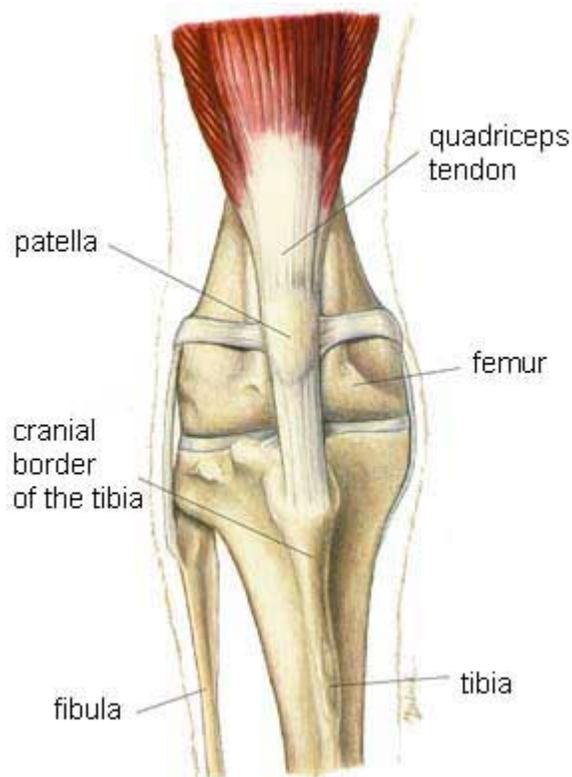


## Patella Luxation in Dogs and Cats

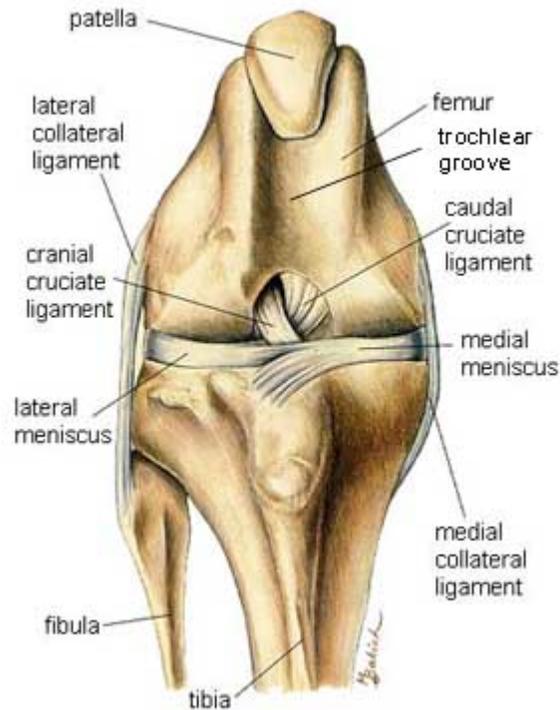
The knee is a complex structure consisting of muscles, ligaments, tendons, cartilage, and bones. These components must align properly and interact harmoniously in order to function properly. Three bones are included in the knee: the femur, the tibia, and the patella (kneecap).

### Normal Knee Joint of a Dog

The patella or kneecap moves up and down in the lower part of the femur called the trochlear groove. In patella luxations, the trochlear groove is usually shallow, causing the kneecap to displace or luxate.



**Normal Knee Joint of a Dog Showing Muscles, Tendons and Ligaments**



**Normal Exposed Knee Joint of a Dog**

### **Symptoms of Patella Luxation**

Patella luxation (dislocation) is a condition where the kneecap does not align properly with the femur and tibia. The condition can be temporary or permanent and range from complete dislocation to mild patellar instability. The dislocation can occur laterally (toward the outside of the knee joint), medially (toward the inside), or in both directions.

There are 4 types of patella luxations.

Grade 1 – The patella is positioned normally but can be luxated with slight manual pressure.

Grade 2 – Spontaneous luxation occurs; however, it can reduce spontaneously or can be replaced manually.

Grade 3 – The patella is luxated most of the time; however it can be replaced manually.

Grade 4 – The patella cannot be reduced manually.

Most commonly, the disease is a medial luxation and occurs as a result of a congenital (existing at birth) condition in toy and miniature breeds of dogs. Dog breeds most commonly affected by this condition are poodles, Yorkshire terriers, Maltese and bichon frise. Dogs with medial patellar luxation exhibit a bow-legged stance. In older animals, the condition appears suddenly and is often the result of a traumatic injury.

Lateral luxating patellas are more common in large breed dogs and are also the result of traumatic injury (particularly car accidents).

Major clinical symptoms of medial luxating patella are mild to severe lameness. Often an owner notices a little skip in the dog's step. The dog may run on three legs, then use all four as if nothing has happened. Lameness occurs when the patella luxates but resolves when the patella returns back to its normal position. Some animals can self-correct the luxated patella by entirely extending their leg behind them.

Patellar luxation is occasionally seen in cats. The condition is generally a medial luxation associated with a non-painful lameness. Surgery is recommended if the lameness persists.

### **Treatment for Patella Luxation**

Treatment for patella luxation varies from one animal to another. Animals that show no sign of pain or lameness are treated conservatively. This treatment includes anti-inflammatory medication, restricted exercise, and rest. Animals that are affected more severely are generally candidates for surgery.

The objective of any surgery aimed to correct patella luxation is to stabilize the kneecap anatomically (in the trochlea) while maintaining full range of pain-free motion. The outcome following surgery is generally satisfactory; however, it depends on the individual case and severity of arthritis prior to surgery. Unfortunately, sometimes luxations recur and may either be in the same direction or other direction, but are usually of lower grade than the original luxation. Dogs affected with congenital medial luxation of one knee have a fifty percent chance of developing the condition in the other leg.

### **Surgery**

Most surgical corrections for medial luxation of the patella are centered on deepening the trochlea groove, tightening the tissues surrounding the joint (lateral imbrication of the joint capsule) and relocating the bone where the patella ligament inserts (tibial crest transposition). Animals with severe luxation require all three corrective procedures. In very mild cases, lateral imbrication is all that is needed. In toy breed dogs, the trochlea groove is often shallow and when deepened, the patella stays in place.

Medial patella luxation is not possible to prevent. The condition is commonly seen in toy and small breed dogs. In young growing animals, patella luxation needs to be corrected as soon as possible as it can lead to severe deformations of the leg. If the condition occurs bilaterally in a very young dog, some surgeons prefer operating on both legs at once.