

2.1 ARTHROCENTESIS

Arthrocentesis, the aspiration of synovial fluid from a joint, is frequently performed in the diagnosis and management of joint effusions to determine whether these are associated with infectious, traumatic, or rheumatologic conditions. More than 38,000 arthrocentesis procedures are performed annually in US hospitals.¹ Hospitalists may identify a joint effusion during the history and physical examination and should use clinical expertise and evidence-based decision-making to determine whether arthrocentesis is required in the diagnosis and management of the patient's illness.

KNOWLEDGE

Hospitalists should be able to:

- Define and differentiate the disease processes that may lead to the development of joint effusion.
- Distinguish between the clinical features of a joint effusion and soft tissue swelling surrounding a joint.
- Explain indications and contraindications for arthrocentesis including potential risks, benefits, and complications.
- Identify and locate anatomic landmarks to guide proper entry points for arthrocentesis.
- Describe indications for the use of ultrasonography to assess and/or to guide arthrocentesis.
- Explain the appropriate diagnostic tests to accurately characterize synovial fluid.
- Recognize the indications to pursue additional radiographic imaging to further characterize a joint effusion.
- Recognize the indications for specialty consultations, which may include orthopedic surgery, rheumatology, infectious diseases, or interventional radiology.

SKILLS

Hospitalists should be able to:

- Elicit a thorough and relevant medical history to identify comorbid conditions and risk factors for the development or complications of a joint effusion.
- Perform a physical examination to evaluate for signs to determine the primary condition responsible for the development of a joint effusion, including traumatic injury, infection, inflammation, or rheumatologic disease.
- Demonstrate the optimal position for the patient and the patient's joint to perform an arthrocentesis.
- Select the necessary equipment to safely perform arthrocentesis.

- Perform a time-out before the procedure.
- Use appropriate sterile technique throughout the procedure to minimize risk of infectious complications for patients and providers.
- Anticipate and manage complications of arthrocentesis after the procedure, which may include bleeding, hematoma, or infection.
- Interpret cell counts and biochemical analysis of synovial fluid to determine an appropriate management plan.
- Appropriately use splinting and analgesia to reduce joint inflammation and pain when indicated.
- Employ multidisciplinary teams, including physical and occupational therapy, to assist with inpatient and outpatient rehabilitation when appropriate.
- Obtain informed consent and effectively communicate with patients and families to explain the procedure, its expected diagnostic or therapeutic benefits, and potential complications.

ATTITUDES

Hospitalists should be able to:

- Demonstrate awareness of and ability to address periprocedural emotional and physical discomfort.

SYSTEM ORGANIZATION AND IMPROVEMENT

To improve efficiency and quality within their organizations, hospitalists should:

- Lead, coordinate, and/or participate in multidisciplinary initiatives to optimize resource use.
- Lead, coordinate, and/or participate in efforts to develop strategies to minimize institutional complication rates of arthrocentesis.
- Lead, coordinate, and/or participate in patient safety and quality improvement programs to monitor hospitalists' performance and/or supervision of procedural competence.
- Lead, coordinate, and/or participate in patient safety programs designed to coordinate care transition and the handoff of pending test results at the time of hospital discharge.

References

1. Agency for Healthcare Research and Quality. Healthcare Cost and Utilization Project. U.S. Department of Health & Human Services. Available at: <http://hcupnet.ahrq.gov/>. Accessed May 2015.