



Procedural Ultrasound
Chapter 7

ULTRASOUND GUIDANCE FOR ARTHROCENTESIS

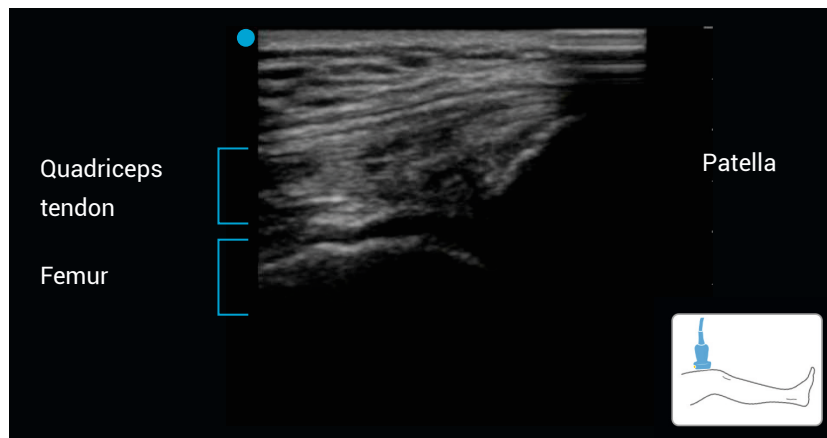


Sara Damewood

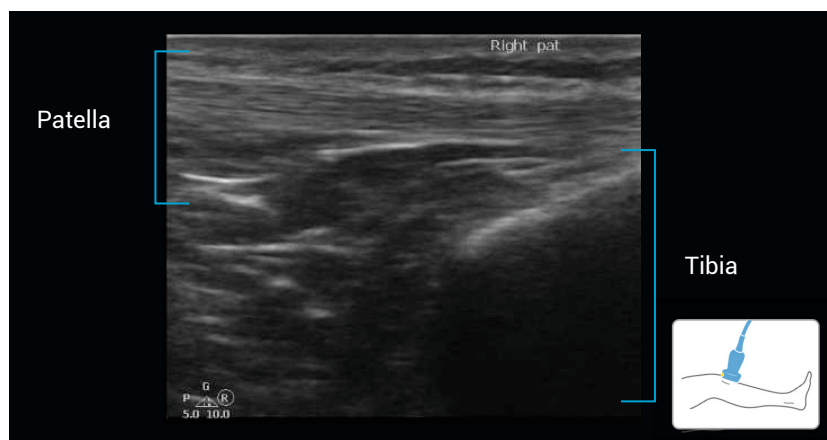
Ultrasound guidance for arthrocentesis

IDENTIFYING STRUCTURES OF THE KNEE ON ULTRASOUND

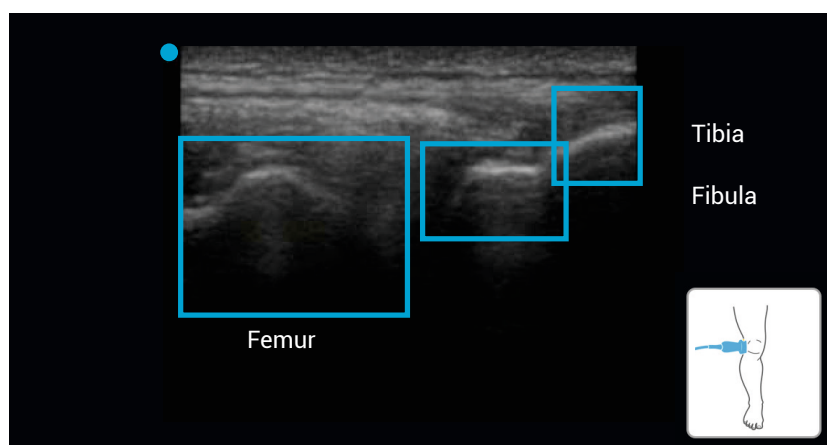
There are four main views of the knee, to guide arthrocentesis.



