▪ Male and female patients with breast cancer ▪ Pregnant patients ❖ Out of scope

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	➢ Diagnoses ▪ Breast abscess ▪ Breast pain ▪ Cutaneous malignancies of the breast ▪ Fibroadenoma ▪ Gynecomastia ▪ Hidradenitis ▪ Mastitis ➢ Procedures ▪ Ablation ➢ Populations ▪ Patients younger than 12 years

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **Limited Participation** **Demonstrates understanding of information and has very basic skills** **Framework:** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases**	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential • Discusses surgical options for treatment in the breast and axilla; needs guidance with management of the axilla in a complex case or when completion axillary dissection is needed in a surgery-first setting • Describes a tumor-specific biopsy technique but may require guidance to ensure key diagnostic information is obtained • Describes common staging studies performed but may not identify the most cost-effective and evidence-based imaging required • Recognizes a patient needing surgical intervention but requires prompting to recognize a patient needing neoadjuvant therapy • Identifies some relevant evidence-based guidelines for management but needs guidance to understand sequencing of treatment approaches • Considers the role of multidisciplinary tumor board and participates in case	• Needs guidance to determine the necessary equipment (radiology, Geiger counter, localizing technique) for the operation • Needs guidance on axillary management in a complex setting, such as neoadjuvant chemotherapy with a positive lymph node • Needs direct assistance with a complex closure and operation • Creates a basic operative note but omits some important information; may need prompting for timeliness	• Writes postop orders, provides PACU staff with contact information, and reviews postop lab studies • Considers the role of a multidisciplinary tumor board and participates in but cannot lead the case discussion; needs guidance to develop a multidisciplinary treatment plan • Accesses evidence-based guidelines for staging and surveillance of breast cancer but needs assistance to develop a detailed plan • Demonstrates limited knowledge of implications of pathology results (margin status, lymph node involvement, further treatment options including return to the OR and adjuvant treatment options) • Needs guidance to select consultation with medical and radiation oncology for ongoing treatment • Describes the basic principles of clinical study design and levels of evidence as they apply to the selection of a treatment plan • Documents postop care but may omit nuances of progress or minor

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	discussion; needs guidance to develop a multidisciplinary treatment plan • Describes the basic principles of clinical study design and levels of evidence as they apply to the selection of a treatment plan • Respectfully communicates basic facts about the condition to a patient/caregiver(s) but needs assistance with nuances of treatment decisions and potential outcomes • Communicates the elements of an informed consent discussion but omits some elements (eg, chest wall numbness, nerve injury) when documenting the discussion • Accurately records information in a patient's record but may omit some important information or include some extraneous information; frequently requires correction or augmentation of documentation of services; may need prompting for timeliness		complications; may choose an inappropriate means of communication (paging for minor details or email for urgent issues)
2 **Direct Supervision** **Manages cases at the level of a newly graduated general surgery resident.**	• Discriminates the quality of the relevant information to determine if additional information (diagnostics) is needed and discusses the multidisciplinary options • Orders cost-effective staging studies in accordance with guidelines	• Identifies the necessary equipment for the operation but may need assistance to set up or troubleshoot specialized equipment (eg, intraop mammo) • Identifies normal anatomy but needs assistance with distorted or complex anatomy	• Writes postop orders, provides PACU staff with contact information, and reviews postop lab studies • Participates in a multidisciplinary tumor board discussion to develop a treatment plan but needs assistance to guide the discussion; demonstrates

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
Manages less complicated cases independently but needs active guidance for complex cases. **<u>Framework:</u>** **The learner can manage simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).** **During surgery, the attending gives active help throughout the case to maintain forward progression.**	• Recognizes the potential need for neoadjuvant chemotherapy in HER2+, node+, and triple-negative breast cancer • Identifies relevant evidence-based guidelines for the management of breast cancer and a patient at high risk • Participates in a multidisciplinary tumor board discussion to develop a treatment plan but needs assistance to guide the discussion; demonstrates awareness of multidisciplinary treatment options but needs guidance to formulate multimodality treatment • Obtains a patient's history and communicates their medical condition, considering barriers and cultural differences in a respectful way; formulates a treatment plan incorporating the patient's preferences • Communicates the elements of an informed consent discussion in a straightforward case and completely documents the discussion • Demonstrates understanding of the different phases of oncologic clinical trials • Demonstrates organized diagnostic and therapeutic reasoning through notes in a patient's record; demonstrates timely and efficient use of the EHR to communicate with the health care team	• Performs the initial steps of a total mastectomy such as raising viable skin flaps and removal of the breast from the chest wall • Identifies the location of a lesion on imaging for breast-conserving surgery but cannot localize the lesion in the OR independently • Orients the specimen for pathology with assistance • Closes a routine incision independently; requires assistance for a complex oncoplastic closure • Creates an operative note with a complete description of the procedure	awareness of multidisciplinary treatment options but needs guidance to formulate a multimodality treatment plan • With guidance, coordinates multidisciplinary care; respectfully requests a consultation with medical and radiation oncology for ongoing treatment • Interprets postop pathology results (margin status, lymph node involvement); requires assistance to develop further treatment options, including return to the OR and adjuvant treatment plans • Uses evidence-based guidelines to plan surveillance of breast cancer • Demonstrates understanding of the different phases of oncologic clinical trials • Thoroughly documents a patient's postop progression and the presence of any complications within the plan of management

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.** **<u>Framework:</u>** **The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.**	• Integrates oncologic information with patient-specific factors (eg, genetic testing) to design a diagnostic, workup, and medical/surgical treatment plan, creating a multidisciplinary treatment plan with assistance • Applies current guideline-based indications for the operative and nonoperative treatment of breast cancer • Independently develops a plan to manage comorbidities that will affect treatment (chronic anticoagulation, cardiac disease, immunosuppression) • Conducts an informed consent discussion with cultural humility and completely documents the discussion related to operative management • Recognizes how neoadjuvant therapies can alter surgical management and develops a postchemotherapy imaging and surgical plan • Applies a cost-effective, evidence-based diagnostic evaluation; identifies patient and tumor-specific factors relevant to oncological therapy • Leads a discussion of routine cases at an interdisciplinary cancer care conference, incorporating multimodality treatment options in the formulation of a treatment	• Coordinates a complex oncoplastic and reconstructive procedure with plastic surgery • Independently moves fluidly through the course of a common operation and anticipates next steps in a sentinel node biopsy and palpable lumpectomy; needs assistance with completion axillary node dissection • Independently identifies a lesion using imaging and intraop localization techniques; needs assistance with complete excision • Independently orients the specimen for pathology • Performs a total skin-sparing mastectomy with minimal guidance • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	• Leads a discussion of routine cases at an interdisciplinary cancer care conference, incorporating multimodality treatment options in the formulation of a treatment plan; requires assistance to develop a plan for a complex case or when conflicting opinions exist • Reviews postop pathology results and recognizes features that impact prognosis or indicate a need for reoperation • Describes a guideline-adherent plan for staging and surveillance after initial treatment and recognizes the need for a survivorship care plan • Demonstrates general knowledge of clinical trial design and clinical trial infrastructure; identifies a patient who qualifies for clinical trials and assists research coordinators with enrollment • Appropriately selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	plan; requires assistance to develop a plan for a complex case or when conflicting opinions exist • Demonstrates general knowledge of clinical trial design and clinical trial infrastructure; identifies a patient who qualifies for clinical trials and assists research coordinators with enrollment • Establishes a therapeutic relationship in a challenging patient encounter and acknowledges uncertainty in alignment of goals • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in a patient's record		
4 **Practice Ready** **Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology** **Framework:**	• Independently integrates oncologic information with patient-specific factors (genetics, pregnancy) to design a succinct diagnostic staging workup and a multidisciplinary treatment plan • Comprehensively describes surgical and nonsurgical treatment options and recommends the best evidence-based options • Refers to fertility specialists, taking into consideration patient factors, tumor biology, and anticipated surgical planning	• Independently formulates a surgical plan based on new information discovered intraoperatively (unexpected suspicious adenopathy, unexpected tumor invasion of adjacent structures, detection of unexpected metastatic disease) • Independently moves fluidly through the course of a breast surgical procedure, including completion axillary node dissection, nipple-sparing mastectomy, and complex bracketing for breast-conserving treatment • Coordinates with other members of the OR team to use specialized equipment	• Leads a multidisciplinary cancer care conference to synthesize patient care plans for routine and complex cases, resolving conflict when needed; independently coordinates multidisciplinary care • Critically appraises and applies evidence-based guidelines, adapting to a complex clinical scenario and tailoring recommendations to a patient's preferences and needs; recognizes when deviation from standard guidelines is appropriate

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The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations. **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 or unusual presentations.**	• Formulates a comprehensive treatment plan for a patient with locally advanced breast cancer, metastatic disease, and unusual tumor biology; demonstrates knowledge of cancer biology • Recognizes when curative options are not available and discusses noncurative and palliative options, including supportive care without cancer-directed therapy • Leads a multidisciplinary cancer care conference to synthesize patient care plans for routine and complex cases, resolving conflict when needed; independently coordinates multidisciplinary care • Demonstrates advanced knowledge of clinical trial design and clinical trial infrastructure; identifies potential clinical research questions and designs a clinical trial to address them, either real or hypothetical • Communicates a treatment plan, potential outcomes, and a prognosis to a patient/caregiver(s) in an emotionally sensitive, culturally aware, and compassionate manner • Independently recognizes personal biases while attempting to proactively minimize communication barriers • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and	and with the plastic surgery team in a reconstructive case • Communicates with others clearly and respectfully even in challenging settings such as massive bleeding • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	• Describes an evidence-based plan for staging and surveillance after initial treatment; institutes a survivorship plan • Demonstrates advanced knowledge of clinical trial design and clinical trial infrastructure; identifies potential clinical research questions and designs a clinical trial to address them, either real or hypothetical • Communicates clearly, concisely, promptly, and in organized written form so the postop plan of care, including anticipatory guidance, is clear to other members of the health care team

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	in organized written form, including anticipatory guidance; written or verbal communication (patient notes, email) serves as an example for others to follow		

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Evaluation & Management of Patients with Colon Cancer

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients with malignant polyps, colon cancer, and appendiceal adenocarcinoma and screen/treat patients with hereditary colon cancer and polyposis syndromes. They must be able to identify the indicated surgical procedures for the treatment of known colon cancer, the need for any relevant risk-reducing procedures, and the management of synchronous metastatic disease. Surgical oncologists must develop a patient-specific, evidence-based surveillance plan in coordination with a multidisciplinary team.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, history, physical examination, family history, and initial diagnostic evaluations to develop a differential diagnosis. ▪ Colon and appendiceal adenocarcinoma ▪ Hereditary and polyposis syndromes ▪ Malignant polyp ▪ Synchronous metastatic disease ➢ Complete a cost-effective, evidence-based diagnostic and staging evaluation, including biochemical testing and imaging studies. ➢ Review diagnostic pathology, including mutational analysis, for treatment planning. ➢ Identify patients who require genetic testing, genetics referral, and evaluation of at-risk family members. ▪ Identify other screening guidelines indicated for the evaluation of other associated extracolonic malignancies. ➢ Communicate a diagnosis and potential treatment options to the patient/caregiver(s) and consultants. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ▪ Discuss and consider fertility-preserving procedures, and make referrals when needed. ▪ Have an informed discussion regarding segmental versus extended resection for patients with hereditary colorectal cancer syndromes. ➢ Succinctly identify treatment goals (curative intent, life prolongation without curative option, palliation, end-of-life care). Communicate sympathetically in a culturally sensitive manner when de-escalation of care is appropriate because of poor prognosis or based on the patient/caregiver's goals of care. ▪ Identify impending surgical emergencies (eg, obstruction, perforation, bleeding), and assess the need for urgent/emergent procedural (eg, endoscopic stent, decompressive percutaneous endoscopic gastrostomy) or operative intervention (eg, diverting ostomy, intestinal bypass). ➢ Use current evidence-based literature to develop a correct sequence of oncologic treatment, including surgery, neoadjuvant or adjuvant chemotherapy, radiation, and other treatments as necessary. Select a treatment approach based on disease presentation, tumor biology, comorbid conditions, and patient preferences. Manage multidisciplinary treatment of the disease. ➢ Participate in a multidisciplinary conference or discussion regarding treatment plans. ➢ Collaborate with other specialties to manage comorbidities that will affect treatment (eg, chronic anticoagulation, cardiac disease, immunosuppression). ➢ Describe the indications, risks, benefits, alternative therapies, and potential complications of the planned procedure, and incorporate a discussion of the goals of care. ➢ Discuss colon surgery–specific physician- and patient-related expectations (eg, fecal diversion, urogenital and sexual dysfunction).

Evaluation & Management of Patients with Colon Cancer

- Ensure patient/caregiver comprehension using applicable language services and audio/visual aids as necessary.
- Ensure that the patient/caregiver(s) can ask questions and address any expressed concerns, taking patient/caregiver preferences into account.
- Discuss potential limitations in the desire for resuscitation (eg, DNR) and how this will be addressed in the perioperative period.

❖ Intraoperative

- Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.
- Create and maintain an intraoperative environment that promotes safety and patient-centered care.
- Position the patient to expose the operative field (lithotomy, split leg), taking into consideration measures to prevent iatrogenic injury.
- Confirm the presence of necessary equipment, such as tools necessary for anastomotic evaluation (flexible sigmoidoscopy, rigid sigmoidoscope, indocyanine green solution).
- Determine any necessary adjuncts from surgical subspecialties (eg, ureteral stents).
- Consider cancer-reducing procedures, such as total abdominal hysterectomy and bilateral salpingo-oophorectomy, and coordinate care with the gynecology/gynecology oncology teams when needed.
- Perform open, minimally invasive (MIS), and robotic operations.
- Perform operative interventions:
  - Perform segmental colectomy (malignant polyp, colon adenocarcinoma, appendiceal adenocarcinoma).
  - Obtain prior endoscopic confirmation of a polyp/tumor if necessary.
  - Perform high ligation of feeding vessels.
  - Mobilize the hepatic or splenic flexure to facilitate a tension-free anastomosis.
  - Obtain appropriate margins.
  - Perform and evaluate the anastomosis.
  - Recognize unexpected intraoperative findings, calling consulting services as necessary.
- Perform complete mesocolic excision.
  - Sharply dissect the embryologic plane to remove an intact envelope of mesocolon together with the corresponding lymphatic drainage.
  - Perform central vascular ligation to remove apical lymph nodes.
  - Resect a sufficient length of bowel.
- Perform total abdominal colectomy with appropriate oncologic lymphadenectomy.
  - Determine the indications for hereditary cancer.
  - Know the extent of distal resection (rectal margin) based on hereditary diagnosis and surveillance strategy.
- Perform total proctocolectomy and ileal pouch-anal anastomosis (IPAA)
  - Determine the indications for hereditary cancer.
  - Delineate the extent of distal resection (rectal margin) and mucosectomy based on hereditary diagnosis and surveillance strategy.
  - Recognize options for fecal diversion and distal reconstruction.

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	➢ Perform en bloc resections, including multivisceral resections. ▪ Involve surgical subspecialties in preoperative surgical planning discussions for intraoperative consultation. ➢ Adapt operative steps and the operative plan to information discovered intraoperatively, calling consulting services as necessary. ❖ Postoperative ➢ Recognize and manage complications that occur after colon surgery, including: ▪ Anastomotic complications (leak, intra-abdominal abscess, bleeding, stricture) ▪ Ostomy complications (high output, dehydration, appliance issues) ▪ Surgical site infections ▪ Long-term complications ▪ Altered bowel function (incontinence) ▪ Urogenital dysfunction ▪ Fertility ▪ Sexual dysfunction ➢ Ensure genetic analysis of the final specimen to determine the best postoperative management (systemic treatment). ➢ Have a multidisciplinary discussion with the medical and radiation oncology teams to discuss the role of adjuvant treatment. ➢ Discuss the surveillance plan going forward, including blood work, tumor markers, scans, and endoscopy. ▪ Discuss current screening and surveillance guidelines for colonoscopy in patients with an identified gene mutation/alteration associated with familial colorectal cancer. ▪ Discuss current screening and surveillance guidelines of other associated malignancies, such as endometrial/ovarian cancer, pancreatic cancer, urinary tract malignancy, and small bowel/gastric cancer, in patients with an identified gene mutation/alteration associated with familial colorectal cancer. ➢ Recognize and mitigate patient-specific barriers to care. ➢ Coordinate care with other specialties and ancillary care as needed (physical therapy, rehabilitation, nutrition services).
Scope	❖ In scope ➢ Diagnoses ▪ Colonic adenocarcinoma ▪ Malignant polyp ➢ Procedures ▪ Complete mesocolic excision ▪ En bloc resections, including multivisceral resections ▪ Open, MIS, robotic approaches ▪ Segmental colectomy with appropriate oncologic mesenteric lymphadenectomy ▪ Total abdominal colectomy with appropriate oncologic mesenteric lymphadenectomy ▪ Total proctocolectomy and IPAA

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- Populations
  - Adults

- Out of scope
  - Diagnoses
    - Benign conditions (diverticulitis)
    - Gastrointestinal stromal tumors
    - Inflammatory bowel disease in the absence of cancer
    - Lymphoma
    - Neuroendocrine tumors
    - Peritoneal surface metastases of the colon or appendiceal origin
  - Procedures
    - Endoscopic resection techniques
  - Populations
    - Pediatric patients

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **Limited Participation** **Demonstrates understanding of information and has very basic skills** **Framework:** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential • Describes common staging studies but needs assistance to identify the most evidence-based or cost-effective imaging required • Considers the role of a multidisciplinary tumor board and participates in the case discussion; needs guidance to develop a multidisciplinary treatment plan • Requires prompting to verbalize indications for management of synchronous disease and displays limited understanding of different treatment modalities • Demonstrates basic knowledge of tumor biology, genetic mutations, and hereditary syndromes • When prompted, accesses available evidence to develop a treatment plan • Records information in a patient's record but may omit some important information or include some extraneous information; frequently requires correction or augmentation of documentation of services; may need prompting for timeliness	• Lists potential intraop findings (unidentified metastatic disease, invasion into adjacent structures) but is unable to articulate how this would change the surgical plan • Needs assistance to articulate the need for involvement of ancillary services (urology, gynecology) in surgical planning • Sites and matures stomas with assistance • Requires prompting to identify appropriate tissue planes and scope of oncologic resections, including margins and extent of lymphadenectomy • Demonstrates limited tissue-handling skills and needs assistance with creation of a surgical anastomosis and decision-making regarding the need for fecal diversion • Creates a basic operative note but omits some important information; may need prompting for timeliness	• Demonstrates knowledge of ERAS protocols and management of routine postop care • Evaluates postop pathology, requiring assistance to recognize indications for adjuvant treatment or a genetic referral • Accesses evidence-based guidelines for postop care and surveillance but needs assistance to formulate a plan based on tumor factors • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication (paging for minor details or email for urgent issues)

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
2 **Direct Supervision** **Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases.** **Framework:** **The learner can manage simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).** **During surgery, the attending gives active help throughout the case to maintain forward progression.**	• Obtains an H&P, including family history, to develop a comprehensive differential but may not demonstrate understanding of the nuances of hereditary syndromes • Articulates evidence-based oncologic staging but may not order the most cost-effective imaging and labs • Synthesizes patient factors and oncologic staging into a treatment plan for a straightforward case but needs assistance for a complex and nuanced clinical scenario (synchronous malignancies, locally advanced case) • Discusses a case in a multidisciplinary manner, demonstrating understanding of surgical indications and risks, but needs guidance during an in-depth discussion regarding short- and long-term complications and alternative treatment options • Demonstrates basic knowledge of tumor biology, genetic mutations, and hereditary syndromes but needs guidance to use the information to develop a patient-centered treatment plan for a known malignancy and prevention of future malignancy • Demonstrates basic understanding of hereditary syndromes but needs guidance regarding surveillance for extracolonic manifestations	• Identifies intraop findings (unidentified metastatic disease, invasion into adjacent structures) but requires redirection when encountering unanticipated intraop findings • Recognizes the need for involvement of ancillary services (urology, gynecology) in surgical planning but needs assistance to effectively coordinate these aspects of care • Independently sites and matures stomas • Recognizes the nuances of oncologic resection based on tumor location and how it affects the extent of distal/proximal margins, extent of lymphadenectomy, and resection of indicated vessels • Recognizes the need for multivisceral resection to achieve complete oncologic resection; requires assistance for basic and complex cases • Demonstrates safe and effective tissue-handling skills and performs a surgical anastomosis with minimal prompting in an uncomplicated case, including the need for fecal diversion, but requires direct supervision to perform a multivisceral resection	• Manages routine postop care and demonstrates understanding of ERAS protocols but needs direct supervision to recognize and conduct complex postop management and complications • Recognizes the impact of genetic mutations on adjuvant therapy and postop care in a patient with a hereditary syndrome but needs direction to navigate a tailored plan based on the mutation • Requires prompting to elicit patient preferences and values to guide evidence-based adjuvant care and surveillance • Thoroughly documents a patient's postop progression and the presence of any complications within the plan of management

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• Accesses available evidence to develop a treatment plan but needs assistance to elicit patient preferences when guiding care • Demonstrates organized diagnostic and therapeutic reasoning through notes in a patient's record; demonstrates timely and efficient use of the EHR to communicate with the health care team	• Creates an operative note with a complete description of the procedure	
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.** **<u>Framework:</u>** **The learner can perform the operation in straightforward circumstances.**	• Obtains a thorough H&P, demonstrating understanding of the importance of genetic factors and family history; orders cost-effective and evidence-based imaging and labs • Synthesizes patient factors and oncologic staging into a concise treatment plan in a shared-decision model, demonstrating understanding of the indications, risks, and potential short- and long-term complications • Recognizes an urgent or emergent surgical clinical scenario but needs assistance to structure a treatment plan and consider alternative strategies for management, taking into consideration patient-centered factors • Demonstrates understanding of tumor biology, recognizes genetic mutations, and develops a surgical treatment plan for management of known malignancy;	• With assistance, refines the preop surgical plan based on information discovered intraoperatively (unidentified metastatic disease, invasion into adjacent structures) • Independently coordinates the involvement of ancillary services (urology, gynecology) with the surgical plan • Independently sites and matures stomas in straightforward and complex cases • Performs oncologic resection, lymphadenectomy, and resection of indicated vessels in an uncomplicated case of colon or rectal cancer • Needs assistance in a multivisceral resection to achieve complete oncologic resection	• Recognizes and manages a postop complication (leak, ureteral injury, iatrogenic bowel injury) and navigates management with prompting • Demonstrates understanding of the impact of genetic mutations on an adjuvant treatment plan and management of hereditary syndromes but needs guidance to recognize the premise of therapeutic options • Locates and applies the best available evidence for adjuvant therapy and surveillance, integrated with patient preferences • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency

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Evaluation & Management of a Patient with Colon Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.	requires assistance with discussion regarding options for hereditary syndromes • Recognizes hereditary syndromes and develops a surveillance strategy for extracolonic manifestations • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan in a straightforward case and adjusts the plan based on available evidence • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in the patient's record	• In an uncomplicated case, performs the technical aspects of an oncologic colon resection, including appropriate margin status, high ligation of feeding vessels, a tension-free anastomosis, anastomotic integrity assessment, and whether there is a need for fecal diversion, with occasional guidance; asks for assistance when needed • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	
4 **<u>Practice Ready</u>** **Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology.** **<u>Framework</u>:** **The learner can treat all common variations of**	• Demonstrates understanding of tumor biology, recognizes genetic mutations, and independently develops a surgical treatment plan for a known malignancy and hereditary syndrome • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan for a complex or unusual presentation and adjusts the plan based on available evidence • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in an organized written form, including anticipatory guidance; written or verbal	• Independently refines the preop surgical plan based on information discovered intraoperatively (invasion into adjacent structures, suspicious lymphadenopathy not seen on imaging) • Proactively coordinates the involvement of ancillary services (urology, gynecology) with the surgical plan • Independently sites and matures stomas in both straightforward and complex cases • Performs oncologic resection, lymphadenectomy, and resection of indicated vessels in a case of complicated colon cancer	• Independently recognizes and manages a postop complication (leak, ureteral injury, iatrogenic bowel injury) and involves appropriate consultative services when needed • Integrates patient pathology and genetic mutational analysis into a postop treatment planning discussion • Critically appraises an evidence-based rationale for adjuvant therapy, even in the face of uncertain or conflicting evidence • Communicates clearly, concisely, promptly, and in an organized written form, including anticipatory guidance so

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Evaluation & Management of a Patient with Colon Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
the disease and has a strong understanding of surgical and medical options for different presentations. **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 or unusual presentations.**	communication (patient notes, email) serves as an example for others to follow	• Performs multivisceral resection to achieve complete oncologic resection • In a complex case, performs the technical aspects of an oncologic colon resection, including appropriate margin status, high ligation of feeding vessels, a tension-free anastomosis, anastomotic integrity assessment, and whether there is a need for fecal diversion, with occasional guidance; asks for assistance when needed • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	the postop plan of care is clear to other members of the health care team

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with signs and symptoms of gastric and esophageal cancers. Surgical oncologists must be able to accurately and cost-effectively diagnose, treat, and provide guideline-adherent surveillance for adult patients with gastric and esophageal cancers and recognize complex disease requiring multidisciplinary treatment.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ▪ Recognize familial genetic syndromes, and refer patients for genetic screening. Discuss the role of risk-reduction gastrectomy versus high-risk surveillance. ▪ Consider previous gastric procedures and altered anatomy (eg, gastric bypass/sleeve). ➢ Complete a cost-effective, evidence-based diagnostic or staging evaluation, including potential molecular biomarkers, endoscopic evaluation, and imaging studies as indicated. ▪ Recognize the role of endoscopic ultrasound staging in selecting and determining the sequence of therapeutic options. ▪ Determine the role and timing of diagnostic laparoscopy with cytology. ▪ Determine the role and timing of molecular biomarker testing (eg, mismatch repair status, HER2 amplification, programmed death-ligand 1 expression). ▪ Propose the role and use of guideline-concordant endoscopic resections. ➢ Communicate a diagnosis and potential treatment options to the patient/caregiver(s) and consultants. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ➢ Describe the role and timing of referrals to multidisciplinary specialties (medical oncology, radiation oncology, thoracic surgery) for planning and treating gastric and esophageal cancers. ➢ Succinctly identify treatment goals (curative intent, life prolongation without curative option, palliation, end-of-life care). Communicate in a sympathetically and culturally sensitive manner when de-escalation of care is indicated due to poor prognosis or based on the patient/caregiver's goals of care. ➢ Use current evidence-based literature to develop the correct sequence of oncologic treatment by stage, including surgery, neoadjuvant or adjuvant therapy (chemotherapy, targeted therapy), radiation, and other treatments as necessary. Select a treatment approach based on disease presentation, comorbid conditions, and patient preferences. Discuss the timing of neoadjuvant and adjuvant therapy in relation to surgery pending unique patient factors. Manage multidisciplinary treatment of the disease. ➢ Participate in a multidisciplinary conference or discussion regarding treatment plans. ➢ Discuss reconstructive option(s) with key anatomic and vascular assessment with indicated surgical consultants. ➢ Address comorbidities affecting treatment, such as chronic anticoagulation, cardiac disease, malnutrition, pulmonary function assessment, and immunosuppression, and consult additional specialties as needed. Assess nutritional status to determine the need for feeding access. Order pulmonary function tests to determine the patient's ability to tolerate single-lung ventilation. ➢ Obtain informed consent with cultural humility.

