



Evaluation & Management of a Patient with Gallbladder Disease

Description of the Activity	<p>General surgeons often encounter patients with gallbladder disease in elective and emergency care settings. All surgeons must be able to treat the spectrum of benign biliary disease and recognize disease requiring specialty referral in adolescent and adult patients.</p>
Functions	<ul style="list-style-type: none">❖ Nonoperative/Preoperative<ul style="list-style-type: none">➤ Synthesize essential information from the patient's records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis.➤ Complete a cost-effective, evidence-based diagnostic evaluation (American Society for Gastrointestinal Endoscopy [ASGE] guidelines on the role of endoscopic retrograde cholangiopancreatography [ERCP] in benign diseases of the biliary tract).➤ Communicate a diagnosis and treatment options to the patient/caregiver(s) and consultants.➤ Obtain informed consent with cultural humility.<ul style="list-style-type: none">▪ Describe the indications, risks, benefits, alternative therapies, and potential complications of the planned procedure, and incorporate a discussion of the goals of care.▪ Ensure patient/caregiver comprehension using applicable language services and audio/visual aids.▪ Ensure that the patient/caregiver(s) can ask questions, and address any expressed concerns, taking patient/caregiver preferences into account.▪ Document the consent discussion.➤ Communicate with the patient/caregiver(s) to ensure that preprocedure instructions are understood.➤ Identify a patient in whom operative intervention may be contraindicated, such as a patient with:<ul style="list-style-type: none">▪ Asymptomatic disease▪ Atypical symptoms▪ High risk or who exceeds the capacity of the surgical environment▪ Indication for cholecystostomy placement▪ Prohibitive surgical or anesthetic risk secondary to medical morbidity❖ Intraoperative<ul style="list-style-type: none">➤ Manage the perioperative environment, including room setup, equipment check, preprocedural time-out, specimen processing, counts, wound classification, and debriefing functions.➤ Complete the procedures required to manage gallbladder disease.<ul style="list-style-type: none">▪ Perform cholecystectomy using minimally invasive and open techniques.<ul style="list-style-type: none">• Identify and dissect the structures of the hepatocystic triangle systematically to achieve the critical view of safety.• Expose the cystic duct and cystic artery circumferentially before clipping and dividing structures.• Recognize when the cystic plate is obliterated or there is failure to progress, and transition to either a laparoscopic or open dome-down approach or a partial cholecystectomy.▪ Recognize indications for and perform cholangiography (with interpretation).<ul style="list-style-type: none">• High suspicion of common duct stones• Uncertainty regarding biliary anatomy



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	<ul style="list-style-type: none">▪ Manage common intraoperative complications such as bleeding from the liver bed.➤ Recognize and develop a management plan for unexpected intraoperative findings such as aberrant anatomy, biliary tract injury, choledocholithiasis, or a gallbladder mass.❖ Postoperative<ul style="list-style-type: none">➤ Provide postoperative management for a patient with benign biliary tract disease, including:<ul style="list-style-type: none">▪ Communication with the patient/caregiver(s) to ensure that postprocedure instructions are understood▪ Management of a cholecystostomy tube▪ Routine postoperative, immediate, and follow-up care➤ Recognize early and late complications related to biliary tract procedures.<ul style="list-style-type: none">▪ Bile leak▪ Late presentation of biliary injury▪ Persistent postcholecystectomy pain or chronic diarrhea▪ Retained stone
Scope	<ul style="list-style-type: none">❖ In scope<ul style="list-style-type: none">➤ Diagnosis and management of:<ul style="list-style-type: none">▪ Acalculous cholecystitis▪ Acute cholecystitis▪ Biliary dyskinesia▪ Choledocholithiasis▪ Chronic cholecystitis▪ Gallbladder polyps▪ Gallstone pancreatitis▪ Gangrenous cholecystitis▪ Symptomatic cholelithiasis❖ Out of scope<ul style="list-style-type: none">➤ Unexpected diagnoses (specialty referral may be indicated), such as:<ul style="list-style-type: none">▪ Choledochal cysts▪ Gallbladder and bile duct cancer▪ Operative injuries to the biliary tree