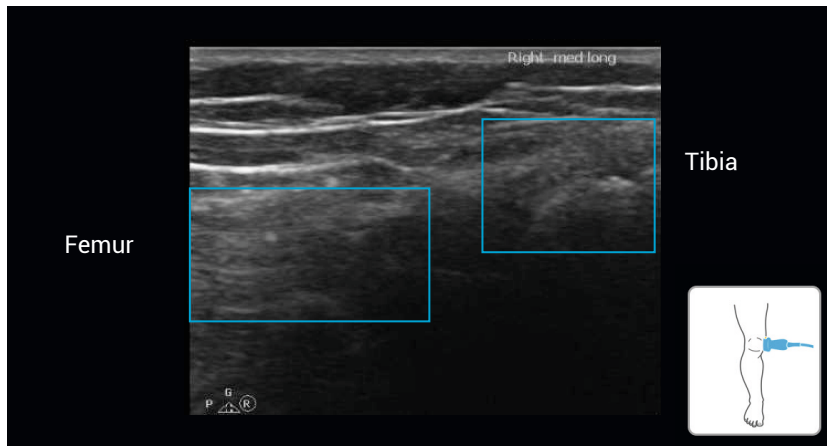
Suprapatellar



Infrapatellar



Lateral to patella

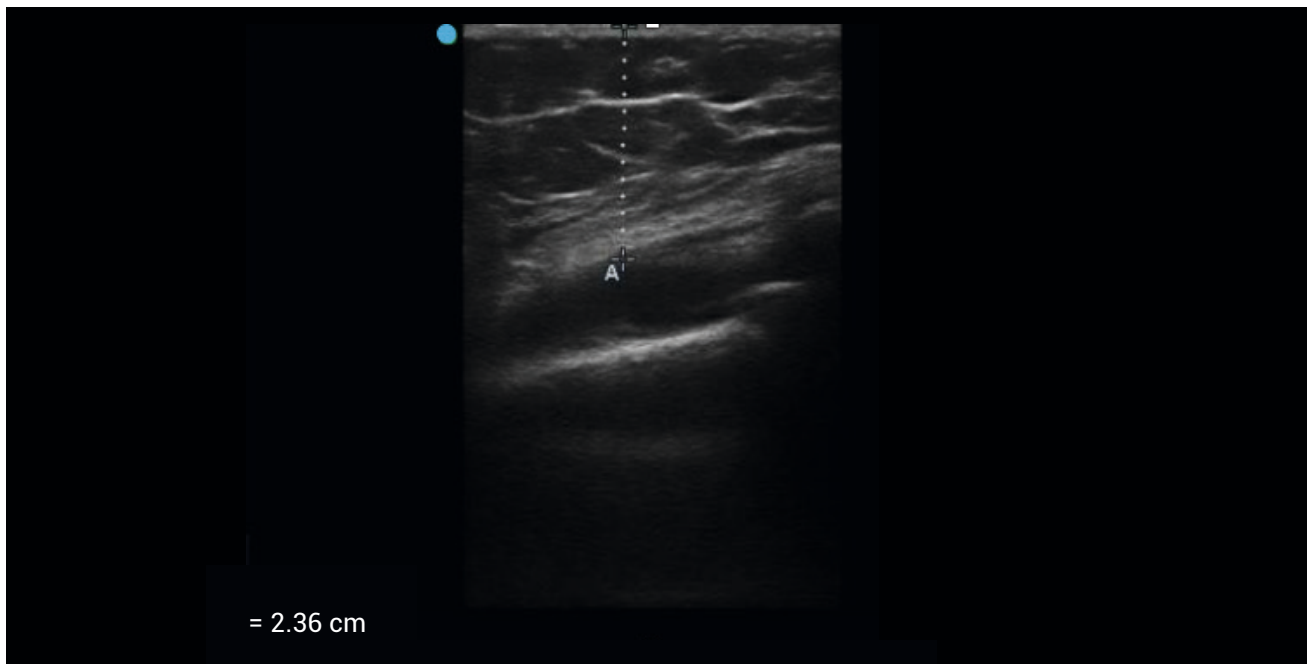


Medial to patella

Ultrasound guidance for arthrocentesis

AVOIDING COMPLICATIONS

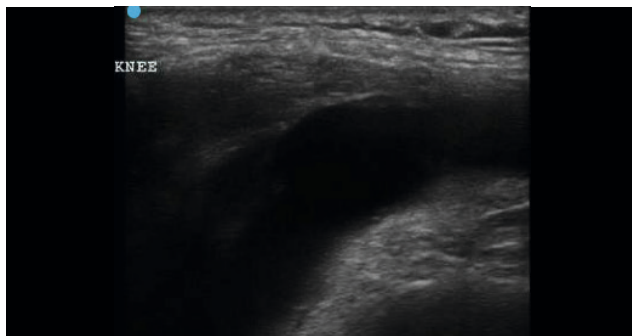
Ultrasound can help determine how deep the pocket of fluid is. You can measure from the skin to the effusion, like in this picture.



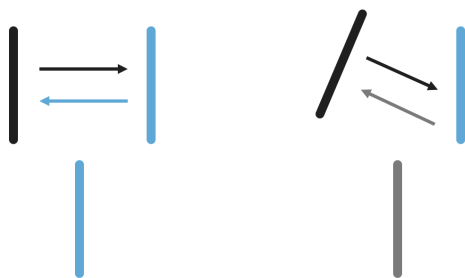
You can approach arthrocentesis with ultrasound guidance using in-plane or out-of-plane technique. You can use ultrasound real time or just to find your pocket.

Ultrasound guidance for arthrocentesis

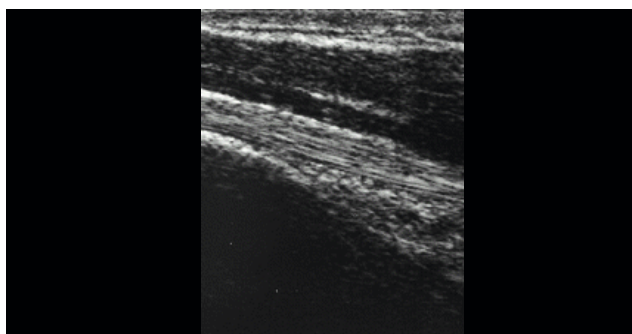
GUIDING ARTHROCENTESIS WITH ULTRASOUND



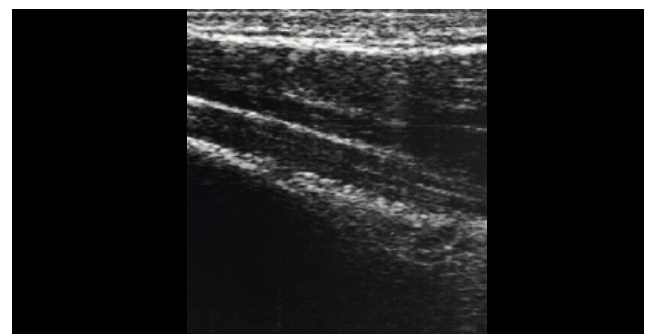
Ultrasound can help you decide how to approach a knee for an arthrocentesis, based on finding the largest visualized pocket.



Anisotropy occurs when the ultrasound beam hits something reflective at an angle other than 90-degrees perpendicular to the surface. In this situation the structure appears artificially dark.



Normal



Abnormally dark

FURTHER READING

Beggs, I, Bianchi, S, Bueno, A, et al. 2016. Musculoskeletal Ultrasound Technical Guidelines V. Knee. *European Society of Musculoskeletal Radiology (ESSR)*. 1–8.

Connolly, DJA, Berman, L, McNally, EG. 2000. The use of beam angulation to overcome anisotropy when viewing human tendon with high frequency linear array ultrasound. *BJR*. **74**: 183–5.

Johnson, B, Lovallo, E, Mantuani, D, et al. 2017. How to Perform Ultrasound-Guided Knee Arthrocentesis. *ACEP Now*. **36**: 11.

Kunz, D, Pariyadath, M, Wittler, M, et al. 2017. Derivation of a Performance Checklist for Ultrasound-Guided Arthrocentesis Using the Modified Delphi Method. *J Ultrasound Med*. **36**:1147–1152.