

PARACENTESIS

Paracentesis, the aspiration of fluid from the abdominal cavity, is a diagnostic and therapeutic procedure frequently performed in the hospital. Paracentesis was performed in almost 90,000 discharges in 2002, according to the Healthcare Cost and Utilization Project (HCUP). Hospitalists identify patients with suspected ascites on the basis of the clinical presentation, physical examination and/or ultrasonography. Utilizing evidence based decision making, hospitalists determine whether paracentesis is indicated in the diagnosis of disease or palliation of patient symptoms.

KNOWLEDGE

Hospitalists should be able to:

- Describe the normal anatomy of the abdomen and pelvis.
- Define and differentiate pathophysiologic processes that may lead to the development of ascites.
- Describe clinical presentations consistent with spontaneous bacterial peritonitis.
- Explain indications and contraindications for paracentesis, including potential risks and complications.
- Describe the physical examination maneuvers used in the evaluation of ascites and identify their sensitivity and specificity.
- Differentiate the indications for a diagnostic paracentesis versus a large-volume paracentesis.
- Explain the appropriate diagnostic testing for ascitic fluid.
- Describe indications for use of ultrasonography to assess the quantity of ascitic fluid and/or to guide paracentesis.
- Select the necessary equipment to perform a paracentesis at the bedside, and differentiate what is needed for a diagnostic versus a large-volume paracentesis.
- Define the serum-ascites albumin gradient and its role in the evaluation of ascites.
- Identify the indications for administration of albumin in conjunction with paracentesis.
- Identify patients with ascites who may benefit from large-volume paracentesis.

SKILLS

Hospitalists should be able to:

- Elicit a thorough and relevant history to identify co-morbid conditions and risk factors for the development or complications of ascites.
- Perform a thorough physical examination, evaluating for signs associated with chronic liver disease or malignancy.
- Perform an abdominal examination, including specific maneuvers to assess for the presence of ascites.
- Properly position the patient and identify anatomic landmarks to perform a paracentesis.
- Use sterile techniques during preparation for and performance of paracentesis.
- Maintain clinician safety with appropriate protective wear.
- Manage the complications of paracentesis following the procedure, which may include bleeding, persistent leak of ascitic fluid, and hemodynamic compromise.
- Order and interpret the results of ascitic fluid analysis, including cell count, differential, gram stain and culture, and serum-ascites albumin gradient.
- Order and interpret platelet and coagulation studies when indicated.
- Synthesize a management plan based on history, physical examination, radiographic imaging and the results of fluid testing.

ATTITUDES

Hospitalists should be able to:

- Communicate with patients and families to explain the procedure, its expected diagnostic or therapeutic benefits, and potential complications; and to obtain informed consent.
- Manage patient discomfort or pain during and after the procedure.
- Identify patients who may benefit from transfusion of fresh frozen plasma and/or platelets prior to paracentesis.
- Recognize the indications for specialty consultations, which may include interventional radiology or gastroenterology.

SYSTEM ORGANIZATION AND IMPROVEMENT

To improve efficiency and quality within their institutions, Hospitalists should:

- Lead, coordinate or participate in multidisciplinary initiatives to promote patient safety and optimize resource utilization.
- Lead, coordinate or participate in development of institutional guidelines for the pre-procedure utilization of fresh frozen plasma and platelet transfusions in patients with coagulopathy or thrombocytopenia.
- Lead, coordinate or participate in development of institutional guidelines to identify patients who should receive albumin peri-procedure.
- Collaborate with radiologists to standardize identification of patients who would benefit from ultrasound-guided paracentesis.
- Lead, coordinate or participate in efforts to develop strategies to minimize institutional complication rates.
- Lead, coordinate or participate in quality improvement programs to monitor hospitalists' performance and/or supervision of paracentesis.
- Lead, coordinate, or participate in efforts to organize and consolidate paracentesis equipment in an identifiable location in the hospital, easily accessible to clinicians who perform the procedure.