Evaluation & Management of Patients with Gastric and Esophageal Cancers

- 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 as necessary.
- Ensure that the patient/caregiver(s) can ask questions and address any expressed concerns, taking patient/caregiver preferences into account.
- Discuss potential limitations in the desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.
- Document the consent discussion.

➢ Screen patients for and propose clinical trials when appropriate.

❖ Intraoperative

➢ Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.
- Communicate bidirectionally with anesthesia.
- Discuss and coordinate single-lung ventilation when thoracic access is planned.

➢ Discuss volume resuscitation and avoidance of vasopressors for the critical portion of anastomosis and reconstruction.

➢ Create and maintain an intraoperative environment that promotes safety and patient-centered care.

➢ Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury.

➢ Coordinate with operating room team members to use specialized equipment or procedures, including esophagogastroduodenoscopy.

➢ Perform the procedures required to manage gastric and esophageal cancers:
- Assess intraoperative margins.
- Perform lymphadenectomy based on evidence-based guidelines.
- Discuss the role of an open versus minimally invasive approach.
- Discuss the optimal approach to feeding access.

➢ Adapt operative steps and the operative plan to information discovered intraoperatively, calling consulting services as necessary.
- Prepare for an inadequate conduit or other anastomotic challenges.
- Discuss the approach to positive resection margins.
- Prepare for an unanticipated en bloc resection (pancreas, spleen, lung, diaphragm, liver, colon).
- Change to open during an originally planned minimally invasive procedure.
- Recognize metastatic disease, and consider palliative options if indicated.

❖ Postoperative

➢ Direct postoperative care.

➢ Manage common early and late complications related to gastroesophageal procedures, including:
- Anastomotic leak
- Anastomotic stricture

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

	▪ Bile reflux ▪ Chylothorax/chyle leak ▪ Dumping syndrome ▪ Duodenal stump leak ▪ Empyema/abscess ▪ Pneumothorax and persistent air leak ▪ Recurrent laryngeal nerve injury ➢ Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs, postencounter needs, outcome expectations, and follow-up. ➢ Recognize and mitigate patient-specific barriers to care. ➢ Coordinate care with other specialties and ancillary care as needed (physical therapy, rehabilitation, nutrition services). ➢ Review intraoperative and pathologic findings in a multidisciplinary tumor board, and modify the treatment plan if indicated. Discuss the role and indications of genomic sequencing/genetic testing of the surgical specimen. ➢ Develop a plan for surveillance based on current cancer care guidelines after the initial treatment of gastric and esophageal cancers.
Scope	❖ In scope ➢ Diagnoses ▪ High-risk and genetic predisposition scenarios ▪ Squamous cell carcinoma of the esophagus ▪ Primary adenocarcinoma ○ Gastric ○ Esophageal ▪ High-grade dysplastic lesions ○ Gastric ○ Esophageal ➢ Procedures ▪ Total esophagectomy ▪ Distal esophagectomy ▪ Total gastrectomy ▪ Partial/subtotal gastrectomy ▪ Lymphadenectomy as appropriate with the above procedures ▪ Staging laparoscopy ▪ Enteral feeding access

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

- Populations
  - Adults

- Out of scope
  - Diagnoses
    - Benign stricture
    - Gastrointestinal stromal tumor
    - Leiomyoma
    - Lymphoma
    - Peptic ulcer disease
    - Traumatic perforation
    - Tumors metastatic to the stomach or esophagus
  - Procedures
    - Ablation
    - Endoscopic mucosal resection
    - Intraperitoneal chemotherapy
  - Populations
    - Pediatric patients
    - Pregnant patients

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **<u>Limited Participation</u>** **Demonstrates understanding of information and has very basic skills.** **<u>Framework:</u>** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential • Discusses surgical options, including types of esophagectomy and gastrectomy • Considers the role of a multidisciplinary tumor board and participates in but cannot lead the case discussion; needs guidance to develop a multidisciplinary treatment plan • Interprets biopsy results to guide operation extent and additional genetic workup • Needs prompting to identify and discuss the role of molecular biomarkers • When prompted, accesses available evidence to develop the correct sequence of treatment (eg, surgery, chemotherapy, radiation therapy) • Establishes a professional rapport with a patient/caregiver(s) and respectfully and clearly communicates basic facts about the condition but may need assistance when discussing nuances of treatment decisions and potential outcomes • Accurately records information in the patient's record but may omit some important information or include some	• Lists potential intraop findings (unidentified metastatic disease, invasion into adjacent structures) but does not articulate how this would change the surgical plan • Needs prompting to assess resection margins and the extent of lymphadenectomy • Needs guidance to plan reconstruction options • Describes laparoscopy for evaluation of metastatic disease but does not articulate the potential change in the surgical plan based on diagnostic laparoscopy findings • Demonstrates basic knowledge of cancer biology and clinical implications, including the extent of resection • Demonstrates basic knowledge of cancer biology as it relates to the operative plan • Actively participates in the discussion with the anesthesia team regarding intraoperative airway management • Creates a basic operative note but omits some important information; may need prompting for timeliness	• Demonstrates knowledge of and manages routine postop care following esophagectomy and gastrectomy • Identifies evidence-based guidelines for surveillance of esophageal and gastric cancers but needs assistance to develop a detailed surveillance plan tailored to a patient's preferences • Accesses evidence-based guidelines for postop care and surveillance but needs assistance to formulate a plan based on tumor factors and patient preferences • Reviews pathology results but may need prompting to communicate the results to a patient/caregiver(s) • Needs prompting to discuss patient prognosis, role of palliative care or hospice, and goals of care • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication (paging for minor details or email for urgent issues)

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	extraneous information; requires correction or augmentation of documentation of services; may need prompting for timeliness		
2 **Direct Supervision** **Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases.** **Framework:** **The learner can manage simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).** **During surgery, the attending gives active**	• Obtains a focused patient H&P and uses relevant oncologic information to determine the need for additional endoscopic procedures, possible biopsy, or other additional diagnostic procedures and testing • Participates in a multidisciplinary tumor board discussion to develop a treatment plan but needs assistance to guide the discussion; demonstrates awareness of multidisciplinary treatment options, including endoscopic resections and definitive chemoradiation, but needs guidance to formulate multimodality treatment • Using evidence-based guidelines identifies and discusses treatment approaches for a straightforward case and solicits patient preferences • Identifies molecular biomarkers but needs assistance with determining the timing of testing and their role in treatment • Accesses available evidence to develop the correct sequence of treatment (eg, surgery, chemotherapy, radiation therapy) but needs assistance to elicit patient preferences when guiding care	• Identifies intraop findings such as unidentified metastatic disease or invasion into adjacent structures but requires redirection when encountering unanticipated intraoperative findings • Independently identifies the need to assess resection margins but may need assistance to interpret the results and determine next steps • Identifies operative reconstruction options but needs prompting or assistance with critical steps of anastomosis • Demonstrates understanding of the need to perform laparoscopy to evaluate for metastatic disease but may need prompting to articulate a potential change in the surgical plan based on laparoscopy findings • Demonstrates comprehensive knowledge of cancer biology and clinical implications, including the extent of resection • Leads a discussion with the anesthesia team regarding intraop airway management	• Demonstrates management of routine postop care, including common postop complications, but needs assistance to recognize and manage complex postoperative complications, including those related to neoadjuvant therapy • Identifies evidence-based guidelines for surveillance of straightforward esophageal and gastric cancers, tailored to the patient's preferences • Requires prompting to elicit patient preferences and values to guide evidence-based adjuvant care and surveillance • Reviews and communicates pathology results to a patient/caregiver(s) but may need assistance to discuss a postop treatment plan and tailor it to a patient's preferences • Recognizes the roles of palliative care and hospice and the importance of discussing goals of care with patients/caregivers in a compassionate manner but may require assistance to conduct a family discussion

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
help throughout the case to maintain forward progression.	• Establishes a professional rapport with a patient/caregiver(s) and respectfully communicates the diagnosis, treatment options, and potential outcomes for a straightforward patient but may need assistance with a complex patient • Considers the potential for hereditary cancer syndrome but needs assistance to incorporate this information into a preop plan • Demonstrates organized diagnostic and therapeutic reasoning through notes in the patient record; demonstrates timely and efficient use of the EHR to communicate with the health care team	• Creates an operative note with a complete description of the procedure	• Thoroughly documents postop progression and the presence of any complications within the plan of management
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.**	• Needs prompting to integrate oncologic information (patient history, imaging, endoscopic findings, pathology) to design a succinct diagnostic and workup plan • Leads a discussion of routine cases at an interdisciplinary cancer care conference, incorporating multimodality treatment options into a treatment plan; requires assistance to develop a plan for a complex case or when conflicting opinions exist • With assistance, creates a diagnostic and therapeutic plan for a patient with gastric or esophageal cancer based on patient-specific comorbidities and medical history	• With assistance, refines the preop surgical plan based on information discovered intraoperatively, such as unidentified metastatic disease, invasion into adjacent structures, suspicious lymphadenopathy not seen on imaging, or a poorly perfused conduit • Independently identifies the need to assess resection margins and interprets the results to determine next steps • Identifies alternate reconstruction options and performs an anastomosis with limited assistance but needs guidance on which reconstruction is optimal for the level of disease	• Independently manages complicated postop care, including complications related to neoadjuvant therapy (eg, anastomotic leak with sepsis) • Recognizes the role of molecular tumor analysis but requires assistance to recognize its implications and impact on adjuvant treatment • Uses evidence-based guidelines for esophageal and gastric cancers to develop a surveillance plan for straightforward and complex patients but may need assistance tailoring

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
Framework: **The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.**	• With assistance, interprets biopsy results and diagnostic imaging to determine the need for neoadjuvant therapy • With assistance, interprets results of genetic testing to guide further diagnostic workup as well as subsequent treatment decisions • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan for a straightforward case and adjusts the plan based on the available evidence • Conducts an informed consent discussion with a patient/caregiver(s) regarding operative risks and morbidities but omits discussion of lifestyle changes associated with gastrectomy and esophagectomy; engages ancillary services as needed (nutrition, prehabilitation) • Discusses palliative options with a patient/caregiver(s) but does not approach the discussion in a shared decision-making manner and does not consider cultural differences • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in the patient record	• Independently evaluates for metastatic disease and refines the surgical plan based on findings of laparoscopy in a straightforward case • Demonstrates comprehensive knowledge of cancer biology and patient-specific tumor factors and their impact on the extent of resection in a common scenario but may need guidance with intraop decision-making in a more complex case (eg, persistent positive margin) • Needs guidance on the extent of resection based on the significance of patient-specific tumor biology and intraop decision-making in the setting of persistent positive margin • Leads a discussion with the anesthesia team regarding intraop airway management but needs assistance to optimize intraop lung desufflation • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	• Locates and applies the best available evidence for adjuvant therapies and surveillance, integrated with patient preference • Reviews pathology results and synthesizes a postop treatment plan for a straightforward case; communicates the plan clearly and respectfully to the patient/caregiver(s) • Actively engages with a patient/caregiver(s) but requires assistance when discussing the prognosis, role of palliative care and hospice, and goals of care • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
4 **<u>Practice Ready</u>** **Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology.** **<u>Framework</u>:** **The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations.** **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 or unusual presentations.**	• Independently integrates oncologic information (patient history, imaging, endoscopic findings, pathology) to design a succinct diagnostic and workup plan • Leads a multidisciplinary cancer care conference to synthesize patient care plans for routine and complex cases, resolving conflict when needed; independently coordinates multidisciplinary care • Independently formulates a comprehensive, evidence-based diagnostic and therapeutic plan for a patient with gastric or esophageal cancer based on patient-specific comorbidities and medical history • Independently interprets biopsy results and diagnostic imaging to determine the need for neoadjuvant therapy • Independently interprets results of genetic testing to guide further diagnostic workup and subsequent treatment decisions • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence in a complex or unusual presentation • Independently conducts an informed consent discussion with a	• Independently refines the preop surgical plan based on information discovered intraoperatively, such as unidentified metastatic disease, invasion into adjacent structures, suspicious lymphadenopathy not seen on imaging, or a poorly perfused conduit • Independently identifies the need to assess resection margins and interprets results to determine next steps in straightforward and complex cases • Independently modifies the reconstruction plan based on intraop findings and performs an anastomosis in straightforward and complex cases • Independently performs laparoscopy to assess metastatic disease in straightforward and complex cases and refines the surgical plan based on findings • Demonstrates comprehensive knowledge of tumor biology in the context of intraop findings and how this impacts the preop surgical plan, including the extent of resection or need for further pathological workup; describes the details of this updated surgical plan with limited assistance • Independently determines the extent of resection based on the significance of	• Anticipates and provides early intervention for postop complications, including engaging consultative services when needed • Reviews and synthesizes pathology to independently create an evidence-based postop treatment plan and tailor it to a patient/caregiver(s) in a comprehensive and compassionate manner • Reviews and understands the implications of molecular tumor analysis on adjuvant treatment, directing interdisciplinary discussion to synthesize a patient care plan and ensure referrals are placed • Independently uses evidence-based guidelines for surveillance of esophageal and gastric cancers to develop a detailed surveillance plan tailored to a patient's preferences • Critically appraises evidence-based rationale for adjuvant therapies, even in the face of uncertain or conflicting evidence • Independently conducts a discussion with a patient/caregiver(s) to review pathology results, discuss prognosis and goals of care, and engage in palliative care, hospice, or both

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Evaluation & Management of Patients with Gastric and Esophageal Cancers

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	patient/caregiver(s) regarding operative risks and morbidities, detailing the lifestyle changes associated with gastrectomy and esophagectomy, and engages in ancillary services as needed (nutrition, prehabilitation) ● Discusses palliative options in shared decision-making to align patient/caregiver values, including supportive care without cancer-directed therapy, in a culturally sensitive and compassionate manner ● Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in an organized written form, including anticipatory guidance; written or verbal communication (patient notes, email) serves as an example for others to follow	patient-specific tumor biology and in the intraop setting of a persistent positive margin ● Leads a discussion with the anesthesia team regarding intraop airway management and independently makes adjustments to optimize intraop lung desufflation ● Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	● Communicates clearly, concisely, promptly, and in an organized written form, including anticipatory guidance so the postop plan of care is clear to other members of the health care team

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Evaluation & Management of Patients with a Liver or Biliary Mass

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with signs and symptoms of a liver or biliary mass. Surgical oncologists must be able to accurately and cost-effectively diagnose, treat, and provide appropriate surveillance for adult patients with hepatobiliary masses and recognize complex disease that requires multidisciplinary treatment.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ▪ Identify pertinent clinical findings indicative of cirrhosis, portal hypertension, and physical manifestations of hepatobiliary disease. ▪ Identify patient history and pathologic findings suggestive of hereditary cancer syndromes. ▪ Identify pertinent patient history affecting the ability to perform an endoscopic evaluation or operative anatomy (eg, post bariatric surgery) ▪ Recognize imaging criteria indicative of a benign or indeterminate pathology that would impact the need for surgical intervention. ➢ Complete a cost-effective, evidence-based diagnostic or staging evaluation, including biochemical/serological testing and cross-sectional multiphase imaging studies as indicated. ▪ Critique the benefits and limitations of different cross-sectional imaging modalities (eg, magnetic resonance imaging versus computed tomography) in hepatobiliary tumors. ▪ Evaluate for variant vascular and biliary anatomy. ▪ Determine the necessity of tissue biopsy to establish the diagnosis. ▪ Determine when proceeding with surgery is indicated in the presence of an indeterminate or negative biopsy. ▪ Assess resectability status. ▪ Describe the indications for and interpret volumetric liver studies prior to major hepatectomy. ➢ Communicate a diagnosis and potential treatment options to the patient/caregiver(s) and consultants. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ➢ Participate in a multidisciplinary conference or discussion regarding treatment plans. ▪ Establish the diagnosis, staging, and treatment sequencing. ▪ Consider referral for liver transplantation instead of resection/liver-directed therapy when indicated. ▪ Describe the indications for preoperative liver volume augmentation (eg, portal vein embolization) before major hepatectomy. ▪ Debate the role of regional therapy and liver-directed therapies, such as hepatic artery infusion, embolization, ablation, and radiation. ➢ Collaborate with other specialties to manage comorbidities that will affect treatment (eg, chronic anticoagulation, cardiac disease, immunosuppression). ➢ Obtain informed consent with cultural humility. ▪ Describe the indications, risks, benefits, alternative therapies, and potential complications of the planned procedure, including those listed below, and incorporate a discussion of the goals of care. ▪ Ensure patient/caregiver comprehension using applicable language services and audio/visual aids as necessary.

Evaluation & Management of Patients with a Liver or Biliary Mass

- Ensure that the patient/caregiver(s) can ask questions and address any expressed concerns, taking patient/caregiver preferences into account.
- Discuss potential limitations in desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.
- Document the consent discussion.

❖ Intraoperative

➢ Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.

➢ Develop a safe anesthetic approach for the clinical situation in collaboration with in-office staff or the anesthesiology team, depending on the environment selected for the procedure.

➢ Create and maintain an intraoperative environment that promotes safety and patient-centered care.

➢ Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury.

➢ Confirm accessibility of necessary equipment. Coordinate with other members of the OR team to use specialized equipment or procedures.

➢ Perform the surgical procedures required to manage the liver or biliary mass:

- Localize the lesion and the associated vascular and biliary anatomy using preoperative imaging, intraoperative ultrasound, intraoperative findings, or a combination of these.
- Perform intraoperative assessment of resectability.
- Perform controlled hepatic parenchymal transection.
- Target intrahepatic lesions for intraoperative ablation as applicable.
- Perform portal lymphadenectomy when indicated.
- Proactively minimize hemorrhage, and obtain hemostasis and bile stasis.
- Perform reconstruction to restore biliary or enteric continuity as indicated.
- Maintain clear, closed-loop communication with the intraoperative team about pertinent surgical findings, such as resuscitation status, hemorrhage, hepatic inflow occlusion, or need for frozen section.
- Orient the resected lesion for a pathologic margin evaluation.
- Determine the need for drain placement.

➢ Adapt operative steps and the operative plan to information discovered intraoperatively.

❖ Postoperative

➢ Oversee postoperative care and resuscitation.

