

**Section 2: PROCEDURES**

- 2.1 Arthrocentesis
- 2.2 Chest Radiograph Interpretation
- 2.3 Electrocardiogram Interpretation
- 2.4 Emergency Procedures
- 2.5 Lumbar Puncture
- 2.6 Paracentesis
- 2.7 Thoracentesis
- 2.8 Vascular Access

**ARTHROCENTESIS**

Arthrocentesis, the aspiration of synovial fluid from a joint, is frequently performed in the diagnosis and management of joint effusions. These effusions are associated with infectious, traumatic, and rheumatologic conditions. The Healthcare Cost and Utilization Project (HCUP) reports that arthrocentesis was performed in 32,961 hospitalized patients in 2002. 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:*

- Identify and locate anatomic landmarks to guide proper entry points for arthrocentesis.
- Define and differentiate the disease processes that may lead to the development of joint effusion.
- Explain the indications and contraindications for arthrocentesis, including potential risks and complications.
- Explain the appropriate diagnostic testing for synovial fluid.
- Describe indications for use of ultrasonography to guide arthrocentesis.
- Select the necessary equipment to perform an arthrocentesis at the bedside.

**SKILLS**

*Hospitalists should be able to:*

- Distinguish between the clinical features of a joint effusion and soft tissue swelling surrounding a joint.
- Demonstrate the optimal position for the patient and the patient's joint during an arthrocentesis.
- Select and use the correct equipment for a given joint.
- Use sterile techniques during preparation for and performance of arthrocentesis.
- Maintain clinician safety with appropriate protective wear.
- Manage the complications of arthrocentesis.
- Order radiographic studies and interpret findings.
- Order and interpret results of synovial fluid cell count, differential, crystal morphology, gram stain and culture.
- Order and interpret platelet and coagulation studies when indicated.
- Develop management plan based on 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, recovery period, and potential and expected outcomes; and to obtain informed consent.
- Discuss with patients and families pain management strategies for discomfort during and after arthrocentesis.
- Relieve pain with splinting and analgesia targeted to the joint inflammation.
- Employ multidisciplinary teams, including physical and occupational therapy when appropriate, to assist with inpatient and outpatient rehabilitation.
- Recognize indications for specialty consultation, which may include rheumatology, orthopaedics or infectious disease.
- Consider early consultation in the management of effusion in a prosthetic joint.

**SYSTEM ORGANIZATION AND IMPROVEMENT**

*To improve efficiency and quality within their organizations, Hospitalists should:*

- Lead, coordinate or participate in multidisciplinary initiatives to promote patient safety and optimize resource utilization.
- 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 arthrocentesis.
- Lead, coordinate or participate in efforts to organize and consolidate arthrocentesis equipment in an identifiable location in the hospital, easily assessable to clinicians who perform the procedure.