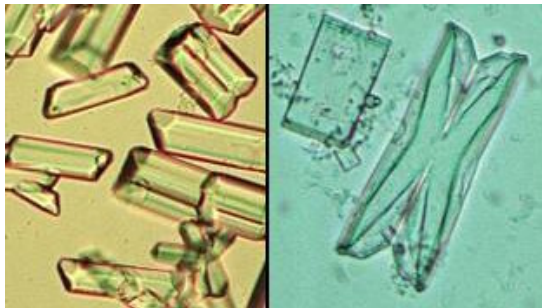


What crystal is this?

Crystal identification is an important component of assessment of urine wet microscopy. Vetpath will be doing a series on urine crystal identification, starting with the following picture....



Source:

<http://diaglab.vet.cornell.edu/clinpath/modules/UA-SED/crystal1.htm>

The answer is over the page.....

Approaches to arthrocentesis

In the last newsletter, we discussed arthrocentesis for synovial fluid cytology. This month, we will look at approaches to various joints in dogs and cats.

For most joints, the patient is placed in lateral recumbency with the joint to be sampled uppermost. Manual flexion and extension of the joint helps identify the joint space. The needle should be gently advanced through the

joint capsule to avoid damaging the articular cartilage. The volume of fluid obtained depends on the joint and the disorder. Once a sample has been obtained, the plunger should be released on the syringe to avoid blood contamination of the sample as the needle is withdrawn.

Carpal joint: Entry into the joint is obtained through the antibrachio-carpal joint of the middle carpal joint. In both cases flexing the joint will increase access to the joint spaces. The needle is introduced from the dorsal aspect, just medial of centre, then inserted perpendicular to the joint. Land marks for the antibrachio-carpal joint are the distal radius and the proximal radial carpal bone. The middle carpal joint is between the distal portion of the radial carpal bone and the second and third carpal bones. The middle carpal joint is between the distal portion of the radial carpal bone and the second and third carpal bones.

Elbow joint: The elbow is flexed to a 90-degree angle and the needle introduced just proximal to the olecranon and medial to the lateral epicondylar crest. The needle is inserted parallel to the olecranon and the long axis of the ulna.

Shoulder: Access to the joint is gained from the lateral aspect with the needle

introduced distal to the acromion of the scapula and caudal to the greater tubercle of the humerus. The needle is directed medial to the greater tubercle and distal to the supraglenoid tubercle of the scapula.

Tarsal joint: Access is via the cranial or lateral approach. In the lateral approach, the tarsus is slightly flexed and the needle is introduced at the space palpated between the tibia and talus bones, just lateral to the tendon bundle. For the lateral approach, the needle is inserted just distal to the lateral malleolus of the fibula with either a slightly cranial or plantar path.

Stifle joint: The stifle is flexed and the needle introduced just lateral to the patellar ligament and distal to the patella. The needle is advanced in a medial and proximal direction pointing toward the medial condyle of the femur.

Hip joint: The femur is abducted and the leg extended caudally. The needle is introduced cranial to the greater trochanter of the femur and inserted caudal and distal or ventral toward the joint.



Reference: Cowell RL et al. *Diagnostic Cytology and Hematology of the Dog and Cat*. Mosby Elsevier, 2008.

EXPORT TESTING

Vetpath performs a large amount of testing for pets undergoing export. It is absolutely essential that the relevant export forms are correctly completed and submitted with the patient's samples. Testing cannot proceed without these forms and this may cause a delay in reporting of results.

For more information on testing requirements, tips on collection samples and a checklist for items needed for submission, go to our website at www.vetpath.com.au and click on Export Testing Services.

The crystals are

Struvite (triple phosphate or magnesium ammonium phosphate).

Struvite crystals are usually colourless, three dimensional, prism-like crystals that sometimes have a classic "coffin lid" appearance. However, they can also be variable and can occur as three to eight sided prisms, needles, flat crystals with oblique ends or double-edged razor blades. Struvite crystals can occur at any pH but usually occur in alkaline urine. They can also occur with storage when the sample is refrigerated.

Struvite crystals are the most common appearing crystals in dog and cat urine. They are often seen in urine of clinically normal animals, however are also associated with infection by urease producing bacteria (eg *Staphylococcus* or *Proteus* sp) or in non-infectious primary crystalluria (particularly in cats).