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<p>1</p> <p><u>Limited Participation</u></p> <p>Demonstrates understanding of information and has very basic skills</p> <p><u>Framework:</u> What a learner directly out of medical school should know</p> <p>The attending can show and tell.</p>	<ul style="list-style-type: none"> Obtains an H&P with cultural humility and develops a differential for a patient with uncomplicated gallbladder (GB) disease in elective and emergent settings Demonstrates understanding of the basic elements of GB anatomy Respectfully communicates basic facts about the condition to a patient/caregiver(s) but inconsistently uses applicable language services and audio/visual aids Communicates the elements of an informed consent discussion but omits some elements when documenting the discussion Demonstrates basic awareness of costs of care as they relate to diagnostic and treatment options, including radiologic and lab assessments for biliary disease Accesses evidence and considers patient preference in determining the best approach for managing GB pathology at a basic level (eg, operative vs nonoperative management) 	<ul style="list-style-type: none"> Describes the anatomic structures and relationships in gallbladder (GB) surgery (eg, cystic duct, cystic artery, hepatocystic triangle) and identifies them with assistance in a routine case Describes the basic steps of the operation and the critical view of safety Handles instruments safely but tentatively, displays a lack of coordination between both hands, and is inefficient with suturing and knot tying Requires direct instruction to perform simple maneuvers Articulates sharps safety, safe surgical energy use, and surgical field sterility Requires active instruction to move the operation forward Centers the operative field (anatomy and instruments) with the camera with frequent adjustments and reminders 	<ul style="list-style-type: none"> Evaluates a patient with a common postop complication such as fever or hypotension, requiring assistance to recognize and evaluate gallbladder (GB)-specific or severe complications Alerts supervisors about postop complications and initiates management with supervision Communicates basic aspects of the operative procedure and standard postop instructions to a patient/caregiver(s) but needs prompting to clarify expected outcomes and the anticipated treatment course Describes different models of health care coverage in the U.S. and basic components of documentation required for billing and coding for GB disease patients
<p>2</p> <p><u>Direct Supervision</u></p> <p>Demonstrates understanding of the steps of the operation but requires direction through principles and does not know the nuances of a basic case</p>	<ul style="list-style-type: none"> Evaluates a patient with GB disease, interpreting lab values and imaging studies Develops a plan for managing a patient with uncomplicated GB disease Communicates basic facts of a plan for uncomplicated GB disease to a patient/caregiver(s); customizes communication to overcome barriers and cultural differences; consistently 	<ul style="list-style-type: none"> Identifies variations in cystic duct and artery anatomy in a straightforward case and articulates their implications for the operation Identifies common positioning options but cannot name factors to select one over another; recognizes the importance of protecting against nerve and pressure injuries but cannot describe the resulting morbidity 	<ul style="list-style-type: none"> Recognizes when a patient deviates from a normal postop recovery pattern, though the differential may contain omissions Manages a simple postop problem independently (eg, fever, tachycardia) Recognizes but requires assistance to manage a complication specific to GB disease or more severe postop complications



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<p>Framework: The learner can use the tools but may not know exactly what, where, or how to do it.</p> <p>The attending gives active help throughout the case to maintain forward progression.</p>	<p>uses applicable language services and audio/visual aids</p> <ul style="list-style-type: none"> Communicates the elements of an informed consent discussion for a straightforward cholecystectomy, providing information about risks, benefits, and alternatives; completely documents the discussion Demonstrates understanding of health care cost challenges but suggests duplicate or unnecessary test(s) Incorporates published guidelines regarding the cost-effective management of patients presenting with gallstone disease 	<ul style="list-style-type: none"> Smoothly performs basic maneuvers, such as suturing and knot tying Provides a basic description of the operative plan but omits some steps Demonstrates understanding of port site triangulation and safe entry into the abdomen, requiring guidance for each Places subsequent laparoscopic trocars after initial entry, uses surgical energy safely, and closes skin independently Places clips securely and accurately with guidance Identifies the plane of dissection (eg, to remove the gallbladder from the liver bed), requiring redirection to maintain dissection in the optimal plane Usually demonstrates careful tissue handling and uses both hands in a coordinated manner Moves the operation forward, usually proceeding to the next step of the procedure, though sometimes requires direction Requires assistance to control bleeding or perform IOC 	<ul style="list-style-type: none"> Communicates details of the operative procedure and postop instructions to a patient/caregiver(s) but omits some elements when discussing expected outcomes and the overall anticipated treatment course Recognizes the influence of health care system financing structures on the postop care of the GB disease patient (eg, global period, care of patients requiring initial percutaneous drainage)
<p>3</p> <p>Indirect Supervision</p> <p>Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case</p>	<ul style="list-style-type: none"> Independently develops and concisely presents a comprehensive management plan for both complicated and uncomplicated GB disease, considering whether nonoperative management is indicated Communicates with a patient/caregiver(s) across barriers and cultural differences to elicit a personalized care plan for GB disease in a shared decision-making process for a straightforward presentation 	<ul style="list-style-type: none"> Identifies variations in cystic duct and artery anatomy in a setting of inflammation or scarring but requires assistance to adapt the operative approach in response to variant anatomy Performs laparoscopic cholecystectomy with straightforward anatomy and minimal inflammation safely, including identifying the critical view of safety Performs IOC independently in a routine case 	<ul style="list-style-type: none"> Recognizes all postop complications, such as biliary leak or injury, and completes the necessary workup for these problems independently in a straightforward patient (PC4 L3) Evaluates postop problems in a patient with a complex medical condition, requiring supervision to manage them Communicates customized postop instructions and updates to a patient/caregiver(s) using a variety of methods to ensure understanding;