➢ Manage common early and late complications related to hepatobiliary procedures, including:

- Anastomotic leak
- Ascites
- Bile leak
- Biliary stricture

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Evaluation & Management of Patients with a Liver or Biliary Mass

	▪ Cardiovascular and pulmonary issues ▪ Cholangitis ▪ Hemorrhage ▪ Hepatic abscess ▪ Portal vein thrombosis ▪ Posthepatectomy liver failure ➢ Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs, postencounter needs, outcome expectations, and follow-up. ➢ Recognize and mitigate patient-specific barriers to care. ➢ Coordinate care with other specialties and ancillary care as needed (physical therapy, rehabilitation, nutrition services). ➢ Review intraoperative and pathologic findings in a multidisciplinary tumor board, and coordinate continued oncologic therapy and surveillance: ▪ Discussion of outcomes in patients who cannot return to intended oncologic therapy ▪ Referral for adjuvant therapy ▪ Surveillance and survivorship after cancer treatment
Scope	❖ In scope ➢ Diagnoses ▪ Choledochal cysts ▪ Colorectal liver metastasis ▪ Extrahepatic cholangiocarcinoma and gallbladder malignancies ▪ Focal nodular hyperplasia ▪ Gallbladder masses, including polyps and mucinous lesions ▪ Hepatic adenoma ▪ Hepatic cystic neoplasms ▪ Hepatic hemangioma ▪ Hepatocellular carcinoma ▪ Indeterminate liver mass ▪ Intrahepatic cholangiocarcinoma ▪ Other secondary liver tumors ▪ Primary liver neuroendocrine tumors ▪ Unresectable liver tumors ➢ Procedures

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Evaluation & Management of Patients with a Liver or Biliary Mass

- Appropriate referral to multidisciplinary specialists for definitive/adjuvant management, including liver-directed therapy and radiotherapy
- Bile duct resection with reconstruction
- Cholangiography
- Extended hepatectomy
- Hepatic ablation
- Hepatic arterial infusion chemotherapy
- Intraoperative hepatic ultrasound
- Major hepatectomy
- Partial hepatectomy
- Portal lymphadenectomy
- Radical cholecystectomy
- Surgical approach: open and minimally invasive techniques

➢ Populations
- All adult patients, including those with hereditary syndromes and congenital/acquired anatomic variations (eg, variant hepatic artery anatomy, post bariatric surgery)
- Patients with an indication for liver transplantation

❖ Out of scope

➢ Diagnoses
- Benign biliary obstruction, including gallstone disease and stricture
- Infectious hepatic lesions, including abscess and hydatid disease
- Primary sclerosing cholangitis
- Type V choledochal cyst (Caroli disease)

➢ Procedures
- Liver transplantation
- Pancreatectomy

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Evaluation & Management of Patients with a Liver or Biliary Mass

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **Limited Participation** **Demonstrates understanding of information and has very basic skills.** **Framework:** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential; includes assessment of functional status and underlying hepatocellular disease • Needs assistance when evaluating cross-sectional imaging; identifies the lesion and arrives at a limited differential but is unable to characterize it relative to etiology, vascular anatomy, and resectability • Completes a diagnostic/staging workup, including tumor markers and viral serologies as indicated, but requires prompting to evaluate residual liver volumes and future liver function • Reviews preop pathology (if available) but requires guidance to develop a multidisciplinary treatment plan, including indications for liver-directed therapy, regional therapy, transplantation, and palliation • Needs assistance to determine indications for preop biliary drainage and consideration of management approaches • Needs assistance to determine indications for preoperative biopsy and the need for additional imaging or diagnostic studies	• Lists common intraop complications and general strategies for management • Lists potential intraop findings (eg, unidentified metastatic disease, invasion into hepatic vasculature) but is unable to articulate how this would change the surgical plan • Needs prompting to assess resection margins • Discusses the need for intraop staging (palpation, intraop ultrasound) but requires prompting to modify the preop surgical plan • Requires assistance when performing cholangiography or intraop ultrasound to identify and characterize a lesion • Requires assistance to safely use energy devices to assist with parenchymal transection • Needs guidance to understand the relationship of a liver tumor to associated liver segments, vasculature, and biliary anatomy • Describes the steps of major and minor liver resections, biliary resection, reconstruction options, and portal lymph node dissection	• Describes intraop and pathologic findings but requires guidance to determine and coordinate continued oncologic therapy • Demonstrates knowledge of and manages routine postop care following hepatobiliary surgery, including postop resuscitation • Recognizes indications for adjuvant therapies • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication (eg, paging for minor details or email for urgent issues)

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	• Considers the role of a multidisciplinary tumor board and participates in but cannot lead a case discussion; needs guidance to develop a multidisciplinary treatment plan • Records information in a patient's record but may omit some important information or include some extraneous information; requires correction or augmentation of documentation of services; may need prompting for timeliness	• Creates a basic operative note but omits some important information; may need prompting for timeliness	
2 **<u>Direct Supervision</u>** **Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases.** **<u>Framework:</u>** **The learner can manage simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care**	• Discriminates the quality of relevant information to determine if additional information (diagnostics) is needed • Participates in a multidisciplinary tumor board discussion to develop a treatment plan but needs assistance to guide the discussion; demonstrates awareness of multidisciplinary treatment options but needs guidance to formulate multimodality treatment • Evaluates cross-sectional imaging with minimal assistance and arrives at a focused differential but is unable to independently characterize the tumor relative to etiology, vascular anatomy, and resectability • Demonstrates knowledge of surgically relevant anatomic variations • Interprets preop imaging but requires prompting to understand its implications	• With assistance, recognizes and manages common intraop complications • Identifies intraop findings such as unidentified metastatic disease or invasion into hepatic vasculature but requires redirection when encountering unanticipated intraop findings • Requires assistance to assess resection margins • Performs intraop staging (palpation, intraop ultrasound) but requires guidance to modify the preop surgical plan based on intraop findings • Inconsistently demonstrates careful tissue handling • Identifies the appropriate plane but requires redirection to maintain dissection in the optimal tissue plane	• Discusses the implications of intraop and pathologic findings but requires assistance to formulate a postop care plan • Demonstrates management of routine postop care but needs assistance to recognize and manage complex postop care, including a complication-specific management plan following hepatobiliary surgery • Applies details of pathologic staging to describe a general oncologic surveillance plan • Thoroughly documents a patient's postop progression and the presence of any complications with a plan for management

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(eg, planning neoadjuvant treatment or postoperative chemotherapy). **During surgery, the attending gives active help throughout the case to maintain forward progression.**	on surgical planning, including indications for nonoperative management • Demonstrates organized diagnostic and therapeutic reasoning through notes in a patient's record; demonstrates timely and efficient use of the EHR to communicate with the health care team	• Describes and performs the steps of minor liver resections but requires assistance to perform major liver resections, some biliary resections and reconstructions, and portal lymph node dissection • Performs cholangiography and uses intraop ultrasound to identify and characterize a lesion in a straightforward case but needs assistance to characterize a lesion and manage biliary resection and reconstruction in a more complex case (eg, previously treated or stented) • Creates an operative note with a complete description of the procedure	
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.** **<u>Framework:</u>**	• Integrates oncologic information and anatomic considerations with patient-specific factors to design a plan for diagnosis and further evaluation in a common scenario but may require assistance in a more complex or rare case • Leads a discussion of routine cases at an interdisciplinary cancer care conference, incorporating multimodality treatment options to formulate a treatment plan, including indications for liver-directed therapy, regional therapy, transplantation, and palliation; requires assistance to develop a plan for a complex case or when conflicting opinions exist	• Independently recognizes and manages intraop complications and develops a plan for avoidance of common complications • With assistance, refines the preop surgical plan based on information discovered intraoperatively, such as unidentified metastatic disease, invasion into hepatic vasculature, or suspicious lymphadenopathy not seen on imaging • Independently assesses resection margins but may need assistance to modify the operative plan • Independently performs intraop staging (palpation, intraoperative ultrasound)	• Formulates a postop plan of care without assistance in a common case but may require assistance in a more complex case • Independently manages complex postop care and complications, creating a complication-specific management plan following hepatobiliary surgery • With assistance, determines the need for and coordinates adjuvant therapies as indicated • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency

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The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.	• With assistance, identifies surgically relevant anatomic variations and alters patient management accordingly • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in a patient's record	but may require guidance to modify the preop surgical plan based on intraop findings in a complex case • Consistently demonstrates careful tissue handling • Visualizes the tissue plane and identifies and dissects relevant normal anatomy • Describes and performs the steps of minor and major liver resections, biliary resection and reconstruction, and portal lymph node dissection with minimal assistance • Performs cholangiography and uses intraop ultrasound to identify and characterize a lesion but may need assistance to characterize a lesion and manage biliary resection and reconstruction in a more complex case (eg, previously treated or stented) • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	
4 **Practice Ready** **Manages complex disease presentations and performs complex**	• Leads a multidisciplinary cancer care conference to synthesize patient care plans for routine and complex cases, resolving conflict when needed; independently coordinates multidisciplinary care	• Independently anticipates and avoids common intraop complications, including parenchymal/vascular hemorrhage, bile leaks, and bowel injuries	• Independently formulates a postop plan of care for common and more complex cases • Anticipates and provides intervention for early postop complications,

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology. **<u>Framework</u>:** **The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations.** **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 or unusual presentations.**	• Independently integrates oncologic information and anatomic considerations with patient-specific factors to design a plan for diagnosis and further evaluation in common and more complex or rare cases • Independently identifies surgically relevant anatomic variations on imaging and alters patient management accordingly • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in an organized written form, including anticipatory guidance; written or verbal communication (patient notes, email) serves as an example for others to follow	• Independently refines the preop surgical plan based on information discovered intraoperatively, such as peritoneal disease, additional liver lesions not visible on imaging, bilobar liver lesions, aberrant biliary anatomy, or features of underlying liver disease • Independently assesses resection margins and modifies the surgical plan if needed • Independently performs intraop staging (palpation, intraop ultrasound) and modifies the preop surgical plan based on intraop findings in straightforward and complex cases • Adapts tissue handling based on tissue quality (eg, fatty liver, post-ablation); independently and fluidly performs all parts of a hepatic parenchyma resection, visualizing tissue planes and identifying and dissecting relevant abnormal vascular or biliary anatomy • Describes and independently performs the steps of minor and major liver resections, biliary resection and reconstruction, and portal lymph node dissection • Creates an operative note with a complete description of the procedure, a rationale for modifications of the	including engaging consultative services when needed for a complication-specific management plan following hepatobiliary surgery (eg, hemorrhage, bile leak, anastomotic leak, hepatic abscess, cholangitis, portal vein thrombosis, ascites, cardiovascular and pulmonary issues) • Independently develops a care plan for subacute complications following hepatobiliary surgery (eg, biliary stricture, posthepatectomy liver failure) • Independently determines the need for and coordinates adjuvant therapies as indicated • Communicates clearly, concisely, promptly, and in an organized written form, including anticipatory guidance so the postop plan of care is clear to other members of the care team

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Evaluation & Management of Patients with a Liver or Biliary Mass

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
		operative plan, and documentation of anatomic or disease variants	

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Evaluation & Management of Patients with Melanoma and Advanced Cutaneous Malignancies

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with signs and symptoms of cutaneous malignancies. Surgical oncologists must be able to accurately and cost-effectively diagnose, treat, and provide surveillance for melanoma, squamous cell carcinoma, basal cell carcinoma, Merkel cell carcinoma, and cutaneous adnexal tumors, recognizing complex disease that requires multidisciplinary treatment.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, history, physical examination, and initial diagnostic evaluations (eg, biopsy) to develop a differential diagnosis, including benign, borderline, and malignant cutaneous lesions. ➢ Describe different biopsy techniques and the indications for and limitations of each. ➢ Complete cost-effective, evidence-based diagnostic and staging evaluations based on histopathology, including tissue diagnosis and imaging studies as indicated and the use of available molecular testing as applicable. ➢ Determine the need to refer a patient to genetic counseling after screening regarding hereditary syndromes that predispose patients to cutaneous malignancy. ➢ Communicate a diagnosis and potential treatment options to the patient/caregiver(s) and consultants. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ➢ Identify treatment goals, such as curative intent, life prolongation without curative option, palliation, or end-of-life care. Communicate in a culturally sensitive manner when de-escalation of care is warranted because of poor prognosis or based on the patient/caregiver's goals of care. ➢ Use evidence-based literature in a multidisciplinary fashion to plan the sequencing of oncologic treatment, including surgery; neoadjuvant or adjuvant immunotherapy or targeted therapy; radiation; and other treatments (topical therapies, Mohs surgery), depending on histology. ➢ Collaborate with other specialties to manage comorbidities that will affect treatment, such as chronic anticoagulation, cardiac disease, immunosuppression, and immunotherapy-induced toxicity (eg, endocrine insufficiencies, hepatitis, myocarditis, colitis, pneumonitis). For planned lymphadenectomy, refer patients to physical therapy for lymphedema education. ➢ Adapt management to specific patient populations, including pregnant and immunocompromised patients and patients with comorbidities that may limit treatment options. ➢ Anticipate the potential need for delayed closure and reconstruction, and consult the plastic surgery team preoperatively when indicated. ➢ Describe and document the indications, risks, benefits, alternative therapies, and potential complications of the planned procedure, and incorporate a discussion of the goals of care and end-of-life decision-making in a culturally sensitive manner, ensuring a full understanding and taking patient/caregiver preferences into account. ❖ Develop a multidisciplinary treatment plan for patients with locoregionally advanced (satellite, in-transit, nodal), recurrent, or metastatic disease. Debate the role of modalities, including intralesional therapy, surgery, cell-mediated therapies, and surgical resection. ❖ Identify patients who qualify for clinical trials. ❖ Intraoperative

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Evaluation & Management of Patients with Melanoma and Advanced Cutaneous Malignancies

- Manage the perioperative environment, including room setup, medications (eg, blue dye), equipment check, preprocedural time-out, specimen orientation and processing, counts, wound classification, and debriefing functions.
- Implement a safe anesthetic approach for the clinical situation in collaboration with in-office staff or the anesthesiology team, depending on the environment selected for the performance of the procedure. In particular, communicate with the anesthesia team to avoid long-acting muscle relaxation for lymphadenectomy.
- Create and maintain an intraoperative environment that promotes safety and patient-centered care.
- Position the patient to expose the operative field, including applicable nodal basins based upon interpretation of lymphoscintigraphy, and avoid iatrogenic injuries.
- Coordinate with other members of the operating room team to use specialized equipment or procedures, such as the gamma probe and dye for injection (eg, isosulfan blue, methylene blue).
- Perform the procedures required to manage cutaneous malignancies:
  - Select margins and orient incisions.
  - Manage the resection defect.
  - Perform sentinel lymph node biopsy with or without lymphoscintigraphy preoperatively, and interpret imaging results.
  - Perform lymphadenectomy when appropriate.
  - Perform metastasectomy when appropriate.
  - Adapt the operative plan to new information, involving consulting services as necessary.
- Anticipate common postoperative complications, and mitigate them if possible (eg, drain placement).

❖ Postoperative

- Manage common early and late complications, including wound infection, dehiscence, seromas, hematomas, paresthesia/nerve injury, and lymphedema.
- Review intraoperative and pathologic findings in a multidisciplinary tumor board to develop an adjuvant treatment plan, including additional resection if indicated. Recognize when additional imaging is required based on pathologic stage, and refer patients to the radiation and medical oncology teams per consensus guidelines.
- Communicate a postoperative plan to the patient/caregiver(s) and other health care team members that considers pathologic findings, outcome expectations, and short- and long-term follow-up, including indications for adjuvant therapy per guidelines.
- Debate completion lymphadenectomy using evidence-based literature.
- Identify the role of adjuvant therapy following neoadjuvant therapy and curative-intent oncologic surgery.
- Describe and mitigate patient-specific barriers to care, specifically with respect to long-term surveillance.
- Coordinate care with other specialties per guidelines, such as medical oncology, radiation oncology, dermatology, and plastic surgery, and with ancillary care teams, such as physical therapy, lymphedema therapy, wound care, rehabilitation, and nutrition services.
- Discuss lifestyle modification and risk reduction with the patient/caregiver(s), such as sun-protective strategies and skin surveillance.

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Evaluation & Management of Patients with Melanoma and Advanced Cutaneous Malignancies

Scope

- In scope
  - Diagnoses
    - Cutaneous adnexal tumors
    - Hereditary syndromes with increased melanoma risk
    - High-risk basal cell carcinoma
    - High-risk squamous cell carcinoma
    - Melanoma: invasive and noninvasive
    - Merkel cell carcinoma
    - Unknown, suspicious cutaneous lesions
  - Procedures
    - Amputation
    - Excisional biopsy
    - Incisional biopsy
    - Intratumoral injections of therapeutic agents
    - Metastasectomy
    - Punch biopsy
    - Sentinel lymph node biopsy, including injection of blue dye, use of a gamma probe, and interpretation of preoperative lymphoscintigraphy
    - Therapeutic or completion lymphadenectomy
    - Wide local excision
    - Wound closure: skin graft, synthetic skin graft products, rotational flaps, complex wound closures
  - Populations
    - Immunocompromised patients
    - Patients with autoimmune disorders
    - Pregnant patients
- Out of scope
  - Diagnoses
    - Benign lesions
    - Congenital nevi
    - Cutaneous sarcomas
    - Dermatofibrosarcoma protuberans
    - Desmoid tumors
    - Mucosal melanoma (eg, anorectal)

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	▪ Neurofibroma ▪ Ocular melanoma ➢ Procedures ▪ Free flaps ▪ Isolated hepatic infusion ▪ Isolated limb infusion ▪ Isolated limb perfusion ➢ Populations ▪ Pediatric patients

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Evaluation & Management of Patients with Melanoma and Advanced Cutaneous Malignancies

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **Limited Participation** **Demonstrates understanding of information and has very basic skills.** **Framework:** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential • Describes indications for biopsy and how to perform various biopsy techniques • Recognizes the need for and describes common staging studies • Explains surgical treatment but needs assistance with margin selection and indications for nodal staging • Describes the risks, benefits, and potential complications of surgery • Considers the role of a multidisciplinary tumor board and participates in but cannot lead a case discussion; needs guidance to develop a multidisciplinary treatment plan including indications for neoadjuvant therapy and which agents to use • Describes the basics of clinical study design and levels of evidence as they apply to the selection of a treatment plan • When prompted, accesses available evidence to develop the correct sequence of treatment (eg, surgery, systemic or regional therapies)	• Describes but may need assistance with intradermal blue dye or isotope injection, lymphoscintigraphy interpretation, and gamma probe use • Performs the initial steps of the operation; requires guidance to select the correct depth/margins for wide resection and specimen orientation • Orients an incision along the correct anatomic axis and performs a simple primary or layered closure with assistance • Demonstrates basic understanding of relevant operative anatomy • Creates a basic operative note but omits some important information; may need prompting for timeliness	• Develops a basic surveillance plan for a patient with early-stage disease • Demonstrates basic understanding of the role of adjuvant therapy but may need guidance to recognize indications for it • Reviews pathology results but needs assistance with staging and management decisions that incorporate recognition of low-risk vs high-risk disease • Describes the basics of clinical study design and levels of evidence as they apply to selecting a treatment plan • Accesses evidence-based guidelines for postop care and surveillance but needs assistance to formulate a plan based on tumor factors • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication (paging for minor details or email for urgent issues)

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• Records information in a patient's record but may omit some important information or include some extraneous information; may need prompting for timeliness		
2 **Direct Supervision** **Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases.** **Framework:** **The learner can manage simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).** **During surgery, the attending gives active**	• Obtains a detailed history, including risk factors for cutaneous malignancy and the impact of any previous therapy, and performs a thorough physical exam, recognizing lymphadenopathy or other suspicious skin lesions • Explains surgical treatment in straightforward cases, including margin status and indications for nodal staging • Participates in a multidisciplinary tumor board discussion to develop a treatment plan but needs assistance to guide the discussion; demonstrates awareness of multidisciplinary treatment options but needs guidance to formulate multimodality treatment • Recognizes indications for additional staging studies but needs prompting to identify cost-effective or evidence-based imaging • Demonstrates an understanding of the different phases of oncologic clinical trials • Accesses available evidence to develop the correct sequence of treatment (eg, surgery, systemic or regional therapies) but needs assistance to elicit patient preferences	• Positions the patient and performs intradermal injections, interprets lymphoscintigraphy, and uses a gamma probe to localize a sentinel lymph node with minimal assistance • Determines margins and depth for wide local excision and independently performs the operation, including sentinel lymph node biopsies, with minimal assistance in straightforward cases • Orients an incision along the correct anatomic axis and performs a simple primary or layered closure without assistance • Needs assistance to determine the level of amputation for subungual melanoma • Demonstrates understanding of operative anatomy, anticipating critical structures and landmarks to prevent postop complications • Creates an operative note with a complete description of the procedure	• Develops a basic surveillance plan for a patient with early-stage disease but needs assistance to develop a plan for a patient with more advanced disease or a rarer cutaneous malignancy • Requires prompting to describe the indications for and guideline-based elements of staging for more advanced disease • Recognizes the indications for adjuvant therapy but requires prompting to consider the impact of prior treatment or tumor-related factors when recommending specific treatment options • Recognizes high-risk disease and stages a patient in the context of pathologic findings but needs assistance to devise a treatment strategy for a straightforward case • Demonstrates understanding of the different phases of oncologic clinical trials • Requires prompting to elicit patient preferences and values to guide

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
help throughout the case to maintain forward progression.	when guiding care (eg, consideration for sentinel lymph node biopsy) • Demonstrates organized diagnostic and therapeutic reasoning through notes in a patient's record; demonstrates timely and efficient use of the EHR to communicate with the health care team		evidence-based adjuvant care and surveillance • Thoroughly documents a patient's postop progression and the presence of any complications within the plan of management
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.** **<u>Framework:</u>** **The learner can perform the operation in straightforward circumstances.** **The attending gives passive help. This help may be given while**	• Independently recognizes the need for and performs an additional biopsy when needed (eg, suspicious lesion, concern for sampling error) • Integrates oncologic information with patient-specific factors to develop a treatment plan, including indications for neoadjuvant therapy; requires guidance for a more complex presentation, such as recurrent, in-transit, or advanced disease • Discusses consent in a patient-centered manner, including oncologic outcomes and specific risks such as paresthesia, lymphedema, and scarring • Recognizes the need to involve other surgical specialties • Leads a discussion of routine cases at an interdisciplinary cancer care conference, incorporating multimodality treatment options in the formulation of a treatment plan; requires assistance to develop a plan for a complex case or when conflicting opinions exist	• Consistently performs all steps of wide local excision and sentinel lymph node biopsy but may require assistance for a patient with challenging anatomy or atypical nodal localization • Demonstrates careful tissue handling of critical structures and landmarks (eg, neurovascular bundles) but requires some assistance with dissection • Orients an incision along the correct anatomic axis without prompting and performs a complex closure, including the creation of an advancement flap for a tension-free closure • Communicates clearly with staff regarding the labeling and handling of pathologic specimens • Creates an operative note with a complete description of the procedure, including key intraoperative findings; documents anatomic or disease variants in a thorough and understandable way	• Communicates indications for additional staging and adjuvant therapy (eg, considers adjuvant therapy following neoadjuvant therapy and curative-intent oncologic surgery) or surgical intervention in a guideline-concordant manner • Recognizes and manages postop complications to minimize their impact on adjuvant therapy • Develops a surveillance plan for straightforward and complex cases that incorporates tumor stage and prior treatment • With assistance, recognizes high-risk disease, stages patients in the context of pathologic findings, and consistently develops a treatment strategy for straightforward cases • Demonstrates general knowledge of clinical trial design and clinical trial infrastructure; identifies a patient who

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
scrubbed for more complex cases or during check-in for more routine cases.	• Leads a multidisciplinary discussion, critically appraising literature and incorporating input from other services to develop a comprehensive treatment plan; integrates clinical trial data and adapts the plan based on therapeutic response • With assistance, identifies gaps in a diagnostic workup and stages a patient in a guideline-concordant manner • Demonstrates general knowledge of clinical trial design and clinical trial infrastructure; identifies a patient who qualifies for clinical trials and assists research coordinators in enrollment • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan in a straightforward case and adjusts the plan based on available evidence; requires guidance for a more complex presentation, such as recurrent, in-transit, or advanced disease • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in the patient's record		qualifies for clinical trials and assists research coordinators in enrollment • Locates and applies the best available evidence for adjuvant therapies and surveillance, integrated with patient preferences • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency
4 **Practice Ready**	• Obtains a thorough history, integrating comorbidities and histologic risk factors, including molecular markers and genetic profiling, to develop a succinct differential	• Communicates with staff regarding positioning and room setup; establishes a safe anesthetic plan and exposes the operative field to avoid iatrogenic injury	• Reviews pathology results, including mutational analysis, and tailors postop treatment and the surveillance plan accordingly

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology. **Framework:** **The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations.** **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 or unusual presentations.**	• Performs a thorough physical exam, recognizing satellitosis, in-transit disease, lymphadenopathy, or other suspicious skin lesions; detects subtle abnormalities and adapts the treatment plan when needed • Describes indications for treatment of recurrent, in-transit, and advanced disease, including intratumoral therapies, nodal dissection, and metastasectomy • Leads a multidisciplinary cancer care conference to synthesize patient care plans for routine and complex cases, resolving conflict when needed; independently coordinates multidisciplinary care; integrates clinical trial data and adapts a care plan based on therapeutic response • Independently recognizes gaps in a diagnostic workup and stages a patient in a guideline-concordant manner • Demonstrates advanced knowledge of clinical trial design and infrastructure; identifies potential clinical research questions and designs a clinical trial to address them, either real or hypothetical • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence in a complex or unusual	• Requests and troubleshoots equipment and modifies the operative plan based on instrument availability • Navigates an uncommon intraop scenario, such as a nonlocalizing sentinel lymph node or management of a pregnant or immunosuppressed patient • Coaches a surgical assistant or trainee through an excision and sentinel lymphadenectomy, considering patient positioning, ergonomics, exposure, tissue handling, and specimen orientation • Leads dissection of neurovascular bundles and critical structures; navigates a procedure in a reoperative or irradiated field and following neoadjuvant therapy • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	• Independently coordinates postop care, including adjuvant therapy, staging imaging, and nodal basin surveillance • Independently recognizes high-risk disease, stages a patient in the context of pathologic findings, and consistently develops a treatment strategy for straightforward and complex cases • Demonstrates advanced knowledge of clinical trial design and clinical trial infrastructure; identifies potential clinical research questions and designs a clinical trial to address them, either real or hypothetical • Critically appraises evidence-based rationales for adjuvant therapies, even in the face of uncertain or conflicting evidence and or a patient with significant comorbidities (eg, immunosuppressed patient) • Communicates clearly, concisely, promptly, and in an organized written form, including anticipatory guidance so the postop plan of care is clear to other members of the health care team

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	presentation, including the palliative setting • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in an organized written form, including anticipatory guidance; written or verbal communication (eg, patient notes, email) serves as an example for others to follow		

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Evaluation & Management of Patients with Other Gastrointestinal Tumors

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with a gastrointestinal (GI) or mesenteric neoplasm found incidentally or after a diagnostic workup. Surgical oncologists must be able to accurately and cost-effectively diagnose, treat, and provide guideline-concordant surveillance for adult patients with a variety of GI or mesenteric neoplasms and recognize that a GI or mesenteric mass may be part of complex disease that requires multidisciplinary treatment.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ➢ Complete a cost-effective, efficient, evidence-based diagnostic or staging evaluation per accepted guidelines. ▪ Describe the role of diagnosis-specific imaging modalities (Ga-68 dotatate/positron emission tomography, magnetic resonance imaging, computed tomography). ▪ Discuss the need for and method to obtain tissue for diagnosis. ▪ Complete biochemical and genomic testing when indicated. ➢ Identify the variability in guideline-adherent staging and preoperative evaluation based on the type of GI tumor for the following: ▪ GI mass or neoplasm of indeterminate malignant behavior ▪ GI neuroendocrine tumor (NET) ▪ Gastrointestinal stromal tumor (GIST) ▪ Lymphoma ▪ Small bowel adenocarcinoma ➢ Communicate a diagnosis and potential treatment options to the patient/caregiver(s) and consultants. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ➢ Succinctly identify treatment goals, including curative intent, life prolongation without curative option, palliation, or end-of-life care. Communicate sympathetically in a culturally appropriate manner when de-escalation of care is indicated because of poor prognosis or based on the patient/caregiver's goals of care. ➢ Use current evidence-based literature to develop the correct sequence of oncologic treatment, including surgery, neoadjuvant or adjuvant therapy (eg, cytotoxic chemotherapy, targeted therapy), radiation, and other treatments as necessary. Select a treatment approach based on disease presentation, comorbid conditions, and patient preferences. Clarify that the treatment varies based on the final diagnosis. For each neoplasm: ▪ Describe and consider predictors of biological risk for specific diagnoses, including genetics, when appropriate. ▪ Compare local excision/resection with formal anatomic or en bloc resection, and consider the potential role of neoadjuvant therapy for downstaging for resection with minimal morbidity. ▪ Identify the need for cholecystectomy in patients undergoing treatment with somatostatin analogs. ▪ Discuss potential nonoperative strategies (eg, observation for a low-risk NET). ▪ Determine the role of debulking for advanced locoregional or metastatic disease in specific diagnoses. ▪ Review the role of liver-directed therapies in the metastatic setting. ➢ Participate in a multidisciplinary conference or discussion regarding treatment plans to define an optimal treatment approach.

