



DANADA VETERINARY HOSPITAL, P.C.

Luxating Patella (Dislocated kneecap)

The patella, or kneecap, should be located in the center of the knee joint. The term "luxating" means out of place or dislocated. Therefore, a luxating patella is a kneecap that moves out of its normal location.

Causes/Contributing Factors

The patella is located within the patellar ligament. This ligament is part of the quadriceps (thigh muscles) that are found on the front half of the upper hind limbs. The quadriceps start at the pelvis and extend down the leg ending in the patellar ligament which crosses over the knee (stifle) joint and connects at the front of the tibia (larger bone of the lower half of the leg). When the thigh muscles contract, force is transmitted through the patella and through the patellar ligament to the point of attachment on the top of the tibia. This results in extension (straightening) of the knee. The patella rests in a groove or track along the bottom edge of the hip bone (femur) In normal dogs, the patella slides harmlessly up and down in this groove when it moves. However, since in dogs with any malalignment of the patellar ligament attachment, the forces on the knee push the patella out of its track.

In most cases, malalignment occurs to the medial (inside) aspect of the knee. As forces pull the patella in an abnormal direction, the kneecap cartilage wears down and the patella begins to luxate out of place.

Prevalence

Patellar luxation is most common in small toy breeds of dogs. However, it can occur in larger dogs.

Clinical Signs

There are four grades for patellar luxation.

Grade I luxation – The kneecap only moves out of place occasionally. Most of these dogs do not exhibit clinical symptoms, but location can be palpated on exam.

Grade II luxation – The patella freely moves in and out of its track at the bottom of the femur. Many of these dogs may also be asymptomatic or may experience rare bouts of hopping or skipping. Many dogs do not progress past grade II in their lifetimes.

Grade III luxation – The patella pops out freely, but occasionally gets stuck out of place. These dogs tend to have frequent bouts of hopping or kicking their leg out to help move the patella back into place. The locking occurs because the groove or track that usually holds the patella is becoming arthritic and catching the patella.

Grade IV luxation – The patella is consistently out of place. The femoral groove is often shallow or arthritic, and dogs in this stage experience common lameness, hopping, or favoring of the affected limb.

As patellar location progresses, the excessive forces on the knee, and the abnormal movement of the patella predispose affected dogs to osteoarthritis. Dogs with patellar luxation are also statistically more likely to tear their cruciate ligament (aka the CCL, which is like a human's ACL), which helps support the weight of the limb.

Diagnosis

Luxating patellae can almost always be detected with a routine orthopedic examination of the knee joint. Additionally, the veterinarian can assess for secondary changes such as ligament damage or arthritis with use of x-rays.

Therapy

Grade I and II luxations can be managed medically if lameness is not occurring often. Surgery offers the best long-term outcome, but many pet parents do not elect to go to surgery with lower grade luxations because their pets are not experiencing obvious lameness or pain. Instead, joint protecting medicines such as glucosamine, chondroitin, green-lipped muscle extract, UCII and others are used to preserve the existing cartilage and slow the progression of the disease. Pain medication and anti-inflammatories are used as needed to manage lameness.

Grades III and IV (Pets with persistent lameness) are always best treated surgically. In this procedure the point of attachment of the patellar ligament is relocated to a more appropriate spot and the groove at that bottom of the femur is deepened. This results in a more appropriate force moving through the patella after surgery. Surgery may also be recommended if a surgeon needs to correct other injuries within the knee such as a CCL tear.

Prognosis

Surgical repair is highly successful. The prognosis is more favorable when the luxation is not severe or if repair occurs before arthritis develops.