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<p>Framework: The learner can perform the operation in straightforward circumstances.</p> <p>The attending gives passive help. This help may be given while scrubbed for more complex cases or during a check-in for more routine cases.</p>	<ul style="list-style-type: none"> Conducts an informed consent discussion for a straightforward cholecystectomy with cultural humility; completely documents the discussion related to the operative management of GB disease Selects preoperative imaging and testing to diagnose GB pathology in a resource- and time-efficient manner; distinguishes the cost and outcome differences associated with various treatment strategies Applies published guidelines regarding the workup and management of a complex presentation of GB disease and incorporates patient preference into the plan 	<ul style="list-style-type: none"> Demonstrates careful tissue handling; dissects the cystic duct and artery efficiently, obtains the critical view of safety, and places clips accurately without assistance in routine and some difficult cases Moves fluidly through the operation, anticipating next steps and logistical needs and clearly communicating these needs to the OR team Identifies the plane of dissection (eg, to remove the gallbladder from the liver bed) accurately in a routine case Recognizes when deviation from the initial operative plan (eg, conversion to open or subtotal) is required 	<p>discusses unexpected findings or changes to the intended plan with cultural humility</p> <ul style="list-style-type: none"> Analyzes how different treatment strategies (early vs delayed cholecystectomy in pancreatitis, operative vs endoscopic management of choledocholithiasis) impact outcomes and costs of care
<p>4</p> <p>Practice Ready</p> <p>Can manage more complex patient presentations and operations and take care of most cases</p> <p>Framework: The learner can treat all patients with straightforward gallbladder disease and has a strong understanding of surgical options and techniques for less common scenarios.</p>	<ul style="list-style-type: none"> Manages a patient with complicated GB disease (eg, severe cholecystitis, choledocholithiasis post R-Y gastric bypass) or a medically complex patient (eg, sepsis, anticoagulation use, cardiac dysfunction), customizing use of nonoperative management Customizes communication based on a patient's characteristics and preferences across barriers in a critical or life-threatening situation; manages and de-escalates conflict with a difficult or hostile patient/caregiver Conducts an informed consent discussion for a complex or emergent cholecystectomy with cultural humility, eliciting patient preferences and documenting risks and benefits individualized to the patient 	<ul style="list-style-type: none"> Adapts to unexpected variant anatomy in a complex cholecystectomy (eg, inflamed, shortened cystic duct) and changes the operative approach (subtotal or dome-down) Functions as a teaching assistant for a case with normal anatomy while recognizing when technical requirements of an operation necessitate them to take over Performs IOC safely in the presence of scarring and inflammation Adapts operative technique to tissue quality and case complexity; identifies the correct plane, dissects the cystic duct and artery, and obtains the critical view of safety in the presence of scarring and inflammation Devises and implements a plan when deviation from the initial operative plan 	<ul style="list-style-type: none"> Manages GB-specific and complex postop problems (eg, biliary leak, CBD injury), even in patients with comorbid conditions Directs interdisciplinary care to manage a patient experiencing complications Manages conflict between a patient, caregiver(s), and the health care team Customizes emotionally difficult news (eg, changes to the operative plan, adverse outcome, end-of-life discussion) to a patient/caregiver(s) with care and cultural humility Selects a method of postop follow-up, considering case complexity, health care system cost, and patient wishes and resources (eg, telehealth, transportation challenges)



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The attending is available at the request of the learner but is not routinely needed for common presentations, though input may be needed for more complex presentations.	<ul style="list-style-type: none">• Triage treatment of GB disease with consideration of patient circumstances and preferences (comorbidities, socioeconomic factors)• Applies current published guidelines regarding the workup and management of GB disease, considering nuances and exceptions in a complex situation	<p>(eg, conversion to open procedure or subtotal cholecystectomy) is required</p> <ul style="list-style-type: none">• Implements early management steps, including calling for assistance, when an intraoperative complication is identified• Analyzes how the choice of instrumentation will affect the overall cost of the procedure	