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Evaluation & Management of Patients with Other Gastrointestinal Tumors

- Collaborate with other specialties to manage comorbidities that will affect treatment (eg, chronic anticoagulation, cardiac disease, immunosuppression).
  - 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 as necessary.
  - Ensure that the patient/caregiver(s) can ask questions and address any expressed concerns, taking patient/caregiver preferences into account.
  - Discuss potential limitations in the desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.
  - Document the consent discussion.
- Develop a comprehensive perioperative plan for preoperative optimization with enhancement of nutrition and mobility, smoking cessation, and diabetes control.
- Synthesize an operative plan that demonstrates an understanding of the operative approach, anatomy, physiology, indications, contraindications, risks/benefits, operative alternatives, and possible complications.

❖ Intraoperative

- Manage the perioperative environment, including room setup, equipment checks, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.
- Develop a safe anesthetic approach for the clinical situation in collaboration with in-office staff or the anesthesiology team, depending on the environment selected for the procedure.
- Create and maintain an intraoperative environment that promotes safety and patient-centered care.
- Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury, and consider the need for potential procedural adjuncts (eg, esophagogastroduodenoscopy, cholangiogram, lower endoscopy).
- Confirm accessibility of necessary equipment. Coordinate with other members of the operating room team to use specialized equipment or procedures such as upper/lower endoscopy. Coordinate potential adjunct procedures with other surgical services (eg, ureteral stents).
- Perform the planned procedures for the specific pathology with consideration of guideline-concordant surgical margins, handling of tissue and tumors (eg, avoiding rupture of GIST), control of regional and metastatic disease, and potential palliative interventions.
- Debate the role of minimally invasive versus open resection approaches pending disease pathology and patient factors.
- Adapt operative steps and the operative plan based on intraoperative findings, communicating with consulting services and caregivers when necessary.

❖ Postoperative

- Direct postoperative care.

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	➢ Manage common early and late complications related to GI tumor resections, including anastomotic leaks, hemorrhage, bowel ischemia, ostomy management, delayed gastric emptying, postoperative pain, and incontinence. ➢ Manage other postoperative complications that are related to large abdominal oncologic operations but not unique to GI tumors, such as pulmonary embolism, aspiration, other cardiopulmonary complications, nutritional problems, and other systemic problems. ➢ Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs, postencounter needs, outcome expectations, prognosis, and follow-up. ➢ Recognize and mitigate patient-specific barriers to care. ➢ Coordinate care with other specialties and ancillary care as needed (eg, physical therapy, rehabilitation, nutrition services) to ensure safe, timely discharge planning. ➢ Review intraoperative and pathologic findings in a multidisciplinary tumor board, and modify the treatment plan if indicated. ▪ Discuss the role of mutational testing for risk stratification and its impact on adjuvant treatment strategies. ▪ Advocate for a patient's goals of care. ▪ Assess the potential need for additional resections. ➢ Develop a plan for surveillance after the initial treatment of the GI tumor.
Scope	❖ In scope ➢ Diagnoses ▪ GI NETs, including appendiceal NETs ▪ GI stromal tumors ▪ GI tumors of indeterminate malignant potential (eg, with no tissue diagnosis) ▪ Lymphoma with GI involvement ▪ Small bowel adenocarcinoma ➢ Procedures ▪ Gastrectomy ● Subtotal gastrectomy ● Total gastrectomy ● Wedge resection ▪ Enterectomy ▪ Partial colectomy ▪ Proctectomy ▪ Appendectomy ▪ Transanal excision ▪ Lymphadenectomy in conjunction with the above as appropriate for indication ▪ Multivisceral resection in conjunction with the above ▪ Open and minimally invasive techniques

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- Appropriate referral to multidisciplinary specialists for definitive endoscopic management
- Populations
  - Adults, including those with hereditary syndromes

- Out of scope
  - Diagnoses
    - Appendiceal adenocarcinoma
    - Benign neoplasms
    - Colon and rectal adenocarcinoma
    - Malignant small bowel obstruction
    - Metastatic small bowel tumors
    - Mucinous appendiceal neoplasms
    - Pancreatic NETs
    - Peritoneal surface malignancies
    - Primary liver NETs
    - Secondary malignant neoplasms of the colon
  - Procedures
    - Incidental en bloc/multivisceral resections for other indications
  - Populations
    - Pediatric patients

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Evaluation & Management of Patients with Other Gastrointestinal Tumors

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **Limited Participation** **Demonstrates understanding of information and has very basic skills.** **Framework:** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• For a patient presenting with an intra-abdominal neoplasm (GIST, GI lymphoma, small bowel adenocarcinoma, GI NET, mass of unknown origin), synthesizes essential information from the patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential; needs prompting to develop a diagnostic and treatment plan • Describes tumor-specific biopsy techniques; identifies surgical options and when a procedure may be indicated • Describes a cost-effective, evidence-based diagnostic or staging evaluation, including the use of biochemical testing and diagnosis-specific imaging modalities such as DOTA/PET, MRI, and CT as indicated • Considers the role of a multidisciplinary tumor board and participates in but cannot lead a case discussion; needs guidance to develop a multidisciplinary treatment plan • Takes a family history that includes malignancies related to hereditary syndromes (eg, FAP and Gardner syndrome for a patient with desmoid tumors) • Recognizes the potential role for medical and radiation therapy and surgery in a patient with an intra-abdominal neoplasm; lists broad categories of multimodal	• Lists potential intraop findings (eg, unidentified metastatic disease, invasion into adjacent structures) • Needs prompting to assess resection margins and the need for or extent of lymphadenectomy • Demonstrates basic knowledge of tumor-specific biology and how it affects intraop decision-making (eg, demonstrates awareness of tissue-handling techniques such as avoiding GIST rupture) • Creates a basic operative note but omits some important information; may need prompting for timeliness	• Recognizes that pathologic findings and staging can impact oncologic therapeutic decisions (eg, need for adjuvant therapies) • Identifies a patient who will need a surveillance plan postoperatively based on pathologic staging and clinical risk assessment and needs assistance to describe the surveillance plan • Explains the basic principles of cancer biology related to a patient's diagnosis • Lists broad categories of multimodal oncologic therapies based on operative findings and final tissue diagnosis • Accesses evidence-based guidelines for postop care and surveillance but needs assistance to formulate a plan based on tumor factors and patient preferences • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication (paging for minor details or email for urgent issues)

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	oncologic therapies but may need prompting to differentiate immunotherapies, cytotoxic chemotherapies, and targeted medical therapies (eg, rules out lymphoma, which would require initial nonoperative management) • When prompted, accesses available evidence to develop the correct sequence of treatment (eg, surgery, systemic therapy) • Records information in a patient's record but may omit some important information or include some extraneous information; requires correction or augmentation of documentation of services; may need prompting for timeliness		
2 **Direct Supervision** **Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases.** **Framework:**	• Demonstrates understanding that a patient presenting with an intra-abdominal neoplasm (GIST, GI lymphoma, small bowel adenocarcinoma, GI NET, mass of unknown origin) will need a multidisciplinary diagnostic and treatment plan but needs ongoing assistance to describe this plan • Orders an evidence-based diagnostic and staging evaluation, including biochemical testing and diagnosis-specific imaging modalities such as DOTA/PET, MRI, and CT as needed, but needs prompting to consider cost-effectiveness	• Identifies intraop findings (eg, unidentified metastatic disease, invasion into adjacent structures) but requires redirection when encountering unanticipated findings • Assesses resection margins and the need for or extent of lymphadenectomy with assistance • Demonstrates knowledge of intraop findings that might change the surgical plan, including the extent of resection (eg, need for cholecystectomy in a patient with NET who may receive	• Describes a multimodal postop treatment plan but needs guidance to refine it by incorporating patient factors, final pathologic staging, and tumor-specific biology • With assistance, integrates patient-specific factors and tumor biology to describe an evidence-based surveillance timeline or survivorship care plan • Assimilates cancer biology knowledge, using tissue results and genetic testing to guide postop management, including the potential need for further

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
The learner can manage simple or straightforward cases. **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).** **During surgery, the attending gives active help throughout the case to maintain forward progression.**	• Participates in a multidisciplinary tumor board discussion to develop a treatment plan but needs assistance to guide the discussion; demonstrates awareness of multidisciplinary treatment options but needs guidance to formulate multimodality treatment • Describes the cancer biology of tissue results or genetic testing but needs assistance to incorporate this knowledge into medical decision-making • Details a patient's preop imaging, biopsy results, tumor biology, staging data, and patient-specific history; names standard multimodal oncologic therapies but needs assistance applying unique patient and biological factors to nonstandard treatment pathways • Recites standard oncologic operative strategies, including proper tissue handling, but has difficulty comparing resection approaches with nonoperative strategies and incorporating the potential role of neoadjuvant therapy for downstaging to minimize morbidity (eg, need for neoadjuvant therapy for GIST and NET). • Accesses available evidence to develop the correct sequence of treatment (surgery, systemic therapy) but needs assistance to elicit patient preferences when guiding care	somatostatin analogs), surgical margins, or need for further pathological workup; needs assistance to describe the details of this updated plan • Creates an operative note with a complete description of the procedure	diagnostic assessment or additional procedural interventions • Describes how patient-specific factors and tumor data determine which tailored multimodal oncologic therapies are needed postoperatively and needs assistance to describe the proper sequence or a final tailored plan • Requires prompting to elicit patient preferences and values to guide evidence-based adjuvant care and surveillance • Thoroughly documents a patient's postop progression and the presence of any complications within the plan of management

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• Demonstrates organized diagnostic and therapeutic reasoning through notes in a patient's record; demonstrates timely and efficient use of the EHR to communicate with the health care team		
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.** **<u>Framework:</u>** **The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.**	• When a patient presents with an intra-abdominal neoplasm (GIST, GI lymphoma, small bowel adenocarcinoma, GI NET, mass of unknown origin), integrates oncologic information with patient-specific factors to design a diagnostic and workup plan and describes the plan with minimal input • With prompting, orders a cost-effective, evidence-based diagnostic or staging evaluation, including biochemical testing and diagnosis-specific imaging modalities such as DOTA/PET, MRI, and CT as indicated • Leads discussion of routine cases at an interdisciplinary cancer care conference, incorporating multimodality treatment options into formulation of a treatment plan; requires assistance to develop a plan for a complex case or when conflicting opinions exist • With prompting, incorporates family history and cancer biology knowledge into medical decision-making, including using tissue results and genetic testing to guide further diagnostic assessment and management (eg, nonoperative management of low-risk NETs)	• With assistance, refines the preop surgical plan based on information discovered intraoperatively (eg, unidentified metastatic disease, invasion into adjacent structures) • Independently identifies the need to assess resection margins and the need for or extent of lymphadenectomy • Demonstrates comprehensive knowledge of tumor biology in the context of intraop findings and how they impact the preop surgical plan, including the extent of resection or need for further pathological workup; describes the details of this updated plan with limited assistance • With assistance, refines the surgical plan based on intraop findings; discusses surgical options with the attending (eg, recognizes important or aberrant anatomy and potential pitfalls) • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	• With prompting, applies a multimodal postop treatment plan that incorporates most patient factors, final pathologic staging, and tumor-specific biology; refines the treatment plan with prompting • With prompting, follows an evidence-based surveillance plan, when available, and recognizes the need for a survivorship care plan; identifies the need for additional tumor testing that may impact oncologic therapy and surveillance • With prompting, applies cancer biology knowledge and identifies opportunities for additional referrals (eg, genetic testing, medical and radiation oncology) that may impact postop care • With assistance, assimilates cancer biology knowledge, using tissue results and genetic testing to guide postop management, including the need for potential further diagnostic assessment or additional procedural interventions • Describes patient-specific factors and tumor data to determine which tailored

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Evaluation & Management of Patients with Other Gastrointestinal Tumors

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• With prompting, demonstrates knowledge of data to support the use of multimodal oncologic therapies and their impact on surgical treatment (eg, use of preop radiation or systemic therapy to affect an operative plan and minimize morbidity) • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence in a straightforward case • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in a patient's record		multimodal oncologic therapies are needed postoperatively but needs prompting to describe the proper sequence or final tailored plan • Locates and applies the best available evidence for adjuvant therapies and surveillance, integrated with patient preferences • Appropriately selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency
4 **Practice Ready** **Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology** **Framework:**	• Independently and succinctly develops a multidisciplinary diagnostic and treatment plan for a patient presenting with an intra-abdominal neoplasm (GIST, GI lymphoma, small bowel adenocarcinoma, GI NET, mass of unknown origin) • Leads a multidisciplinary cancer care conference to synthesize patient care plans for routine and complex cases, resolving conflict when needed; independently coordinates multidisciplinary care • Independently orders a cost-effective, evidence-based diagnostic or staging evaluation, including biochemical testing and diagnosis-specific imaging modalities	• Independently identifies the need to assess resection margins and the need for or extent of lymphadenectomy in straightforward and complex cases • Demonstrates comprehensive knowledge of tumor biology in the context of intraop findings and how they impact the surgical plan, including the extent of resection or need for further pathological workup; describes the details of this updated surgical plan with limited assistance • Independently refines the surgical plan based on common intraop findings, including the extent of resection, surgical margins, or need for further pathological	• Independently customizes a multimodal postop treatment plan based on patient factors, final pathologic staging, and tumor-specific biology • Independently integrates patient-specific factors and tumor biology to coordinate an evidence-based surveillance timeline or survivorship care plan • Independently assimilates cancer biology knowledge, using tissue results and genetic testing to guide postop management, including the need for potential further diagnostic assessment or additional procedural interventions

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations. **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 or unusual presentations.**	such as DOTA/PET, MRI, and CT as indicated • Independently incorporates family history and cancer biology knowledge into medical decision-making, including using tissue results and genetic testing to guide further diagnostic assessment and management (eg, benefits of debulking of metastatic disease for patients with NETs) • Independently incorporates preoperative imaging, biopsy results, tumor biology, staging data, and patient-specific history to select tailored multimodal oncologic therapy • Independently compares local excision/resection with formal anatomic or en bloc resection, the potential role of neoadjuvant therapy for downstaging for resection to minimize morbidity, nonoperative strategies, and possible debulking strategies • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence in a complex or unusual presentation • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in organized written form, including anticipatory guidance; written or verbal	workup before completing the final surgical plan • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	• Independently applies patient-specific factors and tumor data to determine which tailored multimodal oncologic therapies are needed postoperatively and in what sequence • Critically appraises evidence-based rationale for adjuvant therapies, even in the face of uncertain or conflicting evidence • Communicates clearly, concisely, promptly, and in an organized written form, including anticipatory guidance so the postop plan of care is clear to other members of the health care team

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	communication (patient notes, email) serves as an example for others to follow		

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Evaluation & Management of Patients Being Treated with Palliative Intent at the End of Life with Limited Treatment Options

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients with incurable, locally advanced, or metastatic malignancies who may present with signs and symptoms such as intestinal, biliary, or ureteral obstruction; fistulas; ascites; pleural effusions; lymphedema; bleeding, infection; malnutrition; failure to thrive; and pain. This evaluation includes an assessment of the extent of disease, prognosis, and treatment options. The surgical oncologists work as part of a multidisciplinary team that presents surgical and nonsurgical treatment options to patients and their families, implements an evidence-based treatment plan to palliate symptoms, and develops a discharge plan that encompasses the goals of care.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from the patient's medical records, discussions with treating physicians, history, physical examination, imaging, laboratory tests, and biopsy/pathology to define the diagnosis. ➢ Develop a cost-effective, evidence-based assessment of the further testing indicated to define the extent of disease and prognosis. ➢ Communicate the diagnosis, prognosis, and potential treatment options to the patient/caregiver(s) and consultants. Use shared decision-making to develop a multidisciplinary treatment plan consistent with the patient's goals and beliefs. ➢ Succinctly identify treatment goals that balance prolongation of life and quality of life. Communicate in a compassionate and culturally appropriate manner when de-escalation of care is recommended because of a poor prognosis or based on patient/caregiver goals of care. ➢ Ensure that code status is established and that a health care proxy/surrogate decision-maker is confirmed for patients without decisional capacity. ➢ Identify the pharmacological therapies that may benefit a patient with unresectable disease. ➢ Involve adjunct services, including palliative care, pain management, case management/social work, spiritual care, and psychosocial services. ➢ Identify the eligibility criteria for hospice care, and recognize when to engage hospice services to meet with a patient/caregiver(s). ➢ If a patient is not capable of independent enteral nutrition and hydration, discuss long-term approaches to nutritional support. ➢ Decide when operative intervention or the preferred form of palliation is not indicated based on the extent of disease, functional/nutritional status, or coexisting comorbidities. Communicate this decision to the patient/caregiver(s) and other health care providers so nonoperative measures can be used to palliate symptoms. ➢ Screen patients for and propose clinical trials when appropriate. ➢ Refer to other clinicians for palliative interventions when needed: ▪ Interventional radiology (venting gastrostomy tube, percutaneous biliary drainage, percutaneous nephrostomy, paracentesis/thoracentesis, embolic management for bleeding, nerve block, kyphoplasty) ▪ Gastroenterology (venting gastrostomy, biliary stenting, intestinal stenting, endoscopic management for bleeding) ▪ Radiation oncology (radiation therapy for pain or bleeding) ▪ Urology (ureteral stenting) ▪ Wound care/ostomy therapists (assistance with care for nonhealing wounds/fistulas) ➢ When operative intervention is planned, obtain informed consent with cultural humility.

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- Develop a concise operative plan based on the patient's diagnosis, extent of disease, prognosis, symptoms, functional/nutritional status, and goals of care.
- Describe the indications, risks, benefits, alternative therapies, and potential complications of the planned procedure, and incorporate a discussion of the goals of care. Compassionately explain to the patient/caregiver(s) that procedural or operative intervention is directed at palliating symptoms rather than curative cancer treatment.
- Explain that intraoperative findings may prohibit the safe performance of an intended procedure, resulting in failure of palliation.
- Explain that operative complications can potentially worsen quality of life and shorten life expectancy.
- Ensure patient/caregiver comprehension using applicable language services and audio/visual aids as necessary.
- Ensure that the patient/caregiver(s) can ask questions, and address any expressed concerns, taking patient/caregiver preferences into account.
- Discuss potential limitations in the desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.
- Document the consent discussion.

❖ Intraoperative

- ➢ Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.
- ➢ Develop a safe anesthetic approach for the clinical situation in collaboration with in-office staff or the anesthesiology team, depending on the environment selected for the procedure. Create and maintain an intraoperative environment that promotes safety and patient-centered care.
- ➢ Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury.
- ➢ Confirm accessibility of necessary equipment. Coordinate with other members of the operating room team to use specialized equipment or procedures.
- ➢ Adapt operative steps based on intraoperative findings.
- ➢ Perform the (in scope) operations required to manage common scenarios encountered in patients with locally advanced or metastatic malignancy when palliation, rather than cure, is the objective.
- ➢ Accurately assess when it is not safe to proceed with the planned procedure.

❖ Postoperative

- ➢ Communicate intraoperative findings and the procedure(s) performed; expected recovery and future treatment needs; outcome expectations; and follow-up to the patient/caregiver(s) and other health care team members.
- ➢ Manage common early and late complications/issues related to palliative procedures.
- ➢ Continue management of ongoing symptoms.
- ➢ Recognize and mitigate patient-specific barriers to care.

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	➢ Continue care in conjunction with other specialties and ancillary services as needed, such as physical therapy, rehabilitation, dietician, palliative care, pain management, enterostomal therapist, and wound care. ➢ If criteria are met, facilitate a referral to hospice services to meet with the patient/caregiver(s) to educate them on the services available and potential transition to hospice. ➢ Coordinate discharge disposition and follow-up.
Scope	❖ In scope ➢ Diagnoses ▪ All patients with the following malignancies being treated with palliative intent: ● Cancer-related pain ● Cancer-related cachexia ● Gastric outlet obstruction ● Gastrointestinal bleeding ● Lymphedema ● Malignant ascites ● Malignant bowel obstruction ● Malignant fistula ● Malignant obstructive jaundice ● Malignant pleural effusion ● Malignant ureteral obstruction ● Malignant wounds ➢ Procedures (Note: Focus on intraoperative and perioperative decision-making—not technical details of each procedure.) ▪ Goals of care and advance care planning meetings with patients/caregiver(s) and other care teams (eg, medical oncology, palliative medicine) ▪ Code status discussion ▪ Incorporation of advance directives and shared decision-making to achieve goal-concordant care ▪ Referral for palliative medicine consultation ▪ Surgical management of: ● Enteral feeding access: laparoscopic, open ● Gastric outlet obstruction: laparoscopic or open, bypass or resection ● Malignant ascites: placement of peritoneal drain, hyperthermic intraperitoneal chemotherapy

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- Malignant bowel obstruction: laparoscopic, open, resection, bypass, diverting ostomy, venting gastrostomy tube placement, lysis of adhesions
- Malignant gastrointestinal bleeding: laparoscopic or open
- Malignant obstructive jaundice: open or laparoscopic, bypass or open
- Malignant wounds

➢ Populations
- All oncology patients being treated with palliative intent
- Patients who lack decisional capacity
  - Identify and engage surrogate decision-makers.

