
Procedure Name: **Ankle (Joint Effusion)**

Updated: 11/28/07

Indications:

May include but not limited to ankle pain of questionable etiology, tightness, tenderness, swelling, any other valid medical reason/indicators determined by referring physician.

General Description:

This is a limited survey to localize and characterize joint effusion of the ankle unilateral or bilateral. Upon completion of exam show study to radiologist before patient is allow to exit room.

Patient Preparation:

There is no preparation for this exam.

Imaging Sequence:

ANTERIOR ANKLE

- **Sagittal and transverse views (include color Doppler)**
 1. Patient is placed in a supine position with foot in mild plantar flexion
 2. Anterior ankle joint recess is evaluated for fluid and should be visualized between the hyperechoic boney landmarks of the distal tibia and proximal talus
 3. Also evaluate the parasagittal plane laterally to the anterior joint recess since fluid may only be present in this region
 4. Fluid collection may display the hyperechoic fat pad

POSTERIOR ANKLE

- **Sagittal views (include color Doppler)**
 1. Patient is placed in a prone position
 2. Leg is extended with foot in slight dorsiflexion position
 3. Hyperechoic boney landmark of the calcaneus is inferior
 4. Deep to the Achilles tendon is a heterogeneous fat pad (called Kagers fat pad) that may contain a small amount of fluid up to 2.5mm anteroposteriorly deep to the fat pad. To evaluate the correct amount of fluid float transducer on a layer of gel so fluid is not displaced with transducer pressure

IMAGING INFORMATION

- On both anterior and posterior imaging key landmarks include the boney hyperechoic structures and hyperechoic fat pad
- Fluid collections can be anechoic (simple fluid) to complex fluid varying from hypoechoic to hyperechoic. Heterogeneous joint fluid may be due to hemorrhage or infection.

- If fluid collections are present, obtain images to show the scope of the fluid collection and if the interface between the fluid and surrounding soft tissues are irregular image this as well.
- Findings of joint recess compressibility, motion of contents (within joint recess) with transducer pressure, and lack of increased blood flow with color/power Doppler suggest complex fluid as opposed to synovitis.
- The most sensitive location for identification of joint fluid is the anterior joint recess in sagittal view. A small amount of fluid may be normally visualize measuring up to 1.8 mm anteroposteriorly