Brown Surgery Referral

Client Handout: Ruptured Anterior (Cranial) Cruciate Ligament Surgery

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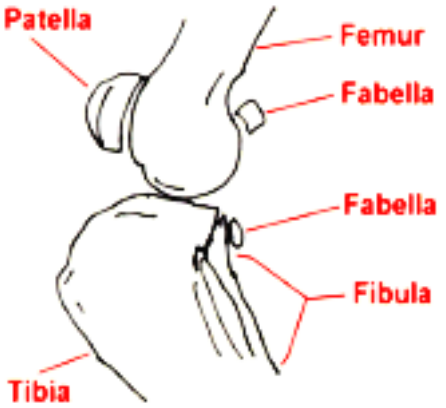
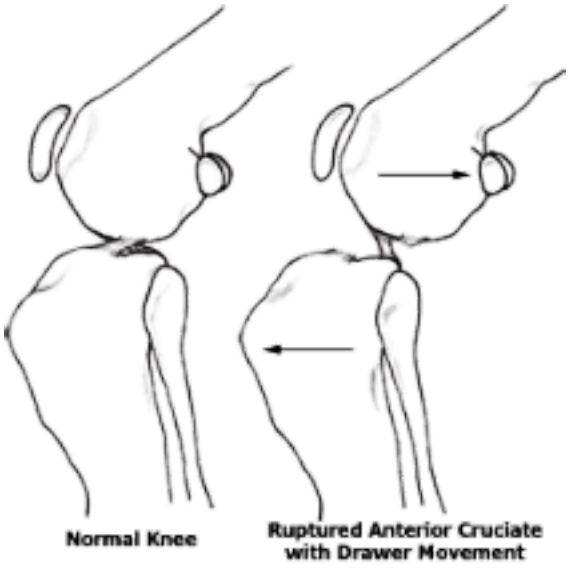
Knee anatomy



The knee is a fairly complicated joint. It consists of the femur above, the tibia below, the kneecap (patella) in front, and the bean-like fabellae behind. Chunks of cartilage called the medial and lateral menisci fit between the femur and tibia like cushions. An assortment of ligaments holds everything together, allowing the knee to bend the way it should and keep it from bending the way it shouldn't.

There are two cruciate ligaments that cross inside the knee joint: the anterior (or, more correctly in animals, cranial) cruciate and the posterior (in animals called the caudal) cruciate. The anterior cruciate ligament prevents the tibia from slipping forward out from under the femur.

Finding the Rupture



The ruptured cruciate ligament is the most common knee injury of dogs; chances are that any dog with sudden rear leg lameness has a ruptured anterior cruciate ligament rather than something else. The history usually involves a rear leg suddenly so sore that the dog can hardly bear weight on it. If left alone, it will appear to improve over the course of a week or two but the knee will be notably swollen and arthritis will set in quickly. The key to the diagnosis of the ruptured cruciate ligament is the demonstration of an abnormal knee motion called a drawer sign. The veterinarian stabilizes the position of the femur with one hand and manipulates the tibia with the other hand. If the tibia moves forward (like a drawer being opened), the cruciate ligament is ruptured.Since arthritis can set in relatively quickly after a cruciate ligament rupture, radiographs to assess arthritis are helpful. Another reason for radiographs is that the angle of the tibia may be too steep and would require a TPLO surgery instead of the extracapsular fixation. Arthritis present prior to surgery limits the extent of the recovery after surgery though surgery is still needed to slow or even curtail further arthritis development.

What Happens if the Cruciate Rupture is Not Surgically Repaired

If a dog with a ruptured cruciate is not treated, severe degenerative joint disease (arthritis) usually occurs and the knee becomes unstable. In addition, because the dog favors the affected leg, he will generally put more weight on the unaffected leg often causing the other side to rupture its cruciate as well. Bone spurs called osteophytes develop resulting in chronic pain and loss of joint motion. This process can be arrested or slowed by surgery but cannot be reversed.

Surgery For A Ruptured Cruciate Ligament

If the ligament is completely torn, the dog's generally treated with surgery. There are several different methods used to repair the knee joint when a ligament is torn. A large, strong monofilament cable is passed around the fabella behind the knee and through a hole drilled in the front of the tibia. This tightens the joint to prevent the drawer motion, effectively taking over the job of the cruciate ligament. This surgery is not recommended to be performed if the Tibial Plateau Angle (TPA) is greater than 20 degrees or over 40 lbs of body weight.

(The wire shows where the suture would be placed around the knee)

Recovery

After the surgery, the dog must be strictly confined for 4-6weeks. By day 14 after surgery, most dogs touch the toe of the affected leg to the ground and will start bearing minimal weight on the leg. Once the dog has reached this point, it is often very difficult to keep the dog quiet until complete healing has taken place. The dog generally has to be restricted to only leash walking for a minimum of 4-6 more weeks after surgery (no running, only outside on a leash, including the backyard). The exact amount of time depends upon the extent of the injury and the corrective procedure performed. The veterinarian's instructions regarding exercise during the recovery period should be followed very carefully.