❖ Out of scope

➢ Diagnoses
- Airway compromise
- Central nervous system (CNS)-related symptoms (eg, cord compression, brain metastases)
- Hematuria from bladder or genitourinary neoplasms
- Malignant fractures
- Nonmalignant pain syndromes
- Paraneoplastic syndromes
- Patients receiving treatment with curative intent
- Patients with chronic pain
- Vaginal bleeding

➢ Procedures
- Advanced endoscopic palliative procedures for bleeding or obstruction
- Flap coverage for malignant wounds
- Interventional radiology procedures for bleeding, pain management, or ureteral obstruction
- Malignant fracture stabilization
- Management of complications from gynecologic malignancies
- Neurologic procedures for CNS metastases
- Percutaneous venting gastrostomy tube placement
- Tracheostomy for airway obstruction

➢ Populations
- Patients pursuing standard curative-intent treatment
- Pediatric patients
- Patients at end of life unrelated to malignancy

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	▪ Patients with chronic nonmalignant pain

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **<u>Limited Participation</u>** **Demonstrates understanding of information and has very basic skills.** **<u>Framework:</u>** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• Performs a thorough H&P and review of imaging and pathologic information but needs assistance to obtain a relevant oncologic history and recognize pertinent exam findings as they relate to a patient's advanced cancer diagnosis • Needs assistance to determine the need for additional imaging or testing • Needs prompting to consider nonoperative palliative treatment options and transition to hospice • If operative intervention is planned, demonstrates understanding of the basic elements of informed consent but needs assistance to communicate the unique aspects of palliative interventions to the patient/caregiver(s) lol • Needs prompting to consider the role of a multidisciplinary team in developing a palliative care plan • Needs prompting to identify the key components of the health care system required for the palliative care of patients • Respectfully communicates basic facts about the condition to a patient/caregiver(s) but needs prompting	• Needs prompting to adapt the operative steps of a palliative operation, including possibly aborting the procedure, based on intraop findings • Needs assistance to coordinate with the multidisciplinary team (anesthesia, OR staff) to consider the need for additional health care resources based on the intraop plan • Needs assistance to manage the periop environment, including room setup, equipment check, preprocedural time-out, and communication with anesthesia and OR staff • Creates a basic operative note but omits some important information; may need prompting for timeliness	• Needs prompting to consider health care resources related to the need for hospice referral and patient consent for hospice and other health care services • Needs prompting to appreciate the need to coordinate care with other specialties and ancillary services (PT, rehabilitation, nutrition services, palliative care, enterostomal therapist) within a complex health care system to coordinate length of stay, discharge, and transition of care; needs significant assistance to manage patient-specific and system-level barriers to care • Needs prompting to consider the ethical considerations of a patient requiring palliative or end-of-life care • Demonstrates understanding of intraop findings and the procedures performed but has difficulty communicating these findings to a patient/caregiver(s) and other health care team members • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication (eg, paging for minor details or email for urgent issues)

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	to discuss ethical concerns (eg, decisional capacity) • With prompting, identifies the need to establish a code status/surrogate decision-maker • Records information in a patient's record but may omit some important information or include some extraneous information; may require correction or augmentation of documentation of services; may need prompting for timeliness		
2 **Direct Supervision** **Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases.** **Framework:**	• Obtains a relevant oncologic history and recognizes pertinent exam findings as they relate to a patient's advanced cancer diagnosis; needs assistance to develop a palliative care plan • Orders additional tests to formulate a diagnosis and plan with some direction • Considers nonoperative palliative treatment options and hospice but needs direction to recommend a treatment plan that incorporates the patient's goals • If operative intervention is planned, communicates the elements of an informed consent discussion but omits some	• Recognizes the need to adapt operative steps during a palliative operation, including possibly aborting the procedure, but needs direction on choosing the best procedure • Coordinates with the multidisciplinary team (anesthesia, OR staff) in a straightforward case but needs prompting to consider the need for additional health care resources based on the intraop plan in a complex case • Demonstrates understanding of how to manage the periop environment, including room setup, equipment check, preprocedural time-out, and communication with anesthesia and OR	• Recognizes the need for hospice referral but needs guidance to coordinate the referral and recognize the role of hospice care and patient consent for hospice services in the broader health care system • Accesses basic ancillary services (eg, PT, rehabilitation, nutrition services, palliative care, pain management, wound care, enterostomal therapist) within a complex health care system to coordinate discharge and transition of care in straightforward cases; needs some assistance to execute coordination to address complex patient-specific and system-level barriers to care in straightforward cases

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
The learner can manage simple or straightforward cases. **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).** **During surgery, the attending gives active help throughout the case to maintain forward progression.**	elements when documenting the discussion • Considers the role of a multidisciplinary team when developing a palliative care plan but needs some direction to incorporate appropriate specialties and communicate the plan of care to other members of the health care team • Identifies most of the key components of the health care system required for the palliative care of patients • Respectfully communicates basic facts about the condition to a patient/caregiver(s) in a straightforward case but needs assistance in more complex cases (eg, unclear surrogate decision-maker, family and care team conflict) • Recognizes the need to establish a code status/surrogate decision-maker and leads this discussion in a straightforward case • Considers the role of multidisciplinary discussion in the development of a palliative care plan but needs direction to incorporate appropriate specialties • Demonstrates organized diagnostic and therapeutic reasoning through notes in a patient's record; demonstrates timely and	staff, but needs direction to communicate the operative plan • Creates an operative note with a complete description of the procedure	• Recognizes and addresses common ethical considerations of a patient requiring palliative or end-of-life care in straightforward cases (eg, decisional capacity, advance care planning) • Communicates basic intraop findings and the procedures performed to the patient/caregiver(s) and other health care team members but requires assistance when discussing the implications of the findings on the prognosis • Thoroughly documents a patient's postop progression and the presence of any complications within the plan of management

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Evaluation & Management of Patients Being Treated with Palliative Intent at End of Life with Limited Treatment Options

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	efficient use of the EHR to communicate with the health care team		
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.** **<u>Framework:</u>** **The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.**	• Synthesizes all relevant oncologic history and pertinent exam and imaging findings as they relate to a patient's advanced cancer diagnosis in a common scenario but needs assistance with a more complex case • Develops a cost-effective, evidence-based assessment of further testing but needs assistance to develop a palliative care plan that considers health care system issues (eg, funding, readmissions) • Discusses the need for a code status/surrogate decision-maker with the patient/caregiver(s) in a complex case with assistance • If operative intervention is planned, communicates the elements of an informed consent discussion, including all palliative surgical options, but may need assistance to discuss the potential need to abort the procedure and its impact on palliation • Coordinates with members of a multidisciplinary team when developing a palliative care plan in a routine case but needs assistance to incorporate appropriate specialties and communicate the plan of care to other members of the health care team in a complex case	• Anticipates potential intraop findings in a straightforward case but needs assistance in a complex case • Inconsistently adapts operative steps to achieve palliation; needs guidance on when to abort the procedure • Coordinates with a multidisciplinary team (anesthesia, OR staff) in a complex case with minimal assistance to access additional health care resources based on the intraop plan • Manages the periop environment, including room setup, equipment check, preprocedural time-out, and communication with anesthesia and OR staff in a straightforward case but may need assistance to communicate the operative plan in a complex case • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	• Independently determines if the patient meets the criteria for hospice care but needs some assistance to determine the wishes of the patient/caregiver(s) and coordinate the appropriate referrals within the context of the broader health care system (eg, insurance) • Accesses ancillary services (eg, PT, rehabilitation, nutrition services, palliative care, pain management, wound care, enterostomal therapist) to palliate ongoing symptoms and improve quality of life within a complex health care system; coordinates discharge and transition of care in complex cases with limited assistance; independently executes coordination to address complex patient-specific and system-level barriers to care in straightforward cases • Recognizes and addresses ethical considerations of a patient requiring palliative or end-of-life care (eg, decisional capacity, advance care planning) and navigates conflicting goals among care teams and patient/caregiver(s)

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Evaluation & Management of Patients Being Treated with Palliative Intent at End of Life with Limited Treatment Options

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• Works as a member of the multidisciplinary team in the context of a complex health system coordinating the care of patients requiring palliative care but needs assistance to develop a palliative care plan that considers health care system issues (eg, funding, readmissions) • Communicates the diagnosis, prognosis, and potential treatment options to a patient/caregiver(s) and consultants in an ethical and compassionate manner; uses shared decision-making but needs assistance to develop and communicate a multidisciplinary treatment plan that is consistent with a complex patient's goals and beliefs • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in a patient's record		• Compassionately communicates intraop findings to the patient/caregiver(s) and other health care team members but needs some guidance when discussing the prognosis and future management options • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency
4 **Practice Ready** **Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex**	• Synthesizes all relevant oncologic history and pertinent exam findings as they relate to a patient's advanced cancer diagnosis and need for palliative intervention • Independently develops a cost-effective, evidence-based assessment, including the need for further testing, to define a palliative care plan that considers health	• Anticipates all potential intraop findings and adapts the operative plan to achieve the best palliative outcome, including the need to abort the procedure • Proactively coordinates with the multidisciplinary team (anesthesia, OR staff) in straightforward and complex cases, reflecting understanding of how the palliative procedure impacts the	• Independently determines if the patient meets the criteria for hospice care and integrates the wishes of the patient/caregiver(s); coordinates the appropriate referrals within the context of the broader health care system (eg, insurance)

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Evaluation & Management of Patients Being Treated with Palliative Intent at End of Life with Limited Treatment Options

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
cases. Performs as an expert consultant in surgical oncology. **<u>Framework</u>:** **The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations.** **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 or unusual presentations.**	care system issues (eg, funding, readmissions) • If an operative intervention is planned, communicates the elements of an informed consent discussion, including all palliative surgical options and the potential need to abort the procedure • Proactively coordinates with members of the multidisciplinary team when developing a palliative care plan in routine and complex cases, incorporating appropriate specialties and communicating the plan of care to other members of the health care team • Independently coordinates multidisciplinary care and patient navigation for a patient requiring palliative care in the context of a complex health care system • Communicates the diagnosis, prognosis, and potential treatment options to a patient/caregiver(s) and consultants in an ethical and compassionate manner; in routine and complex cases, uses shared decision-making to develop and communicate a multidisciplinary treatment plan consistent with the patient's goals and beliefs	need to access additional health care resources (eg, wound or ostomy care, skilled nursing) • Independently manages the periop environment, including room setup, equipment check, preprocedural time-out, and communication with anesthesia and OR staff • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	• Leads and proactively coordinates care with other specialties and ancillary services (PT, rehabilitation, nutrition services, palliative care, pain management, wound care, enterostomal therapist) to palliate ongoing symptoms and improve quality of life within a complex health care system; coordinates discharge and transition of care in complex cases without assistance; independently executes coordination to address complex patient-specific and system-level barriers to care in complex cases • Recognizes and proactively addresses the ethical considerations of a patient requiring palliative or end-of-life care (eg, decisional capacity, advance care planning) and navigates conflicting goals among health care teams and the patient/caregiver(s) in a complex situation • Compassionately communicates intraop findings to a patient/caregiver(s) and other health care team members and conducts an ethical discussion on the prognosis and future management options • Communicates clearly, concisely, promptly, and in organized written

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Evaluation & Management of Patients Being Treated with Palliative Intent at End of Life with Limited Treatment Options

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• Discusses the need for a code status/surrogate decision-maker with the patient/caregiver(s) in a complex situation without assistance (eg, patient lacking decisional capacity) • Leads a multidisciplinary discussion about developing a palliative care plan, incorporating appropriate specialties • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in an organized written form, including anticipatory guidance; written or verbal communication (patient notes, email) serves as an example for others to follow		form, including anticipatory guidance so the postop plan of care is clear to other members of the health care team

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Evaluation & Management of Patients with a Pancreatic Lesion or Cancer

Description of the Activity	Patients with pancreatic lesions or new diagnosis of pancreatic cancer are referred to surgical oncologists. Surgical oncologists are expected to evaluate and lead guideline-concordant management of patients presenting with these conditions. Surgical oncologists must be able to accurately and cost-effectively diagnose, treat, and provide surveillance for patients with benign and malignant pancreatic lesions.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ▪ Obtain a focused history, including the presence of jaundice, weight loss, abdominal pain, functional performance, family history, and cancer risk factors. ▪ Perform a general assessment of the patient's nutritional status, presence of biliary obstruction, and a focused physical examination of the abdomen. ➢ Complete a cost-effective, evidence-based diagnostic evaluation, staging evaluation, or both, including molecular and biochemical/serological testing, endoscopic data, and cross-sectional multiphase imaging studies as indicated. ➢ Interpret the pancreatic lesion. ▪ Describe the lesion in relation to the surrounding anatomy and its related vascular supply, including variants, and categorize the lesion as resectable, borderline resectable, locally advanced/unresectable, or metastatic. ▪ For cystic lesions, describe their architecture, relationship to the pancreatic duct, and malignant potential. ➢ Describe the indications for endoscopic interventions for diagnosis and treatment. ➢ Interpret endoscopic assessment of pancreatic cystic fluid cytology/chemistries and biopsies when performed. ➢ Describe the indications for surgery in patients with pancreatic lesions. ▪ Use current evidence-based literature to develop the correct sequence of oncologic treatment, including surgery, neoadjuvant or adjuvant chemotherapy, radiation, and other treatments as necessary. ▪ Participate in a multidisciplinary conference or discussion regarding staging and treatment plans. ▪ Define individualized surveillance strategies for patients not undergoing initial surgery. ➢ Communicate a diagnosis and potential treatment options to a patient/caregiver(s) and consultants. Use shared decision-making to develop a treatment plan consistent with the patient's goals and beliefs. ➢ Identify treatment goals, such as curative intent, life prolongation without curative option, palliation, or end-of-life care. Communicate sympathetically in a culturally appropriate manner when de-escalation of care is preferable because of a poor prognosis or based on the patient/caregiver's goals of care. ➢ Collaborate with other specialties to manage comorbidities that will affect treatment (eg, chronic anticoagulation, cardiopulmonary disease, immunosuppression). ➢ When indicated, develop a prehabilitation plan, including a focus on nutritional status. ➢ Develop a safe, evidence-based operative plan. ➢ Screen patients for and propose clinical trials when appropriate. ➢ Obtain informed consent with cultural humility.

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- Describe the indications, risks, potential short- and long-term benefits, alternative therapies, and potential early and late 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 as necessary.
- Ensure that the patient/caregiver(s) can ask questions, and address any expressed concerns, taking patient/caregiver preferences into account.
- Discuss potential limitations in the desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.

❖ Intraoperative

➢ Manage the perioperative environment, including room setup, equipment checks, preprocedural time-out, need for blood and alternatives, specimen processing, counts, wound classification, and debriefing functions.

➢ Collaborate with perioperative health care professionals (eg, nursing team, anesthesia team) to create and maintain an intraoperative environment that promotes safe patient care.

➢ Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury.

➢ Confirm accessibility of necessary equipment. Coordinate with other members of the operating room team to use specialized equipment or procedures.

➢ Perform intraoperative assessment of resectability and the following operative interventions:

- Pancreaticoduodenectomy
  - Perform vascular resection and reconstruction when indicated.
  - Orient and label a resected lesion for pathologic margin evaluation.
  - Perform enteric reconstructions (pancreaticojejunostomy, hepaticojejunostomy, enteric anastomosis).
- Distal pancreatectomy
  - Assess indications and feasibility for spleen preservation.
  - Orient and label a resected lesion for pathologic margin evaluation.
- Pancreatic enucleation
  - Perform intraoperative ultrasound to localize the lesion for resection.
  - Identify factors requiring formal resection (proximity to pancreatic duct).
- Total pancreatectomy
- Palliative bypass (to maintain biliary and enteric flow)

➢ Determine the need for drain placement, feeding access, and stenting.

➢ Adapt operative steps and the operative plan to information discovered intraoperatively, calling consulting services as necessary.

❖ Postoperative

➢ Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs, postencounter needs (eg, nutrition, drain management if present), outcome expectations, and follow-up.

➢ Manage common early and late complications related to pancreatic surgery, including:

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	▪ Anastomotic leak ▪ Delayed gastric emptying ▪ Malnutrition, including pancreatic insufficiency ▪ Pancreatic fistula ▪ Pseudoaneurysm ▪ Surgical site infection ➢ Recognize and mitigate patient-specific barriers to care. ➢ Coordinate care with other specialties and ancillary care (physical therapy, rehabilitation, nutrition services) as needed. ➢ Review intraoperative and pathologic findings in the multidisciplinary tumor board, and coordinate continued oncologic therapy and surveillance. ▪ Refer for adjuvant therapy. ▪ Discuss outcomes in patients who cannot return to intended oncologic therapy. ▪ Plan for post–cancer treatment surveillance and survivorship.
Scope	❖ In scope ➢ Diagnoses ▪ Cystic lesions of the pancreas ▪ High-risk and genetic predisposition scenarios ▪ Intraductal papillary neoplasms ▪ Neuroendocrine tumors of the pancreas (functional and nonfunctional) ▪ Obstructive jaundice ▪ Pancreatic adenocarcinoma ○ Resectable ○ Borderline or locally advanced ○ Unresectable ○ Metastatic pancreatic cancer ▪ Pancreatic mass of undetermined malignant potential (eg, with no tissue diagnosis) ▪ Pseudopapillary tumors ▪ Tumors metastatic to the pancreas ➢ Procedures ▪ Distal pancreatectomy with or without splenectomy ▪ Enucleation ▪ Palliative bypass ▪ Pancreatoduodenectomy with or without venous reconstruction ▪ Total pancreatectomy

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- Populations
  - Adults
  - Nonsurgical scenarios*

- Out of scope

- Diagnoses
  - Adjacent tumors invading the pancreas
  - Gallstones and other benign causes of obstructive jaundice
  - Lymphoma
  - Pancreatic trauma
  - Pancreatitis

- Procedures
  - Ablative techniques
  - Cyst enterostomy
  - Intraoperative radiation

- Populations
  - Pregnant patients

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Evaluation & Management of Patients with a Pancreatic Lesion or Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **<u>Limited Participation</u>** **Demonstrates understanding of information and has very basic skills.** **<u>Framework:</u>** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential, including assessment of biliary obstruction • Evaluates cross-sectional imaging, identifies the lesion, and arrives at a limited differential; needs guidance to characterize the lesion relative to vascular anatomy • Identifies the components of a diagnostic/staging workup, including biochemical/serological testing and additional cross-sectional imaging studies • Describes options for biopsy of a characterized lesion or biliary decompression (eg, EUS, FNA, ERCP) but may require guidance to choose the modality • Considers the role of a multidisciplinary tumor board and participates in but cannot lead a case discussion; needs guidance to develop a multidisciplinary treatment plan • When prompted, accesses available evidence to develop the correct sequence of treatment (eg, surgery, chemotherapy, radiation therapy) • Records information in a patient's record but may omit some important information	• Lists potential intraop findings (eg, unidentified metastatic disease, invasion into adjacent structures) but is unable to articulate how they would change the surgical plan • Performs initial operative staging with assistance • Assists with exposure for dissection, including performing a Kocher maneuver and open cholecystectomy • Assists with enteric reconstruction but needs guidance to assess reconstruction options • Describes the anatomy relevant to a Whipple, distal pancreatectomy, or enucleation • Identifies basic intraop pancreatic and adjacent vascular anatomy with guidance • Creates a basic operative note but omits some important information; may need prompting for timeliness	• Demonstrates knowledge of and manages routine postop care following a Whipple or distal pancreatectomy • Accesses evidence-based guidelines for postop care and surveillance of malignant and high-risk lesions but needs assistance to formulate a plan based on tumor factors and patient preferences • Documents postop care but may omit the nuances of progress or minor complications; may choose an inappropriate means of communication (paging for minor details or email for urgent issues)

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	or include some extraneous information; requires correction or augmentation of documentation of services; may need prompting for timeliness		
2 **Direct Supervision:** **Manages cases at the level of a newly graduated general surgery resident. Can manage less complicated cases independently but needs active guidance for complex cases.** **Framework:** **The learner can manage simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).** **During surgery, the attending gives active help throughout the case**	• Obtains a focused H&P, including an assessment of functional/nutritional status and the presence of biliary obstruction • Evaluates cross-sectional imaging and characterizes the lesion and adjacent vascular anatomy; needs guidance to assess resectability • Interprets biochemical/serological testing and assesses the need for additional cost-effective, cross-sectional imaging • Describes indications for biopsy of the lesion and the need for biliary decompression (eg, EUS, FNA, ERCP) but may require guidance to interpret diagnostic findings • Participates in a multidisciplinary tumor board discussion to develop a treatment plan but needs assistance to guide the discussion; demonstrates awareness of multidisciplinary treatment options but needs guidance to formulate multimodality treatment; incorporates multidisciplinary oncology team recommendations to guide patient-centered, evidence-based care • Accesses available evidence to develop the correct sequence of treatment (eg, surgery,	• Identifies intraop findings (eg, unidentified metastatic disease, invasion into adjacent structures) but requires redirection when encountering unanticipated intraop findings • Performs intraop staging but requires guidance to modify the preop surgical plan based upon intraop findings • Independently performs the steps of initial exposure, including the Kocher maneuver and biliary and bowel mobilization; assesses resectability in uncomplicated cases with guidance • Performs an enteric anastomosis independently and assists with pancreaticobiliary reconstructions with guidance • Performs distal pancreatectomy with guidance • Describes the anatomy and anatomic variations relevant to detailed steps of a Whipple, distal pancreatectomy, or enucleation	• Demonstrates management of routine postop care but needs assistance to manage complex postop care that includes a complication-specific management plan following a Whipple or distal pancreatectomy • Interprets and discusses pathologic findings with interdisciplinary team members but requires guidance to formulate a multidisciplinary oncologic treatment plan • Requires prompting to elicit patient preferences and values to guide evidence-based adjuvant care and surveillance for malignant and high-risk lesions • Thoroughly documents postop progression and the presence of any complications within the plan of management

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
to maintain forward progression.	chemotherapy, radiation therapy) but needs assistance to elicit patient preferences when guiding care • Demonstrates organized diagnostic and therapeutic reasoning through notes in a patient's record; demonstrates timely and efficient use of the EHR to communicate with the health care team	• Identifies detailed intraop vascular anatomy (eg, gastroduodenal artery, IPDA) • Creates an operative note with a complete description of the procedure	
3 **<u>Indirect Supervision:</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.** **<u>Framework:</u>** **The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while**	• Obtains a focused H&P, including assessment of functional/nutritional status and the presence of biliary obstruction • Evaluates cross-sectional imaging and fully characterizes the lesion and its resectability (eg, borderline, locally advanced, unresectable) with limited guidance • Interprets discrepancies in biochemical/serological testing • Interprets findings on endoscopic assessment, biopsy, and fluid serologies (eg, EUS, FNA) • Leads a discussion of routine cases at an interdisciplinary cancer care conference, incorporating multimodality treatment options into the formulation of a treatment plan; requires assistance to develop a plan for a complex case or when conflicting opinions exist; incorporates multidisciplinary oncology team recommendations to guide patient-	• With assistance, refines the preop surgical plan based on information discovered intraoperatively (eg, unidentified metastatic disease, invasion into adjacent structures) • Performs operative staging assessing distant metastatic disease and identifies the presence of locally advanced, unresectable disease with limited guidance • Independently assesses resectability in an uncomplicated case • Performs retropancreatic/uncinate dissection during a Whipple procedure with guidance • Performs enteric anastomosis and biliary anastomosis independently; performs pancreatic anastomosis with guidance • Independently performs distal pancreatectomy and considers techniques for splenic preservation	• Independently manages complex postop care and complications in most cases; forms a complication-specific management plan following a Whipple or distal pancreatectomy • Interprets pathologic findings and forms a multidisciplinary oncologic treatment plan with interdisciplinary team members • Locates and applies the best available evidence for adjuvant therapies and surveillance of malignant and high-risk pancreatic lesions, integrated with patient preference • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency

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Evaluation & Management of Patients with a Pancreatic Lesion or Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
scrubbed for more complex cases or during check-in for more routine cases.	centered, evidence-based care for an uncomplicated case presentation • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence in a straightforward case • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in a patient's record	• With assistance, identifies the anatomy and anatomic variations relevant to detailed steps of a Whipple and distal pancreatectomy or enucleation, including the extent of dissection • With assistance, identifies detailed intraop vascular anatomy and variations (eg, replaced right hepatic artery) • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	
4 **<u>Practice Ready</u>** **Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology.** **<u>Framework:</u>** **The learner can treat all common variations of the disease and has a strong understanding of**	• Independently integrates a patient's H&P, imaging, endoscopic findings, and pancreatic biopsy pathology (when performed) with patient-specific factors to design an evidence-based, cost-effective diagnostic and staging plan • Leads a multidisciplinary cancer care conference to synthesize patient care plans for routine and complex cases, resolving conflict when needed; independently coordinates multidisciplinary care, including functional and nutritional optimization; reassesses imaging response after neoadjuvant therapy • Considers the role of molecular profiling for a patient who may be a candidate for targeted therapy	• Independently refines the preop surgical plan based on information discovered intraoperatively (eg, unidentified metastatic disease, invasion into adjacent structures) • Independently performs complete intraop staging (including the use of intraop ultrasound when indicated) and modifies the preop surgical plan based on intraop findings of locally advanced disease, unresectable disease, and nonregional adenopathy in straightforward and complex cases • Independently performs retropancreatic/uncinate dissection, regional lymphadenectomy, and anastomoses during a Whipple	• Anticipates and provides early intervention for early postop complications, including engaging consultative services when needed and forming a complication-specific management plan following Whipple or distal pancreatectomy (eg, pancreatic fistula, hemorrhage) • Independently develops a care plan for subacute complications of a Whipple or distal pancreatectomy (eg, delayed gastric emptying, malnutrition, pancreatic insufficiency) • Reviews and interprets pathologic findings with a multidisciplinary team to create an evidence-based postop oncologic treatment plan; participates

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Evaluation & Management of Patients with a Pancreatic Lesion or Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
surgical and medical options for different presentations. **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 or unusual presentations.**	• Identifies and counsels a patient who is eligible for enrollment in clinical trials • Sympathetically and with cultural humility discusses noncurative and palliative options with a patient with unresectable disease • Independently characterizes resectability status (eg, borderline, locally advanced, unresectable) and identifies variations in relevant vascular anatomy • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence in a complex or unusual presentation • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in an organized written form, including anticipatory guidance; written or verbal communication (patient notes, email) serves as an example for others to follow	procedure; assesses the quality of the anastomoses • Assesses intraop margin status along dissection planes • Identifies indications for and performs major vascular resection with reconstructions • Performs palliative biliary and enteric bypasses when resection or endoscopic approaches are not feasible • Independently performs distal pancreatectomy and multivisceral resection when indicated and considers techniques for splenic preservation • Independently identifies intraop pancreatic vascular anatomic variants • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	in a care plan for a patient who cannot obtain intended adjuvant therapy; develops a palliation/end-of-life patient care plan with an interdisciplinary team when applicable • Critically appraises an evidence-based rationale for adjuvant therapies for follow-up of malignant and high-risk pancreatic lesions, even in the face of uncertain or conflicting evidence • Communicates clearly, concisely, promptly, and in an organized written form, including anticipatory guidance so the postop plan of care is clear to other members of the health care team

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Evaluation and Management of Patients with Peritoneal Surface Malignancy

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with peritoneal surface malignancy (PSM). PSM may be identified incidentally on imaging or during abdominal surgery. Patients may also present with vague abdominal symptoms or more acutely with obstruction or other symptoms of carcinomatosis. Surgical oncologists must be able to accurately diagnose and direct the appropriate workup and management of these patients and participate in their multidisciplinary treatment.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ➢ Complete a cost-effective, evidence-based diagnostic or staging evaluation, including biochemical testing, review of pathology and molecular or genetic markers, imaging studies, and diagnostic/staging laparoscopy as indicated. ➢ Communicate the diagnosis, prognosis, and potential role/benefit of treatment to patients/caregivers. Succinctly identify treatment goals (curative intent, life prolongation, palliation, end-of-life care). Communicate sympathetically in a culturally sensitive manner when de-escalation of care is appropriate because of poor prognosis or based on a patient/caregiver's goals of care. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ➢ Use imaging to predict disease burden and the feasibility of successful cytoreductive surgery (CRS)/hyperthermic intraperitoneal chemotherapy (HIPEC). ➢ Determine the presence of nodal and extraperitoneal metastatic sites and their impact on treatment options. ➢ Determine whether diagnostic/staging laparoscopy is needed to assess the peritoneal cancer index (PCI) or obtain tissue for diagnosis and treatment planning. ➢ Identify when a patient may benefit from a surgical approach based on an assessment of the patient's diagnosis, histology, clinical condition, nutritional and functional assessments, prior medical/surgical treatments, and other treatment options. ➢ Refer patients for prehabilitation, nutritional optimization, and other resources to prepare for major surgery. ➢ Describe consensus guidelines for the management of PSM based on histology. ➢ Recognize and discuss the limitations of current evidence regarding CRS/HIPEC based on specific histology, disease burden, and prognosis. ➢ Consider the risks and benefits of palliative cytoreduction when complete cytoreduction is not feasible. ➢ Assess PSM and next steps when called by other surgical specialists (general surgery, gynecology/gynecologic oncology, urology) either preoperatively or intraoperatively, and determine whether CRS/HIPEC might be indicated. ➢ Use current evidence-based literature to develop the correct sequencing of oncologic treatment, including surgery, neoadjuvant or adjuvant chemotherapy, radiation, and other treatments as necessary. Select a treatment approach based on disease presentation, comorbid conditions, and patient preferences. Manage multidisciplinary treatment of the disease. ➢ Participate in a multidisciplinary conference or discussion regarding treatment plans. ➢ Collaborate with other specialties to manage comorbidities that will affect treatment and limit side effects and complications, such as chronic anticoagulation, cardiac disease, renal disease, and immunosuppression. ➢ Communicate with and prepare for other surgical or nonsurgical specialist involvement.

