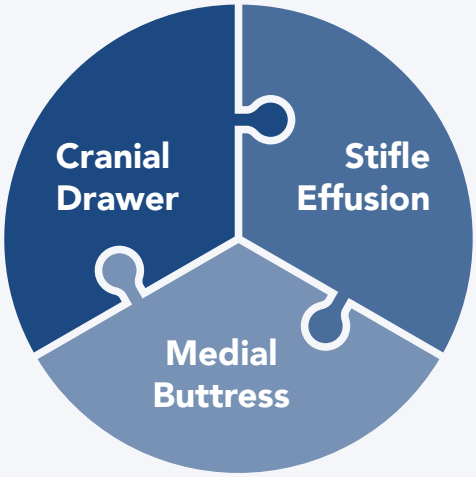
MASH
MELBOURNE ANIMAL SPECIALIST HOSPITAL

Cruciate Disease
Making the Diagnosis Early

Making an early diagnosis of cranial cruciate ligament disease is important to improve outcomes for the patient and also improve owner satisfaction due to speedy resolution of their dog's lameness.

We know that once cranial cruciate disease starts, it is a one-way street of ligament degeneration. We can't make the ligament heal and this is why conservative management, especially in medium-to-large breed dogs, is doomed to frustration and failure.

Making a timely diagnosis allows early recommendation of surgical intervention and saves the time and cost associated with unsuccessful conservative management.



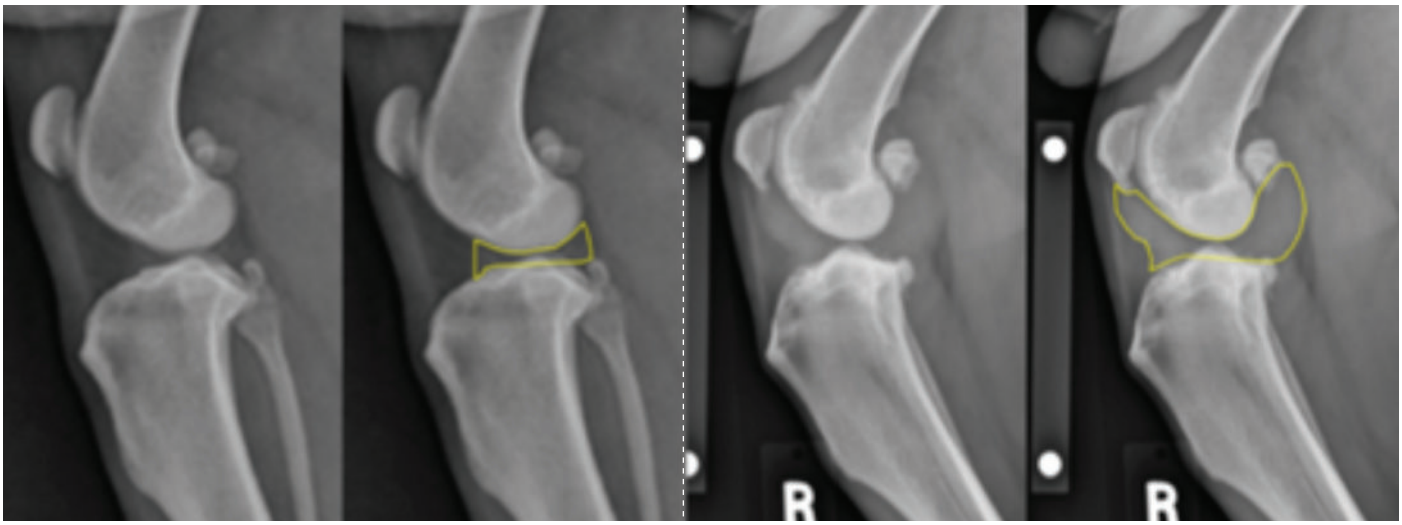
The puzzle pieces of cranial cruciate ligament diagnosis

Cranial drawer:

This one is easy and is usually first and foremost in our minds when diagnosing cruciate disease –
If there is positive cranial drawer then the diagnosis is made! However, it would be great to make the diagnosis before the ligament is completely ruptured. Remember that pain on attempted cranial drawer and exacerbation of lameness following attempted cranial drawer are also strong indicators of a diseased cranial cruciate ligament before it ruptures.

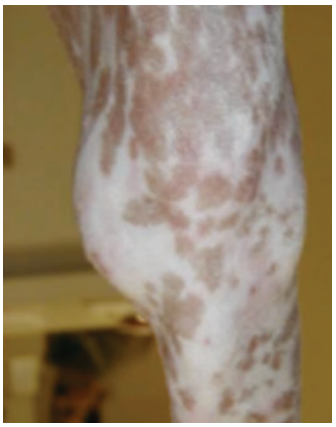
Stifle Effusion:

Palpable effusion is best felt with the patient standing on the affected limb. Far more reliable than physical exam findings, is effusion visible on mediolateral radiographs. You can also ask a friendly specialist to review the radiographs if you are unsure!! Stifle effusion is a very strong indicator of cranial cruciate ligament disease.



Stifle effusion on a mediolateral radiograph – the radio-opaque joint fluid is outlined in yellow. A normal joint is on the left and an effused joint is on the right.

Medial Buttress:



Medial buttress is a fibrous thickening of the stifle that is often most apparent medially. It is the body's response to instability, with deposition of haphazard collagen all around the knee.

If the lameness is chronic this periarticular fibrosis may be so extensive that cranial drawer can be difficult to appreciate even if the ligament is completely ruptured.

This stabilising of the stifle unfortunately does not address potential meniscal injury. So, if the stifle is thickened and stable but the dog is still limping, there is still a problem and surgery is warranted to investigate.

Left: Marked medial buttress in a dog with cranial cruciate ligament disease.

The take home message is this...

You only need one of the three puzzle pieces to diagnose cranial cruciate disease and confidently recommend surgical investigation and treatment. The first step in the surgical treatment of suspected cranial cruciate ligament disease is arthroscopic assessment of the intra-articular structures and meniscal resection as required.

This part of the procedure is minimally invasive being performed entirely arthroscopically, with only 2 or 3 small stab incisions. This allows definitive diagnosis in all cases before the open procedure (TPLO) is begun.

In the highly unlikely event that the cranial cruciate ligament is normal, arthroscopy allows thorough inspection of the entire joint often providing an alternate diagnosis.

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