How to do Joint taps

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Joint fluid analysis is most useful for differentiating normal or degenerative (i.e. osteoarthritic) joints from joints with inflammatory joint disease (septic and immune-mediated). All dogs which are progressing poorly after a joint surgery should have a joint tap performed and have joint fluid assessed to investigate for infection.

Patients should be deeply sedated/anaesthetised. If radiography is to be performed the tap should be performed after the radiographs have been obtained. The patient is positioned in lateral recumbency with the joint to be sampled uppermost. The site must be clipped and aseptically prepared. Novices should wear sterile gloves. For most dogs, a 1.5", 20 or 21 gauge needle attached to a 10 ml syringe is used for arthrocentesis of the shoulder, elbow, hip and stifle. For the carpus and tarsus, and for the other joints in very small dogs and cats, a 23 gauge hypodermic needle can be used attached to a 2 ml or 5ml syringe. The size of the syringe does not relate to the amount of synovial fluid to be expected; sometimes a large amount of suction is required. If blood collects in the hub of the needle during needle placement, the needle is withdrawn and replaced and another attempt made. The needle is introduced and withdrawn with the syringe attached in order that air does not enter the joint.

**Shoulder:** the acromion is identified and the needle directed just off its most distal aspect, perpendicular to the skin. It can be helpful to have an assistant hold the limb level with the table and at the same time apply slight traction to the limb to open up the joint space.

**Elbow:** the needle is introduced just lateral to the triceps tendon, just proximal to the olecranon, and parallel with the ulna. The needle is aimed slightly medially and advanced to pass inside the lateral epicondylar crest and into the joint just dorsal to or alongside the anconeal process.

**Carpus:** with the carpus flexed, the cranial depression between the most distal aspect of the radius and the proximal row of carpal bones identifies the antebrachiocarpal joint. The needle is introduced perpendicular to the skin, just to one side of the central common digital extensor tendon.

**Hip:** the needle is inserted immediately proximal to the greater trochanter and is directed perpendicular to the skin, but with a slight distal/ventral orientation. Slight abduction of the limb may help. The needle must not be aimed caudally (to avoid the sciatic nerve).

**Stifle:** the needle is introduced mid-way between the centre of the patella and the tibial tuberosity, and just lateral to the patellar tendon. It is directed perpendicular to the skin but aimed slightly medially.

**Tarsus:** a small gap can be palpated between the medial aspect of the lateral (fibular) malleolus and the distal tibia. With the joint flexed a needle is introduced into this space parallel with the calcaneus.