Evaluation and Management of Patients with Peritoneal Surface Malignancy

- Discuss options for fertility-preserving strategies for patients receiving pelvic surgery as a component of their care.
- Consider patients for enrollment in clinical trials.
- 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.
  - Discuss the possibility of multivisceral resections, ostomy creation, and postoperative complications related to extensive and lengthy operations and perfusion of chemotherapy.
  - Discuss contingency plans when planned complete cytoreduction does not appear feasible.
  - Discuss expectations for recovery and the patient's postoperative course, depending on the extent of resections.
  - Ensure that the patient/caregiver(s) can ask questions, and address any expressed concerns, taking patient/caregiver preferences into account.
  - Discuss potential limitations in the patient's desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.
  - Document the consent discussion.

❖ Intraoperative

- Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.
- Develop a safe anesthetic approach in collaboration with the anesthesiology team, with attention to the particular effects of HIPEC, including temperature control, electrolyte imbalances, renal perfusion and protection, and adequate management of fluids. Continue communication and monitoring throughout the operation.
- Create and maintain an intraoperative environment that promotes safety and patient-centered care.
- Confirm the accessibility of necessary equipment (perfusion machine, catheters/cannulas, thermometers). Coordinate with other members of the operating room team (including perfusionist) to use specialized equipment.
- Ensure the equipment needed for thermal/ablative procedures is available.
- Prepare adjuncts to the procedure as needed (ureteral stents, endoscopy).
- Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury. Recognize the need for particular positioning (eg, lithotomy, access to thoracic cavity) for extensive pelvic or upper abdominal/chest intervention.
- Ensure that the correct chemotherapeutic agents, dose, and perfusion parameters are administered based on the patient's disease.
- Demonstrate safe handling and management of chemotherapy in the operating room and the safe disposal of drugs.
- Evaluate the extent and burden of disease using the PCI, including determination of resectability and the likelihood of complete cytoreduction.
- Perform the procedures required to manage a complete cytoreductive operation, including, but not limited to, solid and hollow viscus resection, peritonectomy, omentectomy, and ablation.
- Describe the completeness of cytoreduction and residual disease using consensus tools and criteria.

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Evaluation and Management of Patients with Peritoneal Surface Malignancy

- Adapt operative steps and the operative plan to new information discovered intraoperatively, calling consulting services as necessary.
- If unable to achieve complete cytoreduction, determine if the patient will benefit from palliative resection or peritoneal perfusion.

❖ Postoperative

- Manage common early and late complications related to cytoreduction and intraperitoneal chemotherapy procedures, including adverse effects of the chemotherapeutic agents in addition to extensive surgical intervention, such as:
  - Acute and chronic kidney injury
  - Alteration in liver function tests
  - Anastomotic leak
  - Bleeding
  - Bone marrow suppression
  - Cardiac arrhythmias
  - Coagulopathy
  - Electrolyte imbalances
  - Ileus and malnutrition
  - Infection
  - Pleural effusions
- Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs, postencounter needs, outcome expectations, and follow-up.
- Recognize and mitigate patient-specific barriers to care.
- Coordinate care with other specialties and ancillary care as needed (eg, physical therapy, rehabilitation, nutrition services).
- Review intraoperative and pathologic findings in a multidisciplinary tumor board, including molecular markers, and modify the treatment plan if indicated.
- Conduct a postoperative discussion of the goals of treatment with the patient/caregiver(s) regarding either consolidation therapy or palliative intent.
- Develop a plan for surveillance after the initial treatment based on disease-specific guidelines and guided by the patient's primary cancer and treatment sequence.

Scope

❖ In scope

- Diagnoses
  - Appendix (low-grade appendiceal mucinous neoplasm, high-grade appendiceal mucinous neoplasm, goblet cell, mucocele, adenocarcinoma)
  - Colorectal cancer
  - Gastric cancer
  - Neuroendocrine cancer
  - Ovarian cancer

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- Peritoneal mesothelioma (epithelioid, biphasic, sarcomatoid, well-differentiated, papillary mesothelioma, multicystic)

➢ Procedures
- CRS, including, but not limited to, omentectomy, gastrectomy, small and large bowel resection, peritonectomy, and electrofulguration for liver capsule or serosal implants
- HIPEC
- Diagnostic laparoscopy for determination of PCI

➢ Populations
- Adults

❖ Out of scope

➢ Diagnoses
- Adrenocortical cancer
- Breast cancer
- Gastrointestinal stromal tumor (see EPA: E&M of Patients with Gastrointestinal Stromal Tumor)
- Hepatobiliary or pancreatic malignancy
- Lung cancer
- Melanoma
- Pleural-based tumors
- Sarcoma

➢ Procedures
- Adjuvant HIPEC
- Bidirectional therapy/neoadjuvant intraperitoneal systemic chemotherapy
- Pressurized intraperitoneal aerosolized chemotherapy
- Prophylactic HIPEC
- Thoracic cytoreductive procedures

➢ Populations
- Pediatric

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Evaluation & Management of Patients with a Peritoneal Surface Malignancy

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **<u>Limited Participation</u>** **Demonstrates understanding of information and has very basic skills.** **<u>Framework:</u>** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential; needs assistance in determining the need for additional diagnostic studies • Demonstrates basic understanding of PSM; needs prompting to identify existing guidelines/consensus for management of PSM • Recognizes CRS/HIPEC as an option but needs prompting to identify a patient who may benefit from a surgical approach • Needs significant prompting to identify the key components of the health care system required to care for patients with PSM • Respectfully communicates basic facts about the condition to a patient/caregiver(s); needs assistance with nuances of treatment decisions and potential outcomes • Records information in a patient's record but may omit some important information or include some extraneous information; requires correction or augmentation of documentation of services; may need prompting for timeliness	• Demonstrates awareness of the use of chemotherapy agents for HIPEC but needs prompting to list specific medications or dosing • Lists potential intraop findings but needs prompting to articulate how they would change the surgical plan • Recognizes the need for determination of disease burden but needs guidance when calculating the PCI • Needs prompting to obtain a biopsy when called by another surgical specialty for an intraop consultation • Performs a common general surgical resection in a case of low-burden disease but needs assistance to manage a complex or multivisceral resection • Demonstrates basic knowledge of tumor-specific biology and how it affects intraop decision-making • Demonstrates knowledge of how to report patient safety events • Demonstrates understanding of basic OR setup, patient positioning, perfusion setup, and preparation; needs prompting to recognize the necessary equipment and need for coordination and safety	• Demonstrates knowledge of and manages routine postop care following cytoreduction but needs prompting to recognize more complex or chemotherapy-specific complications • Needs assistance in synthesizing operative and pathologic findings to formulate a postop plan of care based on tumor factors • Demonstrates knowledge of how to report patient safety events • Needs prompting to appreciate the need to coordinate care with other specialties and ancillary services (PT, rehabilitation, nutrition services, palliative care, enterostomal therapist) within a complex health care system to manage length of stay, discharge, and transition of care; needs assistance with managing patient-specific and system-level barriers to care • Discusses intraop findings with a patient/caregiver(s) but needs prompting to discuss the implications of findings on the prognosis • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
		with other members of the team (anesthesia, perfusionist, pharmacy) • Creates a basic operative note but omits some important information; may need prompting for timeliness	(eg, paging for minor details or email for urgent issues)
2 **<u>Direct Supervision</u>** **Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases.** **<u>Framework:</u>** **The learner can manage simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).**	• Uses imaging to predict disease burden; needs prompting to consider the need for additional diagnostic studies, particularly diagnostic laparoscopy to determine the PCI • Describes common scenarios in which PSM occurs and existing guidelines for CRS/HIPEC; needs assistance to apply them to specific patient and clinical scenarios • With assistance, identifies a patient who may benefit from a surgical approach based on diagnosis, histology, clinical condition, nutritional and functional assessments, prior medical/surgical treatments, and other treatment options • Recognizes the role of evaluation for CRS/HIPEC when called by another surgical specialty but needs assistance to direct next steps • Identifies key components of the health care system required to care for patients with PSM in straightforward cases • Respectfully communicates the surgical plan to a patient/caregiver(s) but needs	• Lists potential chemotherapy agents for HIPEC but needs assistance for specific indications/histology and doses • Identifies intraop findings but requires redirection when encountering unanticipated intraop findings • Calculates the PCI in low-burden disease; needs guidance to determine the next steps of proceeding with cytoreduction with or without chemoperfusion • Obtains a biopsy when called by another surgical specialty for an intraop consultation; needs assistance to determine the next steps of oncologic care • Performs a common general surgical resection in advanced disease; performs a complex resection with assistance • Demonstrates advanced knowledge of tumor-specific biology and how it affects intraop decision-making • Reports a patient safety event through an institutional reporting system	• Performs routine postop care, including management of common postop complications; needs assistance in recognizing and managing complex postop complications, including unique adverse effects of chemotherapeutic agents • With assistance, formulates a postop plan of care based on operative and pathologic findings and tumor factors • Reports a patient safety event through an institutional reporting system • Accesses basic ancillary services (PT, rehabilitation, nutrition services, enterostomal therapist) within a complex health care system to coordinate discharge and transition of care; needs assistance to manage patient-specific and system-level barriers to care • Communicates operative findings and pathologic findings to a patient/caregiver(s); needs assistance in discussing short- and long-term goals of care

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
During surgery, the attending gives active help throughout the case to maintain forward progression.	prompting to adopt a shared decision-making approach that considers the patient's condition and goals of care • Demonstrates organized diagnostic and therapeutic reasoning through notes in the patient record; demonstrates timely and efficient use of the EHR to communicate with the health care team	• Prepares OR setup, patient positioning, management of chemotherapy agents, and equipment in straightforward cases; needs assistance to coordinate with other members of the team (anesthesia, perfusionist, pharmacy) • With prompting, discusses the factors of a safe perioperative/anesthetic plan, including temperature control, electrolyte imbalances, renal perfusion and protection, and adequate management of fluids • Works with other services to ensure safe periop care of a straightforward case; needs assistance with particular details of HIPEC in a complex case • Creates an operative note with a complete description of the procedure	• Thoroughly documents postop progression and the presence of any complications
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.**	• Uses imaging to predict disease burden and decide when laparoscopy is indicated to assess the PCI and feasibility of CRS/HIPEC • Recognizes CRS/HIPEC as a therapeutic option in complex cases; independently applies consensus guidelines based on histology • Assesses a patient for candidacy for CRS/HIPEC based on patient and tumor factors	• With assistance, refines the surgical plan based on new information discovered intraoperatively • Calculates the PCI and the likelihood of complete cytoreduction, taking histology into consideration in complex cases; determines the next steps of proceeding with cytoreduction with or without chemoperfusion in common cases • Independently obtains a biopsy when called by another surgical specialty for an	• Independently manages complicated postop care, including complex postop complications (immediate and late) and unique adverse effects of chemotherapeutic agents • Formulates a postop plan of care based on operative and pathologic findings and tumor factors; may require assistance in a rarer histology or recurrent disease

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Evaluation & Management of Patients with a Peritoneal Surface Malignancy

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases. **Framework:** **The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.**	• Works as a member of a multidisciplinary team in the context of a complex health system, coordinating care for a patient with PSM • Discusses a patient's prognosis and potential outcomes of CRS/HIPEC based on histology and disease burden in a compassionate manner • Integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in the patient's record	intraop consultation; needs assistance with determining the next steps of oncologic care in a more complex case • Performs a common general surgical resection in advanced disease and performs a complex resection with limited assistance, including selecting the correct chemotherapeutic agents and dose; requires assistance to manage perfusion equipment and parameters • Demonstrates advanced knowledge of tumor-specific biology and incorporates this information into intraop decision-making in a straightforward case • Independently prepares OR setup, patient positioning, management of chemotherapy agents, and equipment in complex cases; coordinates with other members of the team (anesthesia, perfusionist, pharmacy) • Participates in the disclosure of a patient safety event to a patient/caregiver(s) • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	• Participates in the disclosure of a patient safety event to a patient/caregiver(s) • Accesses ancillary services (PT, rehabilitation, nutrition services, enterostomal therapist) within a complex health care system to coordinate discharge and transition of care; needs assistance when coordinating care with another specialty in a complex case to address patient-specific and system-level barriers to care • Communicates operative and pathologic findings and immediate next steps to a patient/caregiver(s); may need assistance in discussing long-term goals of care or in a case with an uncertain prognosis • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency
4 **Practice Ready**	• Uses, interprets, and understands the limitations of imaging and laparoscopy to	• Independently refines the surgical plan based on new information discovered intraoperatively	• Anticipates and provides early intervention for postop complications (immediate and late), including the

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Evaluation & Management of Patients with a Peritoneal Surface Malignancy

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology. **<u>Framework</u>:** **The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations.** **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 or unusual presentations.**	predict disease burden and the feasibility of successful CRS/HIPEC • Recognizes CRS/HIPEC as a therapeutic option in uncommon cases, including recurrent disease; identifies when alterations from guidelines are needed to personalize care for a unique patient • Considers patient factors and goals of care as part of a shared decision-making process when planning potential CRS/HIPEC • Discusses the risks and benefits of palliative cytoreduction in a multidisciplinary setting • Refers to fertility specialists, taking into consideration patient factors, tumor biology, and anticipated surgical planning • Identifies and counsels a patient eligible for enrollment in clinical trials • Independently discusses limitations of current evidence regarding CRS/HIPEC based on specific histology, disease burden, and prognosis • Independently coordinates multidisciplinary care and patient navigation in the context of a complex health care system • Communicates diagnostic and therapeutic reasoning, including anticipatory guidance, that is clear, concise, prompt, and in	• Independently calculates the PCI and the likelihood of complete cytoreduction as well as the next steps of proceeding with cytoreduction with or without chemoperfusion in complex cases (eg, recurrent disease) • Independently obtains a biopsy when called by another surgical specialty for an intraop consultation and to discuss the role of CRS/HIPEC • Performs the procedures required for a complete cytoreductive operation; selects the correct chemotherapeutic agents, dose, and perfusion parameters based on the patient's disease and adapts operative steps to new intraop findings • Demonstrates advanced knowledge of tumor-specific biology and incorporates it into intraop decision-making in common and complex cases • Independently discloses a patient safety event to a patient/caregiver(s) • Takes a leadership role in managing a multidisciplinary team (anesthesia, perfusion, pharmacy) and demonstrates safe handling of chemotherapy agents and ancillary equipment	unique adverse effects of chemotherapeutic agents; engages consultative services in the management of postop complications when needed • Independently synthesizes operative and pathologic findings in straightforward and complex cases to formulate a postop care plan, including surveillance • Independently discloses a patient safety event to a patient/caregiver(s) • Proactively directs ancillary services (PT, rehabilitation, nutrition services, palliative care, pain management, wound care, enterostomal therapist) within a complex health care system to coordinate discharge and transition of care in straightforward and complex cases, including coordinating care with other specialties in a more complex case to address patient-specific and system-level barriers to care • Compassionately communicates a patient's prognosis, treatment plan, and goals of care with a patient/caregiver after CRS/HIPEC • Communicates clearly, concisely, promptly, and in an organized written form, including anticipatory guidance so

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Evaluation & Management of Patients with a Peritoneal Surface Malignancy

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	organized written form; written or verbal communication (patient notes, email) serves as an example for others to follow	• Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	the postop plan of care is clear to other members of the care team

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Evaluation & Management of Patients with Anal and Rectal Cancer

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with anal or rectal cancer in different clinical scenarios. Surgical oncologists must be able to diagnose, treat, and provide surveillance for adult patients with primary anorectal cancer and accurately and cost-effectively differentiate those who will benefit from multimodality treatment and operative resection from those who require palliative or systemic treatments. The surgical oncologist should comfortably lead multidisciplinary discussions that promote patient-centered application of the current diagnostic and treatment guidelines.
Functions	❖ Nonoperative/Preoperative ➢ Designate patients to an anorectal cancer screening regimen based on individual risk profiles. ➢ Diagnose and manage hereditary polyposis and colorectal cancer syndromes (see Colon Cancer EPA). ➢ Synthesize essential information from a patient's records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ➢ Complete a cost-effective, evidence-based diagnostic evaluation, staging evaluation, or both with bloodwork (including essential genetic mutational analysis and relevant tumor markers) and imaging studies (including pelvic magnetic resonance imaging/endoscopic ultrasound for locoregional evaluation). ➢ Using pelvic MRI, identify patients with compromised circumferential resection margins to adequately plan for surgical resection with other surgical specialties as indicated. ➢ Understand differences in management strategies between low/mid- and high-rectal tumors with respect to the timing of operative intervention. ➢ Mark the patient preoperatively for possible ostomy at the optimal site. ➢ Communicate a diagnosis and potential treatment options to the patient/caregiver(s) and consultants, including the potential need for an ostomy. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ➢ Discuss options for fertility-preserving strategies for patients receiving pelvic surgery or radiation as a component of their care. ➢ Describe barriers to receipt of pelvic radiation (eg, history of radiation, connective tissue diseases). ➢ Identify treatment goals, including curative intent, life prolongation without curative option, palliation, or end-of-life care. Communicate sympathetically in a culturally appropriate manner when de-escalation of care is appropriate because of poor prognosis or based on the patient/caregiver's goals of care. ➢ Identify impending surgical emergencies (eg, obstruction, perforation, bleeding), and assess the need for urgent/emergent procedures (eg, endoscopic stent, decompressive percutaneous endoscopic gastrostomy) or fecal diversion. ➢ Collaborate with other specialties to manage comorbidities that will affect treatment, such as chronic anticoagulation, cardiac disease, or immunosuppression, and optimize metabolic parameters that affect outcomes, such as physical and nutritional prehabilitation. ➢ Coordinate anticipated multivisceral resections with consulting services (eg, urology, gynecologic oncology) ahead of planned operations. ➢ Lead a multidisciplinary tumor board conference to develop a patient-specific treatment strategy. ➢ Implement current evidence-based literature to develop the correct sequence of oncologic treatment, including surgery, neoadjuvant or adjuvant chemotherapy, radiation, and other treatments as necessary according to the clinical presentation and patient/caregiver goals.

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Evaluation & Management of Patients with Anal and Rectal Cancer

- Anorectal adenocarcinoma
  - Differentiate patients who are candidates for local excision from those who require a multimodality management plan. Preemptively discuss the risk of pathologic upstaging and the potential need for surgical resection.
  - Identify the nuances of total neoadjuvant therapy and employment of a "watch and wait" protocol in patients with a clinical complete response. Plan surveillance with a multidisciplinary team and patients who are committed to intensive surveillance.
  - Offer surgery for patients who do not achieve a clinical complete response or who have relapsed after a complete response.
  - Identify patients requiring lateral pelvic lymphadenectomy.
  - Recognize when abdominoperineal resection is indicated, such as inability to obtain adequate distal margin, involvement of anal sphincter complex/levator ani muscles, or concern for incontinence.
  - Synthesize an operative plan that demonstrates an understanding of the advantages and limitations of various approaches (open vs minimally invasive/robotic), taking into account the patient-specific anatomy, physiology, indications, and risks. Prepare for possible intraoperative deviations from the plan.
- Anal canal squamous cell carcinoma
  - Include indicated infectious disease testing (eg, HIV, human papillomavirus) in the preoperative workup, and coordinate gynecologic evaluation for concomitant assessment of cervical malignancy.
  - Differentiate squamous cell carcinoma of the anal canal from the anal margin, and modify treatment as indicated. Use wide local excision for appropriate anal margin lesions.
  - Recognize the role of definitive chemoradiation in nonmetastatic anal canal squamous cell cancer.
  - Perform guideline-adherent clinical and radiographic restaging following chemoradiation.
  - Offer abdominoperineal resection with or without inguinal lymph node dissection when indicated for recurrent or persistent disease.

➢ 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 as necessary.
- Ensure that the patient/caregiver(s) can ask questions and address any expressed concerns, taking patient/caregiver preferences into account.
- Discuss potential limitations in the desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.
- Document the consent discussion.

❖ Intraoperative

➢ Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.

➢ Develop a safe, collaborative anesthetic approach for the clinical situation with the anesthesiology team, depending on the environment selected for the performance of the procedure.

➢ Create and maintain an intraoperative environment that promotes safety and patient-centered care.

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Evaluation & Management of Patients with Anal and Rectal Cancer

- Position the patient to expose the operative field (lithotomy, split leg), taking precautionary measures to prevent iatrogenic injury.
- Confirm accessibility of necessary equipment. Coordinate with other members of the operating room team to use specialized equipment or procedures.
  - Appropriately determine the need for/utility of adjunctive tools (eg, ureteral stents, endoscope, indocyanine green dye).
  - Perform flexible sigmoidoscopy for on-table evaluation of the lesion and intraoperative decision-making as necessary.
- Perform the procedures required to manage resectable lesions of the mid-to-low rectum and anal canal with a transabdominal approach (low anterior resection, abdominoperineal resection) using open and minimally invasive techniques.
  - Identify and preserve autonomic nerve branches and sphincter complex for optimal postoperative function.
  - Perform a guideline-adherent total mesorectal excision.
  - Perform a tension-free stapled or hand-sewn colorectal or coloanal anastomosis using maneuvers to gain colonic length as needed.
  - Evaluate the integrity of the anastomosis with flexible or rigid sigmoidoscopy, and perform an anastomotic leak test.
  - Perform diverting loop ileostomy when indicated to reduce the severity of pelvic sepsis in patients who are at higher risk for anastomotic leak.
- Perform procedures required to manage resectable lesions of the anal canal and anal margin with a perineal approach.
  - Obtain indicated radial and deep margins on the tumor.
  - Avoid injury to the sphincter complex without compromising oncologic margins.
  - Orient the specimen for pathologic evaluation.

