

# Medial Patella Luxation

**Definition:** Medial patellar luxation is a condition in which the patella (knee cap) pops out of its groove.

**Cause:** This condition is often diagnosed in small breed dogs, usually affecting both rear legs and can be either traumatic or congenital. Congenital MPL is far more common and is most often the cause of MPL in small breed dogs (Yorkshire terriers, Maltese, Poodles) and cats. Large breed dogs may also be affected and the patella can luxate laterally or medially. The condition is often noticed by the owner between 6-12 months of age.



**Pathophysiology:** When medial patellar luxation is present early in life, the major muscle groups of the thigh pull toward the inside of the leg, putting abnormal pressure on the stifle (knee joint) cartilage. The result is a bowlegged stance and an abnormal pull on the patella. A number of anatomic pelvic limb deformities can result from the structural manifestation of medial patellar luxation. These include bowed legs, coxofemoral (hip) joint abnormalities, and outward rotation of the limb.

When the patella is in its normal position, the cartilage surface glides smoothly and painlessly along the cartilage surface of the trochlear groove with little or no discomfort. As the patella pops out of its groove, these cartilage surfaces rub each other and if not corrected cause cartilage damage.

**Clinical Signs (symptoms):** Your pet may cry and try to straighten the leg to pop the patella back into position, or they may hold the limb up until muscle relaxation allows the kneecap to reposition itself. This causes an intermittent lameness or episodes of non-weightbearing on the limb. There is little or no discomfort until the cartilage is eroded to the point where bone touches bone. From this point on, each time the patella pops out into its abnormal, luxated position it will cause pain. This explains why many dogs have no clinical signs until they reach adulthood when progressive cartilage wear creates an acutely painful condition.

**Grades:** There are four assigned grades based on the severity of the luxation.

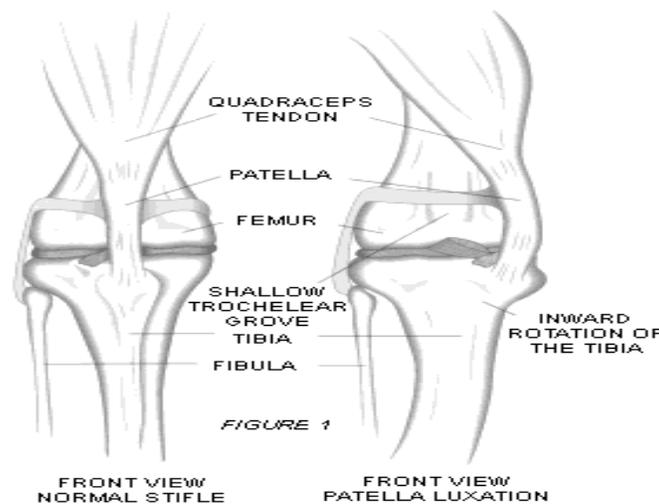
Grade 1 – “in-in” (in all the time, can be pushed out, but immediately returns to the trochlear groove)

Grade 2 – “in-out” (in most of the time, dog can self-correct when it comes out, and when pushed out the patella generally will remain out for a period of time, even with stifle joint flexion/extension)

Grade 3 – “out-in” – the patella is luxated either all the time or most of the time, but can be pushed back into the trochlear groove manually

Grade 4 – “out-out” – the patella is permanently out and cannot be pushed back in. These dogs will often have an obvious limb deformity.

The prognosis for grade 1 to 3 is good, and is more guarded in grade 4.



### **Medical or Surgical management?**

Dogs with grade 1 and asymptomatic Grade 2 patella luxation may just be monitored. They may, however, acutely worsen with no or mild trauma, causing persistent lameness or increased frequency of clinical signs.

Dogs with Symptomatic Grade 2 – if typical clinical signs are present (intermittent non-weightbearing or a persistent lameness), surgical correction is recommended. We also recommend surgery on dogs with grade 2 luxation if there evidence of cartilage erosion on palpation.

Dogs with Grade 3 and Grade 4 – early surgery is recommended to try to minimize the development of cartilage erosions, arthritis (degenerative joint disease) and cranial cruciate ligament rupture. Even if these dogs are still growing, early surgical correction is essential, especially grade 4.

**Surgical correction** consists of a stabilizing and realigning the patella. Stabilization is achieved by performing a trochleoplasty (deepening the groove that the patella lies in while preserving the articular cartilage), and joint capsule and fascial tightening. Realignment is achieved with a tibial tuberosity transposition (moving a portion of the attachment of the patella to realign the mechanical forces of the quadriceps muscle and reattaching the bone with small pins).

It is important that your pet have strict crate confinement after surgery to allow proper healing. Usually full function is returned in 2 months. Potential complications from surgery include relaxation and pin migration.

**Patella luxation in cats:** Cats can be very debilitated even with grade 2 patella luxations and early surgical stabilization is recommended.