

What would you do?

How do you diagnose and approach the so-called 'partial' ACL/CCL tear?

TailWind Veterinary Surgical Care surgeons are regularly asked about this common clinical scenario!

We are asked:

How do you diagnose a partial CCL tear?

What does it mean to have a partial CCL tear?

What does it look like to have a partial CCL tear?

How do you recommend we manage a partial CCL tear?

When do we recommend performing surgery on a partial CCL tear?

Firstly, it is probably important to spend a moment on nomenclature! Human beings have an 'anterior' cruciate ligament in their knee and it is analogous and the exact same as a canine 'cranial' cruciate ligament. Veterinary orthopedic surgeons and general practice veterinarians will frequently use the term 'anterior' (ACL) when referring to their canine patients, and this is mostly because it is a term that is widely known! Try not to be confused: the 'anterior' (ACL) and 'cranial' (CCL) when used in the context of the canine cruciate ligament is analogous!

Secondly, partial tears of the anterior/cranial cruciate ligament in the dog is the NORM! This is very different than the human experience with ACL pathology. In humans, failure of this ligament is typically per-acute or acute – e.g. a fall during a ski run, a tackle on the football pitch, or a hyperextension injury after a knee-extended planted fall. One moment the ligament is 'native' or healthy – the next moment, after a focal athletic trauma – it is irreversibly damaged, ruptured or torn. The diagnosis in this instance is usually a simple matter of physical palpation and occasionally an MRI. In our canine patients, it is far more common to have the ligament fail slowly, little by little and over time (chronic partial tear) and typically/ultimately fail completely, perhaps as the result of an athletic event. However, the athletic event leading to ultimate failure can often be very mundane – e.g. running down the stairs when Amazon delivers a package!

Finally, a small note to discuss the use of the term 'partial'. We at TailWind VSC wish to discourage the use of the word 'partial tear' to refer to an incompletely torn CCL in our canines. We vastly prefer the term "insufficiency". In our experience the term 'partial' leads to tremendous confusion around how to diagnose and how to manage this condition in our canine patients. In our experience – the term 'insufficiency' promotes the idea that the ligament is not doing its prescribed job apart from any reference to whether the ligament is or is not completely torn. In our clinical experience, the amount of ligament torn is irrelevant to both the diagnosis and the management of the patient! Once the ligament tear, however minor, is the source of patient discomfort and lameness, it is a problem that requires surgery to correct.

WOW! So much! It's important though! As there is a great deal of confusion over all of these ideas.

What does it mean to have a partial CCL tear?

Again, as we've stated above, the canine patient, unlike most human experience, tend to tear their cruciate ligament slowly over time. The best way to understand this is to understand that the canine cruciate ligament is not a single fiber, but rather thousands of fibers that are braided together like a hemp rope. For a variety of reasons (breed/genetics, rotary instability because of MPL, age and deterioration) it can/will fray, and release large collagen chunks of ligament into the joint and cause both inflammation and pain within the joint capsule. The lameness seen in these patients can be as severe, and sometimes worse than a full-tear of the ligament. So what it means to have a 'partial' or 'insufficient' cruciate – is that there is lameness associated with pathology in the ligament *without* reference to the completeness of the tear!

What does it look like to have a partial CCL tear?

Typically, patients with a partial or insufficient CCL will have a waxing and waning lameness. The lameness is typically worse upon first rising after a period of rest, and tends to improve as the pet moves around, loosens up and 'warms' out of it. The lameness can and frequently does improve with enforced rest. The lameness can more or less 'disappear' if the pet is excited and motivated (leash, Frisbee, Amazon delivery) but will re-emerge after sustained activity and a period of rest. The lameness is usually responsive to nsaid and pain-reliever therapy. Over time, these patients will progress, get worse, and have longer periods of lameness and shorter periods of clinical soundness.

These patients can be tricky to diagnose – as the palpation hallmarks (e.g. drawer and thrust) are typically absent. This is where some art, and experience are combined with physical findings and x-rays to put all the pieces together to make the diagnosis. Suffice to say, most partial CCL's have a straight forward diagnosis as long as all the clinical data are combined to make a complete story for the clinician.

How do you recommend we manage a partial CCL tear?

This can have many different considerations! Some considerations would be the overall health of the pet, the motivation and desire of the pet owners to restore soundness/performance and whether there is concomitant pathology in the opposite knee! Recommendations on how to manage partial tears can vary, and there can be differences, but generally speaking, once a patient is no longer responsive to nsuids and pain-relievers and once a patient is more or less lame at least 50% of the time, whether the ligament is completely torn or not, are candidates for operative repair. Full restoration of athletic function with partial tears of the canine CCL (CCL insufficiency) can ONLY be reliably achieved with surgical intervention. There is no amount of rest, rehab, nor a brace or splint that will restore the athletic function of the canine knee. In the absence of surgery, these pets will always be lame, and always be reliant on nsuids for even the most mundane activities to avoid pain-associated lameness.

When do we recommend performing surgery on a partial CCL tear?

This can be an individual preference, however we recommend, as stated above, once the pet is no longer nsaid responsive, and lame over 50% of the time, they have crossed the line of reasonable doubt! They are a candidate for restorative surgical intervention. We should also note, the presence of pathology in the opposite knee does suggest an even earlier intervention trigger. Dogs that are performance/agility, service-dogs or dog's with a performance based career – usually are those we recommend earlier intervention.

Summary

ACL and CCL in the canine are the same ligament

CCL insufficiency (partial CCL tear) are the norm in our canine patients – this is different than in humans

Once a dog is lame from a partial tear of the cruciate ligament – surgery is the only reliable and proven technique for re-establishing athletic competence and capacity both short- and long-term

The timing of the surgical intervention of a partial cruciate tear is largely elective (chosen at a time of convenience) – however there are some patient factors that can affect that timing and these can be discussed with your veterinarian