❖ Postoperative

- Direct postoperative care.
- Demonstrate appropriate implementation of Enhanced Recovery After Surgery (ERAS) pathways.
- Manage common early and late complications related to anorectal procedures, including:
  - Anastomotic leak or stricture
  - Incontinence
  - Intra-abdominal abscess
  - Ostomy-related complications (bleeding, hernia, obstruction, prolapse)
  - Pelvic sepsis
  - Postoperative bleeding
  - Sexual dysfunction
  - Surgical site infection
  - Ureteral injury
  - Urinary retention
- Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs, postencounter needs, outcome expectations, and follow-up.
- Recognize and mitigate patient-specific barriers to care.

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	➢ Coordinate care with other specialties and ancillary care as needed, such as physical therapy, rehabilitation, nutrition services, ostomy teaching, and multimodality oncologic management. ➢ Review intraoperative and pathologic findings in multidisciplinary tumor board, and modify the treatment plan, if indicated. ➢ Develop a plan for surveillance after the initial treatment.
Scope	❖ In scope ➢ Diagnoses ▪ Anal adenocarcinoma ▪ Hereditary colorectal cancer involving the rectum or anus ▪ Polyposis syndromes ▪ Rectal adenocarcinoma ▪ Squamous cell cancer of the anal canal/rectum ▪ Synchronous metastatic disease ➢ Procedures ▪ Abdominoperineal resection ▪ Lateral pelvic lymph node dissection ▪ Low anterior resection ▪ Open, minimally invasive, and robotic approaches ▪ Pelvic exenteration/multivisceral resection ▪ Proctectomy with coloanal anastomosis ▪ Total mesorectal excision (TME) ▪ Transanal endoscopic excision/endoscopic submucosal resection/transanal minimally invasive surgery ➢ Populations ▪ Adults ❖ Out of scope ➢ Diagnoses ▪ Benign conditions (eg, prolapse) ▪ Gastrointestinal stromal tumors ▪ Inflammatory bowel disease ▪ Neuroendocrine tumors ▪ Perianal Paget disease ➢ Procedures ▪ Transanal TME ➢ Populations

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Evaluation & Management of Patients with Anal and Rectal Cancer

	▪ Pediatric patients

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Evaluation & Management of Patients with Anal and Rectal Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **<u>Limited Participation</u>** **Demonstrates understanding of information and has very basic skills.** **<u>Framework:</u>** **Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.**	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential • Describes common staging studies performed and needs guidance to identify the most cost-effective and evidence-based imaging required • Recognizes the differences between histologies and needs guidance to discuss the nuances of their etiologies, workup, and treatment with a patient • Demonstrates awareness of the need to coordinate multivisceral resections with consulting services • Demonstrates awareness of the potential impact of patient factors, tumor biology, and anticipated surgical planning on fertility • Recognizes the role for pelvic MRI in the staging of rectal cancer, needing prompting to consider the images to plan surgical management • With prompting, considers additional surgical specialties to orchestrate multivisceral/exenterative surgery to achieve negative margins	• Lists potential intraop findings (eg, unidentified metastatic disease, invasion into adjacent structures) • Performs guideline-adherent proximal and distal transection sites to obtain negative pathologic margins, requiring assistance to access appropriate tissue planes for TME • Needs assistance to recognize the need for involvement of ancillary services (urology, gynecology) in surgical planning • Sites and matures stomas with assistance • Efficiently and safely positions a patient for the procedure with assistance needed for more complex cases or patient factors • Needs guidance to determine the equipment necessary for the operation • Identifies normal anatomy with assistance • Assists with exposure for dissection and high ligation of the IMA and vein • With prompting, coordinates with subspecialty services on multivisceral resection and reconstruction	• Demonstrates knowledge of ERAS protocols and management of routine postop care • Accesses evidence-based guidelines for postop care and surveillance but needs assistance to formulate a plan based on tumor factors and patient preferences and values • Establishes a professional rapport with a straightforward patient and communicates in a clear and understandable manner • Provides a basic summary of an operation but needs guidance to discuss pathology results with a patient/caregiver(s) • Documents postop care, omitting nuances of progress or minor complications; may choose an inappropriate means of communication (eg, paging for minor details or email for urgent issues)

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Evaluation & Management of Patients with Anal and Rectal Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• When prompted, accesses available evidence to develop the correct sequence of treatment (eg, surgery, chemotherapy, radiation therapy) • Respectfully communicates basic facts about the condition to a patient/caregiver(s), needing assistance with nuances of treatment decisions and potential outcomes • Communicates basic elements of an informed consent discussion, omitting nuanced postop complications affecting lifestyle (eg, sexual dysfunction) • Recognizes the role of pelvic MRI in the staging of rectal cancer but needs guidance for interpretation of imaging; needs prompting to consider additional surgical specialties to orchestrate multivisceral/exenterative surgery to achieve negative margins • Records information in a patient's record but may omit some important information or include some extraneous information; frequently requires correction or augmentation of documentation of services; may need prompting for timeliness	• Creates a basic operative note, omitting some important information; may need prompting for timeliness	
2 Direct Supervision	• Obtains the most relevant patient history and performs/documents most	• Identifies common intraop findings (eg, unidentified metastatic disease, invasion into adjacent structures), requiring	• Manages routine postop care and demonstrates understanding of ERAS protocols but needs assistance to

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Evaluation & Management of Patients with Anal and Rectal Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases. **<u>Framework:</u>** **The learner manages simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy).** **During surgery, the attending gives active help throughout the case to maintain forward progression.**	components of a relevant physical exam in a timely fashion • Orders a guideline-compliant staging workup, needing assistance to interpret imaging findings as they pertain to the treatment plan; needs prompting to consider cost-efficiency • Recognizes the differences between histologies and holds a basic conversation with a patient regarding etiology, workup, and treatment • Coordinates a multivisceral resection with consulting services • Identifies the impact of patient factors, tumor biology, and anticipated surgical planning on fertility, needing guidance to consider referrals to genetics and fertility specialists • Identifies the role of pelvic MRI in the surgical management of rectal cancer but needs assistance to identify pelvic anatomy; recognizes the need for additional surgical specialties for multivisceral/exenterative surgery to achieve negative margins • Accesses available evidence to develop the correct sequence of treatment (eg, surgery, chemotherapy, radiation therapy) but needs assistance to elicit patient preferences when guiding care	redirection when encountering unanticipated intraop findings • Performs guideline-adherent proximal and distal transection sites to obtain negative pathologic margins; accesses appropriate tissue planes for TME with limited assistance • Recognizes the need for involvement of ancillary services (urology, gynecology) in surgical planning but needs assistance to coordinate these aspects of care • Independently sites stomas • Thoughtfully positions a patient for a complex procedure and coordinates with the OR team to improve the flow of the procedure • Reviews and appraises the need for specialized equipment but needs prompting to consider cost-effectiveness • Identifies normal anatomy but requires assistance with variants and navigation of challenging tissue planes • Leads the operative exposure, dissection, and high ligation of the IMA and vein independently; accesses the correct TME plane but requires assistance to complete a guideline-compliant TME	manage complex postop care and complications, including those related to neoadjuvant therapy • Requires prompting to elicit patient preferences and values to guide evidence-based adjuvant care and surveillance • Establishes a professional rapport with straightforward and complex patients and communicates in a clear and understandable manner; navigates discussions with complex patients with assistance • Provides a complete summary of an operation and discusses pathology results and their implications with a patient/caregiver(s) • Thoroughly documents postop progression and the presence of any complications within the plan of management

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• Independently discusses the diagnosis and its implications with a patient/caregiver(s) but needs guidance conveying the nuances of multimodal therapies and their logistics • Communicates basic elements of an informed consent discussion, omitting nuanced postop complications affecting lifestyle (eg, sexual dysfunction); engages in shared decision-making regarding a temporary or permanent ostomy • Constructs an evidence-based sequence of treatment with respect to tumor stage but is unfamiliar with the logistics of care • Demonstrates organized diagnostic and therapeutic reasoning through notes in a patient's record; demonstrates timely and efficient use of the EHR to communicate with the health care team	• Recognizes the need to coordinate with subspecialty services on multivisceral resection and reconstruction • Creates an operative note with a complete description of the procedure	
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.**	• Obtains a comprehensive patient history and performs/documents a complete physical exam in a timely fashion • Demonstrates understanding of key differences in complex disease presentations and the use of medical or surgical management • Performs an evidence-based staging workup, appraises imaging independently, and communicates the results to a patient/caregiver(s)	• With assistance, refines the preop surgical plan based on information discovered intraoperatively (eg, unidentified metastatic disease, invasion into adjacent structures) • Safely performs guideline-adherent proximal and distal transection sites to obtain negative pathologic margins; independently accesses appropriate tissue planes for TME in straightforward cases	• Independently manages complicated postop care, including the use of ERAS protocols; manages complex postop complications, including those related to neoadjuvant therapy • Locates and applies the best available evidence for adjuvant therapies and surveillance, integrated with patient preference • Establishes a therapeutic relationship with patients in complex early and late

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Evaluation & Management of Patients with Anal and Rectal Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases. **<u>Framework:</u>** **The learner performs the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.**	• Applies current guideline-based indications for chemoradiation treatment for anal squamous carcinoma; considers patient preferences and recognizes the importance of shared decision-making when constructing a treatment strategy • With assistance, refers a patient to genetic counseling or fertility specialists, considering patient factors, tumor biology, and anticipated surgical planning • Uses pelvic MRI in the surgical management of rectal cancer but has difficulty with the nuances of surgical planes beyond TME; with assistance, coordinates with additional surgical specialties to orchestrate multivisceral/exenterative surgery to achieve negative margins • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan for a straightforward case and adjusts the plan based on available evidence; needs assistance with a complex case that includes surgical and nonsurgical multimodality treatments applied in a guideline-adherent sequence, including the "watch and wait" protocol • Considers patient preferences and demonstrates understanding of the	• Independently coordinates involvement of ancillary services (urology, gynecology) with surgical planning • Independently sites and matures stomas in straightforward cases • Positions the patient for optimal exposure of the operative field • Identifies and comfortably navigates normal anatomy and tissue planes and moves fluidly through the course of a straightforward operation, anticipating next steps without prompting; uses available technology to optimize patient safety • Independently orients the specimen for pathology • Collaborates with subspecialty services on multivisceral resection and reconstruction • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	postop scenarios; engages in shared decision-making with a patient/caregiver(s), integrating unique goals of care for postop care and management • Constructs a comprehensive operative summary; reviews pathology results and recognizes features that impact prognosis • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	importance of shared decision-making in constructing a treatment strategy • Communicates most elements of an informed consent discussion, including postop complications affecting lifestyle (eg, sexual dysfunction) and temporary or permanent ostomies • Constructs an evidence-based treatment strategy for a simple presentation but needs assistance with a complex presentation that includes surgical and nonsurgical multimodality treatments applied in a guideline-adherent sequence, including the "watch and wait" protocol); actively participates in tumor board discussion on management • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in a patient's record		
4 **Practice Ready** **Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an**	• Obtains a comprehensive and culturally sensitive patient and family history; performs and documents a complete physical exam, including digital rectal examination of the tumor • Performs a cost-effective and evidence-based staging workup, critically appraises imaging independently, and has a complete and compassionate conversation about results with a patient/caregiver(s)	• Independently refines the preop surgical plan based on information discovered intraoperatively (eg, invasion into adjacent structures, suspicious lymphadenopathy not seen on imaging) • Proactively coordinates the involvement of ancillary services (urology, gynecology) with surgical planning • Independently sites and matures stomas in straightforward and complex cases	• Anticipates and provides early intervention for postop complications, including engaging consultative services when needed; adapts ERAS protocols in the setting of complex postop care or complications • Critically appraises evidence-based rationale for adjuvant therapies, even in the face of uncertain or conflicting evidence

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Evaluation & Management of Patients with Anal and Rectal Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
expert consultant in surgical oncology. **<u>Framework</u>:** **The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations.** **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 or unusual presentations.**	• Holds a comprehensive, empathetic, and culturally sensitive discussion regarding the diagnosis with a patient/caregiver(s); considers patient preferences and employs shared decision-making when constructing a treatment strategy • Independently refers a patient to genetics or fertility specialists, considering patient factors, tumor biology, and anticipated surgical planning • Uses pelvic MRI in the surgical management of rectal cancer, including identifying appropriate planes for beyond TME resections; independently coordinates with additional surgical specialties to orchestrate multivisceral/exenterative surgery to achieve negative margins • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence in a complex or unusual presentation that includes surgical and nonsurgical multimodality treatments applied in a guideline-adherent sequence, including the “watch and wait” protocol • Communicates all elements of an informed consent discussion, including postop complications affecting lifestyle (eg, sexual dysfunction) and temporary or permanent ostomies	• Performs guideline-adherent proximal and distal transection sites to obtain negative pathologic margins; independently accesses appropriate tissue planes for TME in straightforward and complex cases • Identifies and comfortably navigates challenging anatomy and distorted tissue planes; uses available resources to optimize patient safety • Independently performs meticulous dissection and high ligation of the IMA and vein in a complicated TME • Communicates the surgical plan for multivisceral/exenterative surgery to subspecialty services to achieve appropriate resection margins • Communicates with others clearly and respectfully, even in a challenging situation (eg, airway difficulty, massive bleeding) • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	• Communicates in a clear and culturally conscious manner; identifies and overcomes barriers to effective communication with a complex patient • Provides a comprehensive operative summary and discussion of pathology results in clear terms • Communicates clearly, concisely, promptly, and in organized written form, including anticipatory guidance so the postop plan of care is clear to other members of the health care team

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Evaluation & Management of Patients with Anal and Rectal Cancer

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	• Recognizes when curative options are not available and discusses noncurative and palliative options; leads an end-of-life goals-of-care discussion involving code status changes and hospice referral • Constructs an evidence-based treatment strategy for a complex patient that includes surgical and nonsurgical multimodality treatments applied in a guideline-adherent sequence, including the "watch and wait" protocol; leads a discussion of management at tumor board • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in organized written form, including anticipatory guidance; written or verbal communication (patient notes, email) serves as an example for others to follow		

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Evaluation & Management of Patients with Soft Tissue Sarcoma

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with signs and symptoms of soft tissue sarcoma located in the abdomen, retroperitoneum, extremities, and trunk. Surgical oncologists must be able to accurately and cost-effectively diagnose, treat, and provide evidence-based surveillance for adult patients with soft tissue sarcoma and recognize complex disease that requires multidisciplinary treatment.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ➢ Complete a cost-effective, evidence-based diagnostic or staging evaluation, including biopsy, molecular testing, or imaging studies as indicated based on tumor histology and location. ● Describe and choose the appropriate biopsy technique (image-guided core needle biopsy, incisional biopsy, excisional biopsy). ➢ Determine the next steps, including re-excision, further imaging, and observation, if the patient presents after being initially managed by another surgeon or medical provider. ➢ Provide an intraoperative consult when contacted for recommendations regarding unexpectedly identified intra-abdominal or retroperitoneal soft tissue masses suspicious for sarcoma, communicating the necessity of an appropriate workup including imaging and tissue diagnosis before an attempt at definitive resection. ➢ Communicate a diagnosis and potential treatment options to the patient/caregiver(s) and consultants. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ➢ Succinctly identify treatment goals, including curative intent, life prolongation without curative option, palliation, or end-of-life care. Communicate sympathetically in a culturally appropriate manner when de-escalation of care is appropriate because of a poor prognosis or based on the patient/caregiver's goals of care. ➢ Use current evidence-based literature to develop the correct sequence of oncologic treatment, including surgery, neoadjuvant or adjuvant chemotherapy, radiation therapy, and other treatments as necessary. ■ Select a treatment approach based on disease presentation, tumor histology/grade and location, comorbid conditions, and patient preferences. ■ When applicable, use neoadjuvant radiation to facilitate limb salvage for extremity sarcoma. ➢ Participate in a multidisciplinary conference or discussion regarding treatment plans. ➢ Evaluate patients for clinical trial enrollment. ➢ Refer patients for genetics counseling as indicated by current guidelines. ➢ Anticipate and plan for alterations in normal anatomy or physiology based on a patient's history, including prior treatment. ➢ Evaluate reconstruction options after radical resection of the extremity or trunk sarcoma. ➢ Identify and coordinate with surgical subspecialists preoperatively (plastic surgery, urology, vascular surgery) based on anticipated intraoperative needs dictated by the extent of resection and anticipated reconstruction.

Evaluation & Management of Patients with Soft Tissue Sarcoma

- Refer patients to physical/occupational therapy or physical medicine and rehabilitation for prehabilitation or discussion regarding expected functional deficits after treatment if applicable.
- Identify relevant specialist providers, and collaboratively manage comorbidities that will affect treatment, such as chronic anticoagulation, cardiac disease, immunosuppression, and malnutrition.
- 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.
  - Discuss the potential scope of the operation, including the expected postoperative recovery and potential discharge destination (eg, home vs short-term rehab vs skilled nursing facility)
  - Discuss the potential discovery of unresectable disease intraoperatively as well as contingency plans or risk of termination of the procedure.
  - Ensure patient/caregiver comprehension using applicable language services and audio/visual aids as necessary.
  - Ensure that the patient/caregiver(s) can ask questions and address any expressed concerns, taking patient/caregiver preferences into account.
  - Discuss potential limitations in the desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.
  - Document the consent discussion.

- Intraoperative
  - Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen orientation and processing, counts, wound classification, and debriefing functions.
  - Develop a safe anesthetic approach for the clinical situation in collaboration with in-office staff or the anesthesiology team, depending on the environment selected for the performance of the procedure.
    - Communicate bidirectionally with the anesthesia team during critical portions of the case (eg, potential avoidance of long-acting muscle relaxation, vascular resection/reconstruction, hemorrhage).
  - Create and maintain an intraoperative environment that promotes safety and patient-centered care.
  - Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury.
  - Confirm accessibility of necessary equipment. Coordinate with other members of the operating room team to use specialized equipment or procedures.
  - Perform the in-scope procedures required to manage soft tissue sarcoma, with the goal of achieving negative margins (R0/R1 resection for peritoneal/retroperitoneal sarcomas, R0 resection for extremity/trunk sarcomas).
  - Execute an operative plan that is safe and takes into account alterations in normal anatomy or physiology based on the patient's history, including prior treatment (eg, reoperative fields, prior nephrectomy).

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	➢ Anticipate common postoperative complications, and mitigate risk as possible (eg, drain placement for seroma). ➢ Debate the role of adjunctive therapies, including, but not limited to, intraoperative radiotherapy and isolated limb infusion/perfusion. ➢ Collaborate and communicate with other surgical subspecialties to create a unified patient-centered operative team (eg, vascular surgery, urologic surgery, thoracic surgery). ➢ Adapt the operative plan to information discovered intraoperatively. ■ Demonstrate safe judgment when the tumor is found to be unresectable, such as the involvement of critical structures such as the superior mesenteric artery or the aorta. ❖ Postoperative ➢ Manage common early and late complications related to soft tissue sarcoma procedures, including complications related to resection of retroperitoneal and intra-abdominal soft tissue sarcomas, such as: ■ Early postoperative complications: hemorrhage, anastomotic leak, missed iatrogenic injury, bowel obstruction/ileus, chyle leak, DVT/PE, surgical site infection including deep organ space infection, wound/fascial dehiscence, and postoperative renal failure ■ Late postoperative complications: hernias, strictures, adhesive bowel obstructions, and fistulae ➢ Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs, postencounter needs, outcome expectations, and follow-up. ➢ Describe and mitigate patient-specific barriers to care. ➢ Coordinate care with other specialties and ancillary care as needed (physical therapy, rehabilitation, nutrition services). ➢ Review intraoperative and pathologic findings in a multidisciplinary tumor board, and modify the treatment plan, if indicated. ➢ Develop a plan for surveillance, including physical examinations and imaging, after the initial treatment of soft tissue sarcomas that takes into account factors such as histologic type/grade and resection margin status.
Scope	❖ In scope ➢ Diagnoses ■ Benign and malignant peripheral nerve sheath tumors ■ Cutaneous sarcomas ■ Desmoid tumors ■ Soft tissue sarcoma of the trunk, extremity, or retroperitoneum ■ Soft tissue sarcomas in the field of prior radiation ■ Solitary fibrous tumors ■ Unknown soft tissue mass ➢ Procedures

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- Amputation of extremity sarcoma
- Completion or therapeutic lymphadenectomy
- Core needle biopsy of soft tissue masses of the trunk or extremity
- Excisional biopsy of soft tissue masses of the trunk or extremity
- Excisional lymph node biopsy
- Incisional biopsy of soft tissue masses of the trunk or extremity
- Radical resection of extremity sarcomas, including en bloc resection of adjacent muscle, nerve, and vascular structures
- Radical resection of retroperitoneal tumors, including multivisceral resections
- Sentinel lymph node biopsy, including injection of blue dye and use of a gamma probe
- Wound closure, including skin graft, rotational flaps, and complex wounds

➢ Populations
- Adults

❖ Out of scope

➢ Diagnoses
- Central nervous system tumors
- Sarcomas of gynecologic origin
- Sarcomas of the bone
- Soft tissue tumors of oropharyngeal origin
- Testicular tumors
- Tumors of the hand, foot or ankle
- Unknown cutaneous lesion

➢ Procedures
- Biopsy or resection of tumors of the:
  - Bone
  - Central nervous system
  - Genitourinary tract
  - Gynecologic organs
  - Oropharynx

➢ Populations
- Pediatric patients

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Evaluation & Management of a Patient with Soft Tissue Sarcoma

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 <u>Limited Participation</u> Demonstrates understanding of information and has very basic skills. <u>Framework:</u> Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.	• Synthesizes essential information from a patient's records, H&P, family history, and initial diagnostic evaluations to develop a differential • Needs assistance to determine indications for preop biopsy and the need for additional imaging • With prompting, describes potential treatment options for a straightforward case; needs assistance with a rare or complex case • Participates in multidisciplinary discussion and is receptive to recommendations from all team members • Requires guidance to interpret preop imaging and recognize implications for surgical planning • Describes prognostic implications for most common sarcoma histologies • When prompted, accesses available evidence to develop the correct sequence of treatment (eg, surgery, chemotherapy, radiation therapy) • Needs prompting to coordinate care with other specialties and ancillary care	• Lists potential intraop findings (eg, unidentified metastatic disease, invasion into critical structures) needs prompting to discuss how this would change surgical plan • Needs prompting to assess resection margins • Performs a common general surgical resection in low-burden disease (eg, superficial extremity sarcoma) • Requires prompting to anticipate the need for surgical subspecialist assistance (plastic surgery, urology, vascular surgery) • Identifies normal surgically relevant anatomy • Functions as a member of a patient-centered operative team • Creates a basic operative note but omits some important information; may need prompting for timeliness	• Describes the postsurgical anatomy, needing prompting to discuss how it relates to postop management (eg, risk for chyle leak, post-nephrectomy solitary kidney) • Needs prompting to describe a surveillance plan based on tumor histology/grade and resection margin status • Needs prompting to access evidence-based guidelines for postop care and surveillance • Discusses intraop findings with a patient/caregiver(s) and relevant members of the multidisciplinary team • Needs prompting to coordinate postop care with other specialties and ancillary care providers (eg, PT, nutrition) • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication (paging for minor details or email for urgent issues)

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Evaluation & Management of a Patient with Soft Tissue Sarcoma

