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Luxating Patella or Kneecap in Dogs

What is a luxating patella?

The patella, or "kneecap," is normally located in a groove on the end of the femur, or thigh bone.

"Term *luxating* means 'out of place'."

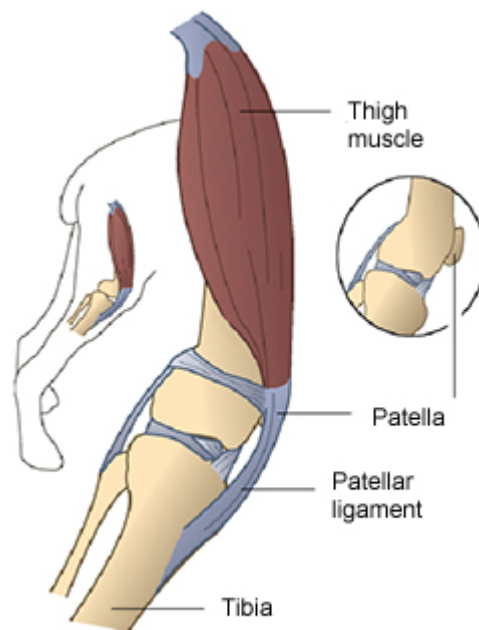
The term *luxating* means "out of place" or "dislocated". Therefore, a luxating patella is a kneecap that moves out of its normal location. It generally resumes its normal anatomical orientation after only a brief period of luxation in most dogs.

What causes a patellar luxation?

The large muscles of the thigh (quadriceps) attach to the top of the kneecap. A ligament, known as the *patellar ligament*, attaches the quadriceps muscle to a point on the center front of tibia (the bone in the lower leg) just below the knee joint. The kneecap sits on the undersurface of this ligament. When the thigh muscles contract, the force is transmitted through the patellar ligament, pulling on the tibia. This results in extension or straightening of the knee. The patella slides up and down in its groove (the *trochlear groove*) and helps keep the patellar ligament in place during this movement.

"Many toy or small breed dogs...have a genetic predisposition..."

Many toy or small breed dogs, including Maltese, Yorkshire terriers, French poodles, and Bichon frise dogs, have a genetic predisposition for a luxating patella due to a congenitally shallow trochlear groove. In some dogs, (especially ones that are bowlegged) the patella may luxate because the point of attachment of the patellar ligament is not on the midline of the tibia. In these cases, is almost always located too far medially (toward the middle of the body or the inside of the leg). As the thigh muscles contract, the force applied to the patella pulls it medially or to the inside of the knee. After several months or years of this abnormal movement, the inner side of the trochlear groove in the femur may wear down. Once the side of the groove wears down, the patella is then free to dislocate or slide toward the inside of the knee.



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When the patella luxates, the dog has difficulty bearing weight on the leg, although there are not always any signs of pain. The dog may learn how to kick the leg to the side, which will hyperextend the knee and snap the patella back into its normal location. Medically, there are several degrees or grades of patellar luxation, ranging from a mild form in which the

kneecap only luxates when force is applied directly to it, to moderate luxation in which the kneecap pops out frequently, all the way to a severe luxation, in which the kneecap may be dislocated the majority or all of the time. In affected dogs, one or both kneecaps may luxate, sometimes to a different degree.

Does a luxating patella cause any long-term problems for my dog?

This depends upon the grade of the luxation and whether both legs are affected to the same degree. Some dogs can tolerate this condition for many years, even for their entire life.

"Patellar luxation predisposes the knee to other injuries..."

However, patellar luxation can result in significant osteoarthritis in the knee joint and predisposes the knee to other injuries, especially torn cruciate ligaments. With advancing age, arthritic changes often progress in the joint due to the abnormal movements and stress, resulting in pain or decreased mobility.

Can a luxating patella be corrected?

Surgery should be performed if your dog has recurrent or persistent lameness or if other knee injuries occur secondary to the luxating patella. Surgical repair generally involves three steps:

- 1) The point of attachment of the patellar ligament to the tibia is transplanted to its proper location.
- 2) The groove in the femur is deepened so the patella will stay in place.
- 3) The capsule around the joint is tightened. When the patella luxates, the joint capsule stretches. Tightening it helps to prevent the patella from luxating again.

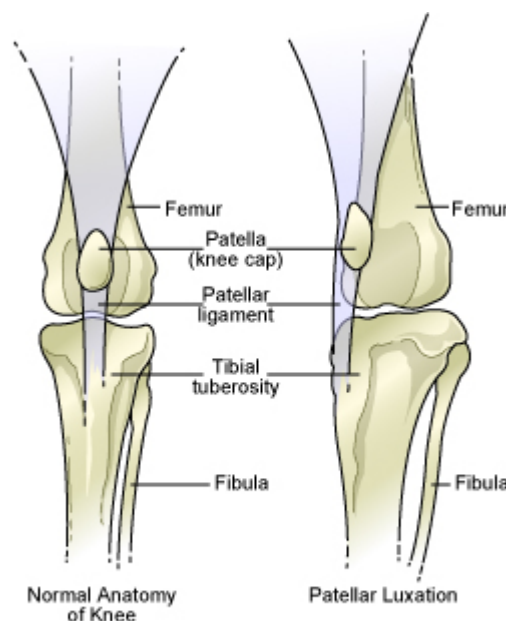
Post-operatively, the recovery period is usually very rapid, especially with appropriate pain management.

What is the prognosis?

If your veterinarian performs surgery before arthritis develops or other knee injury occurs, the prognosis is excellent. Your dog should regain full use of its leg. However, if arthritis has already developed in the knee joint, your dog may experience intermittent pain in the leg and the arthritis may progress. Long-term anti-inflammatory medications and joint supplements such as glucosamine and omega-3 fatty acids are used to ensure your pet remains pain-free.

Reviewed and edited by Dr. Carl Porter DVM, MVSc, DACVS

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