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
	providers in the preop setting (eg, PT, nutrition) • Records information in a patient's record but may omit some important information or include some extraneous information; requires correction or augmentation of documentation of services; may need prompting for timeliness		
2 **Direct Supervision** **Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases.** **Framework:** **The learner can manage simple or straightforward cases.** **The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment**	• Requires assistance to determine if additional information (eg, biopsy or additional imaging) is needed • Describes treatment options for straightforward cases; needs assistance with rare or complex cases. • Coordinates care with other specialties and ancillary care providers in the preop setting (eg, PT, nutrition) in straightforward cases but needs assistance with complex cases • Participates in a multidisciplinary tumor board discussion to develop a treatment plan but needs assistance to guide the discussion and formulate a multimodality treatment plan; communicates clearly with the health care team • Interprets preop imaging but requires prompting to understand implications on surgical planning	• Recognizes the need for involvement of ancillary services (urology, plastic surgery, vascular surgery) in surgical planning, needing assistance to coordinate these aspects of care based on tumor location and anticipated reconstruction • Assesses resection margins with minimal assistance • Performs a straightforward sarcoma resection independently (eg, superficial extremity sarcoma) but requires guidance for a more complex case • Identifies common intraop findings (eg, unidentified metastatic disease, invasion into adjacent structures) but requires redirection when encountering unanticipated intraop findings • Identifies normal surgically relevant anatomy and, with assistance, altered or aberrant anatomy	• Describes the implications of postsurgical anatomy as it relates to postop management in straightforward and common cases • Describes a plan for surveillance based on tumor histology/grade and resection margin status in common or straightforward cases • Accesses evidence-based guidelines for postop care and surveillance; needs assistance to elicit patient preferences and values to guide adjuvant therapy and surveillance • Discusses intraop findings with a patient/caregiver(s) and members of the multidisciplinary team but inconsistently communicates how findings impact management; requires prompting to elicit patient preferences and values to guide evidence-based care

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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
or postoperative chemotherapy). **During surgery, the attending gives active help throughout the case to maintain forward progression.**	• Describes prognostic implications for common and some uncommon sarcoma histologies • Accesses available evidence to develop the correct sequence of treatment (eg, surgery, chemotherapy, radiation therapy), needing assistance to elicit patient preferences when guiding care • Demonstrates organized diagnostic and therapeutic reasoning through notes in the patient record; demonstrates timely and efficient use of the EHR to communicate with the health care team	• Actively functions as a member of a patient-centered operative team and solicits feedback • Creates an operative note with a complete description of the procedure	• Coordinates postop care with other specialties and ancillary care providers (eg, PT, nutrition) in straightforward cases • Thoroughly documents postop progression and the presence of any complications within the plan of management
3 **<u>Indirect Supervision</u>** **Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case.** **Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases.** **<u>Framework:</u>**	• Integrates oncologic information with patient-specific factors to design a diagnostic workup plan with minimal assistance • Independently describes treatment options for newly diagnosed rare or complex cases; needs assistance for recurrent or metastatic cases • Develops an evidence-based treatment plan for straightforward and some complex sarcoma cases • Leads discussion of routine cases at multidisciplinary tumor board discussion, incorporating multimodality treatment options into the formulation of a treatment plan; requires assistance to develop a plan for a complex case or when conflicting	• With assistance, refines the preop surgical plan based on information discovered intraoperatively (eg, unidentified metastatic disease, invasion into critical structures) • Independently coordinates involvement of ancillary services (urology, plastic surgery, vascular surgery) with the surgical plan based on tumor location and anticipated reconstruction • Independently assesses resection margins in straightforward cases • Safely performs complex sarcoma resections (eg, superficial extremity sarcoma, retroperitoneal sarcomas	• Incorporates knowledge of postsurgical anatomy to manage complex cases with minimal assistance • Describes a plan for surveillance based on tumor histology/grade and resection margin status in complex cases • Locates and applies the best available evidence for adjuvant therapies and surveillance, integrated with patient preference • With minimal assistance, communicates intraop findings and their implications on further oncologic management to a patient/caregiver(s) and relevant members of the multidisciplinary team

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Evaluation & Management of a Patient with Soft Tissue Sarcoma

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.	opinions exist; adapts communication style to fit team needs • Independently interprets preop imaging and with prompting anticipates the potential need for preop and intraop subspecialty consultation • Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence in a straightforward case • Describes the prognostic implications for most sarcoma histologies • Coordinates preop care with other specialties and ancillary care providers • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in the patient's record	without multivisceral involvement) with minimal assistance • Consistently identifies normal surgically relevant anatomy and most aberrant or altered anatomy • Functions as the leader of a patient-centered operative team and provides feedback • Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	• Coordinates postop care with other specialties and ancillary care providers (eg, PT, nutrition) in complex cases • Selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency
4 **<u>Practice Ready</u>** **Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex**	• Independently integrates oncologic information with patient-specific factors to design a succinct diagnostic and workup plan and adjusts the plan based on available evidence • Independently develops an evidence-based treatment plan for straightforward and complex sarcoma cases, including recurrent and metastatic cases	• Proactively coordinates involvement of ancillary services (eg, plastic surgery, urology, vascular surgery) and independently communicates operative plan based on tumor location and anticipated reconstruction • Safely performs complex sarcoma resections independently, including less common locations, following	• Independently incorporates knowledge of postsurgical anatomy to manage complex cases • Independently develops a plan for surveillance based on patient-specific factors, tumor histology/grade, and resection margin status in less common cases, including recurrent and metastatic disease

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Evaluation & Management of a Patient with Soft Tissue Sarcoma

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
cases. Performs as an expert consultant in surgical oncology. **Framework:** **The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations.** **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 or unusual presentations.**	• Leads discussion of complex cases at multidisciplinary tumor board discussion that incorporates patient and tumor factors; independently develops a plan; adapts communication style when conflicting opinions exist • Independently interprets preop imaging and anticipates the potential need for preop and intraop subspecialty consultation • Describes prognostic implications for almost all sarcoma histologies • Anticipates the need to coordinate preop care with other specialties and ancillary care providers based on patient, tumor, and treatment factors • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in organized written form, including anticipatory guidance; written or verbal communication (patient notes, email) serves as an example for others to follow	neoadjuvant therapy, and recurrent tumors • Independently assesses resection margins in more complex cases • Independently refines the preop surgical plan based on information discovered intraoperatively (eg, unidentified metastatic disease, invasion into critical structures) • Identifies surgically relevant anatomy and relevant anatomic alterations even in the setting of prior radiation or surgery • Independently coordinates recommendations from different members of the health care team to optimize patient care; maintains effective communication even in a challenging situation (eg, intraop blood loss, operating near critical structures) • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	• Critically appraises evidence-based rationale for adjuvant therapies, even in the face of uncertain or conflicting evidence • Leads a discussion regarding intraop findings and their implications on further oncologic management with a patient/caregiver(s) and relevant members of the multidisciplinary team • Proactively coordinates postop care with other specialties and ancillary care providers (eg, PT, nutrition) in uncommon cases, including recurrent and metastatic disease • Communicates clearly, concisely, promptly, and in an organized written form, including anticipatory guidance so the postop plan of care is clear to other members of the health care team

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Evaluation & Management of Patients with Thyroid and Parathyroid Tumors

Description of the Activity	Surgical oncologists are expected to evaluate and manage patients who present with signs and symptoms of benign and malignant thyroid and parathyroid disorders. Surgical oncologists must be able to accurately and cost-effectively diagnose, treat, and provide appropriate surveillance for adult patients with benign and malignant thyroid and parathyroid disorders and recognize complex disease that requires multidisciplinary treatment.
Functions	❖ Nonoperative/Preoperative ➢ Synthesize essential information from a patient's records, medical and family history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis. ➢ Complete a cost-effective, age-appropriate, evidence-based diagnostic or staging evaluation, including biochemical testing, imaging studies, and image-guided biopsy as indicated. ➢ Communicate a diagnosis and potential treatment options to the patient/caregiver(s) and consultants. Use shared decision-making to develop a treatment plan consistent with a patient's goals and beliefs. ➢ Succinctly identify treatment goals, including curative intent, comorbidity optimization, life prolongation without curative option, palliation, or end-of-life care. Communicate sympathetically in a culturally appropriate manner when de-escalation of care is appropriate because of a poor prognosis or based on the patient/caregiver's goals of care. ➢ Use current evidence-based literature to develop the correct sequence of oncologic treatment of primary, recurrent, or metastatic disease, including surgery, neoadjuvant or adjuvant chemotherapy, radiation, radioisotope therapy, immunotherapy, and other treatments as necessary. ➢ Select a treatment approach based on disease presentation, comorbid conditions, genetic predisposition, and patient preferences. ➢ Describe patient and tumor characteristics for which active surveillance of papillary thyroid cancer can be considered. ➢ Use preoperative vocal cord assessment as indicated ➢ Interpret thyroid nodule imaging, and describe the indications for ultrasound-guided fine-needle aspiration (FNA) biopsy. ➢ Interpret FNA cytology results, and communicate the risk of malignancy for each reporting category. ➢ Describe the indicated use of molecular testing. ➢ Use FNA results, molecular markers, patient-specific risk factors (eg, radiation exposure, family history, hereditary endocrinopathy), and staging imaging to determine the extent of thyroidectomy and nodal dissection. ➢ Describe when and what surgical intervention is indicated for anaplastic thyroid cancer or lymphoma. ➢ Describe indications for operative intervention in primary, secondary, tertiary, and persistent/recurrent hyperparathyroidism and the differences in the extent of resection. ➢ Describe clinical factors suspicious for parathyroid carcinoma and the extent of resection. ➢ Describe differences in the operative approach for sporadic primary hyperparathyroidism versus syndromic hyperparathyroidism. ➢ Debate the advantages and disadvantages of focused parathyroidectomy versus bilateral cervical exploration. ➢ Use localization imaging to guide decisions for focused parathyroidectomy versus bilateral cervical exploration. ➢ Manage multidisciplinary treatment of the disease, including a preoperative discussion with the anesthesia team for airway difficulties and coordinated surgical specialties (eg, thoracic surgery, vascular surgery).

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Evaluation & Management of Patients with Thyroid and Parathyroid Tumors

- Participate in a multidisciplinary conference or discussion regarding treatment plans.
- Collaborate with other specialties to manage comorbidities that will affect treatment, such as hyperthyroidism, hypercalcemia, hereditary endocrine syndromes, chronic anticoagulation, cardiac disease, and immunosuppression.
- Educate the patient/caregiver(s) about postoperative recovery after thyroidectomy and parathyroidectomy, including pathways for potential urgent evaluation of complications.
- Obtain informed consent with cultural humility.
  - Describe the indications, risks, benefits, alternative therapies, and potential complications (recurrent laryngeal nerve injury, neck hematoma, postoperative hypocalcemia/hypoparathyroidism) 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 as necessary.
  - Ensure that the patient/caregiver(s) can ask questions and address any expressed concerns, taking patient/caregiver preferences into account.
  - Discuss potential limitations in the desire for resuscitation (eg, do-not-resuscitate order) and how this will be addressed in the perioperative period.
  - Document the consent discussion.

❖ Intraoperative

- Manage the perioperative environment, including room setup, equipment check (eg, intraoperative nerve monitoring, intraoperative parathyroid hormone assays), availability of imaging, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.
- Develop a safe anesthetic approach for the clinical situation in collaboration with in-office staff or the anesthesiology team, depending on the environment selected for the procedure (eg, avoidance of paralytic agents when using nerve monitoring).
- Create and maintain an intraoperative environment that promotes safety and patient-centered care.
- Position the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury (prevention of neck overextension, padding of nerve pressure points).
- Perform the procedures required to manage benign and malignant thyroid and parathyroid disease, including, but not limited to, total thyroidectomy, thyroid lobectomy, central neck lymph node dissection, lateral neck lymph node dissection, parathyroidectomy, reoperative parathyroidectomy, and resection of recurrent thyroid cancer.
- Demonstrate techniques for the identification and preservation of recurrent and superior laryngeal nerve function.
- Adapt the operative steps and plan to information discovered intraoperatively, calling consulting services as necessary (eg, intraoperative frozen assessment, modifying extent of surgery according to nodal disease burden, intraoperative parathyroid hormone results, intrathoracic dissection, visceral or vascular invasion).
- Assess the parathyroid glands for ischemia and the need for autotransplantation.

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Evaluation & Management of Patients with Thyroid and Parathyroid Tumors

	❖ Postoperative ➢ Oversee postoperative care, including postoperative calcium and thyroid hormone supplementation. ➢ Manage common early and late complications related to thyroidectomy, parathyroidectomy, and nodal dissection procedures, including: ▪ Chyle leak ▪ Hematoma ▪ Hypocalcemia/hypoparathyroidism ▪ Spinal accessory, phrenic, mandibular marginal nerve palsy ▪ Unilateral and bilateral recurrent laryngeal nerve injury ➢ Communicate a postencounter plan with a patient/caregiver(s) and other health care team members that considers intraoperative and pathologic findings, future treatment needs (radioactive iodine, radiation therapy, adjuvant targeted therapy), postencounter needs, outcome expectations, and follow-up. ➢ Coordinate care with other specialties and ancillary care as needed, such as endocrinology, physical therapy, speech pathology, rehabilitation, nutrition services, and genetic counseling. ➢ Review intraoperative and pathologic findings in a multidisciplinary tumor board, and modify the treatment plan, if indicated. ➢ Develop a plan for surveillance after the initial treatment of thyroid or parathyroid cancer.
Scope	❖ In scope ➢ Diagnoses ▪ High-risk and genetic predisposition scenarios ▪ Thyroid mass or nodule ▪ Thyroid cancer ● Differentiated ● Poorly differentiated ● Medullary ● Thyroid lymphoma ● Anaplastic ▪ Primary hyperparathyroidism ● Adenoma ● Multiglandular disease ● Parathyroid carcinoma ▪ Secondary hyperparathyroidism ▪ Tertiary hyperparathyroidism ▪ Recurrent primary hyperparathyroidism ▪ Benign thyroid conditions ● Graves disease ● Hashimoto thyroiditis

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Evaluation & Management of Patients with Thyroid and Parathyroid Tumors

- Solitary toxic nodule or toxic multinodular goiter
- ➢ Recurrent or metastatic thyroid cancer

- ➢ Procedures
  - Total thyroidectomy
  - Thyroid lobectomy
  - Central neck lymphadenectomy
  - Lateral neck lymphadenectomy
  - Parathyroid exploration
    - Minimally invasive
    - Subtotal parathyroidectomy
    - Total parathyroidectomy with autotransplantation
  - Thyroid ultrasound and ultrasound-guided FNA

- ➢ Populations
  - Adult and pediatric patients
  - Pregnant patients

- ❖ Out of scope
  - ➢ Diagnoses
    - Thyroglossal duct cyst

  - ➢ Procedures
    - Remote access thyroidectomy/parathyroidectomy
    - Surgical airway
    - Thyroid ablation

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Evaluation & Management of Patients with Thyroid and Parathyroid Tumors

Level	Nonoperative/Preoperative	Intraoperative	Postoperative
1 **Limited Participation** Demonstrates understanding of information and has very basic skills **Framework:** Performs at the general surgery resident level, lower than expected for a typical residency graduate. Has some experience with simple cases but has been an observer of complex cases.	• Synthesizes information from a patient's records, medical and family history, physical examination, and initial diagnostic evaluations to develop a differential for thyroid disease • Interprets thyroid nodule imaging and describes indications for ultrasound-guided FNA biopsy • Describes indications for operative intervention in primary, secondary, tertiary, and recurrent hyperparathyroidism and the differences in the extent of resection • Describes how FNA results, molecular markers, and patient-specific risk factors (radiation exposure, family history, hereditary endocrinopathy) are used in risk assessment of thyroid nodules and cancer • Describes basic information about thyroid cancer, including subtypes and associated tumor markers • Describes basic information about familial endocrinopathy syndromes and their thyroid/parathyroid associations • Records information in a patient's record but may omit some important information or include some extraneous information; requires correction or augmentation of	• Positions the patient to expose the operative field, taking precautionary measures to prevent iatrogenic injury (prevention of neck overextension, padding of nerve pressure points) • Sets up RLN monitoring equipment if used • Lists potential intraop findings (eg, central neck nodal involvement, invasion into adjacent structures) but is unable to articulate how this would change the surgical plan • Describes the use of ioPTH but needs assistance to use this information to guide the extent of parathyroidectomy • Demonstrates limited skill in tissue-handling of the thyroid/parathyroids and needs prompting to find the correct planes • Describes normal thyroid and parathyroid anatomy, including the course of RLN and the external branch of SLN • Creates a basic operative note, omitting some important information; may need prompting for timeliness	• Writes postop orders, provides PACU staff with contact information, and reviews postop lab studies • Demonstrates knowledge of and manages routine postop care following thyroid and parathyroid surgery • Recognizes that the final pathology report has implications for further treatment (completion thyroidectomy/adjuvant therapy) • Recognizes that pathology and biochemical information are needed for surveillance and treatment after initial and reoperative parathyroid surgery • Documents postop care but may omit nuances of progress or minor complications; may choose an inappropriate means of communication (paging for minor details or email for urgent issues)

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	documentation of services; may need prompting for timeliness		
2 **Direct Supervision** Manages cases at the level of a newly graduated general surgery resident. Manages less complicated cases independently but needs active guidance for complex cases. **Framework:** The learner can manage simple or straightforward cases. The learner may require guidance in managing multidisciplinary care (eg, planning neoadjuvant treatment or postoperative chemotherapy). During surgery, the attending gives active help throughout the case	• Completes a cost-effective, evidence-based diagnostic or staging evaluation, including biochemical testing, imaging studies, and image-guided biopsy as indicated • Uses preop vocal cord assessment as indicated • Debates the advantages and disadvantages of focused parathyroidectomy vs bilateral cervical exploration • Uses localization imaging to guide decisions on focused parathyroidectomy vs bilateral cervical exploration • With assistance, interprets FNA results, molecular markers, and patient-specific risk factors (eg, radiation exposure, family history, hereditary endocrinopathy) to determine if additional testing or staging information is needed • Demonstrates comprehensive knowledge of thyroid and parathyroid cancer biology, genetic mutations, and clinical implications • Demonstrates comprehensive knowledge of familial endocrinopathy syndromes and their thyroid/parathyroid associations • Demonstrates organized diagnostic and therapeutic reasoning through notes in a	• Needs assistance to assess parathyroids for ischemia and the need for autotransplantation • With assistance, recognizes injury to the RLN as indicated by visible damage or loss of nerve signal • Identifies intraop findings that require refinement of the preop plan for thyroidectomy or parathyroidectomy (eg, extrathyroidal extension, nodal metastases) but requires assistance when encountering unanticipated intraop findings • With limited guidance, uses ioPTH testing to guide the extent of parathyroidectomy • Identifies correct planes around the thyroid/parathyroid with guidance and occasional correction • Needs direct assistance with identification and dissection of the RLN • Describes surgically relevant anatomic variations (eg, ectopic/supernumerary parathyroid glands, non-RLN) and alters patient management accordingly • Creates an operative note with a complete description of the procedure	• Demonstrates management of routine postop care, including common complications (eg, RLN injury, postop hypocalcemia, postop bleeding requiring reoperation) but needs assistance to recognize and manage a complex postop complication • Applies details of pathologic findings to therapeutic decisions in the postop management of thyroid cancer • Applies pathology results and postop biochemical testing to determine cure or the need for ongoing surveillance or further treatment after initial and reoperative parathyroid surgery • Thoroughly documents postop progression and the presence of any complications within the plan of management

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to maintain forward progression.	patient's record; demonstrates timely and efficient use of the EHR to communicate with the health care team		
3 **<u>Indirect Supervision</u>** Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case. Manages multidisciplinary care of straightforward cases. Seeks assistance in managing complex cases. **<u>Framework:</u>** The learner can perform the operation in straightforward circumstances. The attending gives passive help. This help may be given while scrubbed for more complex cases or during check-in for more routine cases.	• With assistance, integrates oncologic information with patient-specific factors to design a diagnostic and workup plan; may need assistance to create a multidisciplinary treatment plan • Interprets FNA cytology results and communicates the risk of malignancy for each reporting category • With assistance, integrates FNA results, molecular markers, patient-specific risk factors (eg, radiation exposure, family history, hereditary endocrinopathy), and staging imaging to determine the need for surgery and the extent of thyroidectomy and nodal dissection • With assistance, evaluates a routine parathyroid patient (primary, secondary, or tertiary) and develops an imaging and treatment plan according to the disease; describes differences in the operative approach for sporadic primary hyperparathyroidism vs syndromic hyperparathyroidism • With assistance, applies knowledge of familial endocrinopathy syndromes and	• Assesses parathyroids for ischemia and the need for autotransplantation; performs a parathyroid autograft • Describes techniques for reconstruction of the RLN • With assistance, refines the operative plan for thyroidectomy or parathyroidectomy based on cancer-related findings (eg, extrathyroidal extension, nodal metastases, unresectable disease) • Independently uses ioPTH testing results to guide the extent of parathyroidectomy with limited guidance in most cases • Identifies correct planes and normal anatomy and dissects with minimal tissue trauma • Identifies, dissects, and preserves the RLN in a routine situation • With assistance, identifies surgically relevant anatomic variations (eg, ectopic/supernumerary parathyroid glands, non-RLN) and alters patient management accordingly	• Independently manages complex postop care and complications in most cases (eg, hematoma, hypoparathyroidism, dysphonia, airway compromise) • Identifies patient and tumor-specific factors relevant to postop thyroid cancer therapy per consensus guidelines; follows a guideline-based surveillance plan • Interprets postop parathyroid hormone surveillance in hyperparathyroidism to confirm biochemical cure and, with assistance, formulates a plan in a situation of persistence or recurrence • Appropriately selects direct (telephone, in-person) and indirect (progress notes, secure text messages) forms of communication based on context and urgency

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	their thyroid/parathyroid associations into decision-making for a patient suspected or proven to have such a syndrome • Concisely integrates all relevant data from outside systems and prior encounters and reports diagnostic and therapeutic reasoning in a patient's record	• Creates an operative note with a complete description of the procedure, including key intraop findings; documents anatomic or disease variants in a thorough and understandable way	
4 **Practice Ready** Manages complex disease presentations and performs complex operations independently. Guides a multidisciplinary approach to complex cases. Performs as an expert consultant in surgical oncology. **Framework:** The learner can treat all common variations of the disease and has a strong understanding of surgical and medical options for different presentations. The attending is available at the request of the learner but is not	• Independently guides discussion with a patient regarding the need for and extent of surgery for benign or malignant thyroid disease, taking into account cytology, molecular testing, imaging features, patient-specific factors, and preferences • Independently evaluates a complex parathyroid patient (eg, reoperative, normocalcemic/normohormonal primary hyperparathyroidism) and develops an imaging and treatment plan • Independently recognizes imaging features and biochemical test results that increase suspicion for parathyroid cancer • Independently integrates biopsy findings, molecular testing, and staging information to formulate a plan of treatment for anaplastic thyroid cancer • Independently incorporates knowledge of somatic mutations and the role of targeted therapy in consideration of neoadjuvant treatment for metastatic, locally advanced, and recurrent thyroid cancer	• Anticipates and prevents the need for emergency advanced airway procedures during thyroidectomy or parathyroidectomy • Independently refines the operative plan for thyroidectomy or parathyroidectomy based on cancer-related findings (eg, extrathyroidal extension, nodal metastases, or unresectable disease) • Independently uses ioPTH test results to guide the extent of parathyroidectomy in a complex case • Demonstrates consistent careful tissue handling, minimizing bleeding and tissue trauma; adapts technique to tissue quality • Identifies correct planes and advances the dissection during a complex case (eg, large goiter, thyroiditis, extrathyroidal cancer invasion, reoperative situations) • Identifies and preserves the RLN in a complex situation, including	• Anticipates and provides early intervention for postop complications (eg, hematoma, hypocalcemia, voice changes, chyle leak) • Independently integrates pathology findings, somatic mutation analysis, and patient-specific factors after surgery for thyroid cancer to develop a comprehensive treatment and surveillance plan • Independently develops a postop surveillance plan for a patient after parathyroidectomy to confirm biochemical cure; independently formulates a plan in a situation of persistence or recurrence or when there are indications for testing for familial endocrine syndromes • Communicates clearly, concisely, promptly, and in organized written form, including anticipatory guidance so the postop plan of care is clear to other members of the health care team

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routinely needed for common presentations, though input may be needed for more complex or unusual presentations.	• Independently develops a comprehensive plan and workup for a patient with a proven or suspected endocrinopathy syndrome (tumor/hormonal markers, imaging, genetic testing, and counseling) • Communicates diagnostic and therapeutic reasoning clearly, concisely, promptly, and in an organized written form, including anticipatory guidance; written or verbal communication (patient notes, email) serves as an example for others to follow	reoperations, multiple branches, and nonrecurrent anatomy • Independently identifies anatomic variations during parathyroid exploration (ectopic, intrathyroidal, supernumerary) and alters surgical management accordingly • Creates an operative note with a complete description of the procedure, a rationale for modifications of the operative plan, and documentation of anatomic or disease variants	