WHAT IS MEDIAL PATELLAR LUXATION (MPL)?

Patellar luxation is a condition in which the patella (kneecap) slips out of its normal location within the stifle (knee). It has been described as the most common congenital malformation in dogs, diagnosed in 7% of puppies, and can manifest in different types of luxation and varying grades of severity. In about half the cases, luxation occurs in both knees. Small-breed dogs are affected at 10 times the rate found in large breed dogs.

In a normal stifle, the patella rides inside a groove located toward the bottom end of the femur (thigh bone). It is held in place by the patellar tendon, which attaches at the top to the quadriceps (thigh muscle) and at the bottom to the upper end of the tibia (shin bone). The quadriceps, patella and patellar tendon are normally well-aligned and act to extend the lower leg. A dog with a patellar luxation generally has an abnormally shallow femoral groove and there is a malformation of the system that extends the leg.

This allows the patella to slip toward the inside of the stifle (medial patellar luxation) or toward the outside of the stifle (lateral patellar luxation).

WHAT ARE THE COMMON SYMPTOMS OF MPL?

The clinical signs of MPL vary greatly with the severity of the disease, ranging from non-symptomatic to complete lameness in the affected leg. Also, signs may come and go as the patella luxates and then moves back into the correct location. MPLs are graded according to severity as follows:

- **Grade I:** The patella is loose, but generally stays in the groove. The vet may easily luxate the patella and return it to normal position. The dog may occasionally skip or hop, and is painful only when the patella is luxated.

- **Grade II:** The patella is in normal position more than it is out. Frequency of luxation increases and dog carries the leg more often. The vet can return the patella to a normal position by manipulation.

- **Grade III:** The patella is out more than in. The dog may appear bow-legged. The vet can return the patella to a normal position by manipulation, but it will spontaneously pop back out when the dog moves the leg through its normal range of motion.

- **Grade IV:** The patella is permanently luxated. The dog may not weight-bear on the leg at all. The vet cannot return the patella to a normal position by manipulation.
MY DOG SEEMS FINE MOST OF THE TIME. DOES HE NEED SURGERY?

Each time the patella slides out of the femoral groove, the cartilage lining the stifle joint is damaged. This leads to progressive degenerative osteoarthritis and pain. Eventually, the cartilage may completely be worn away, exposing areas of bone. Also, whenever the patella is out of normal position, the stifle joint becomes unstable, which can lead to rupture of the cranial cruciate ligament (known in humans as the ACL). In puppies with MPL, the abnormal alignment of the patella can lead to progressive deformities of the stifle, tibia and femur.

Your surgeon will make treatment recommendations for your dog based on a number of factors, such as clinical symptoms, age, history, activity level, radiograph results and palpation of the knee.

In cases of Grade I luxation with no clinical signs, no surgical correction may be necessary, especially for small dogs. In this case, your dog should be monitored regularly for increase in severity. In cases of Grade II-IV luxation, surgical intervention is recommended to prevent the severity from increasing with time.

WHAT IS THE PROGNOSIS FOR MY DOG?

Over 90% of dogs with corrective surgery go on to lead normal, pain-free lives. The prognosis may be more complicated for dogs with Grade IV luxations and more severe bony deformities.

Some degree of patellar instability will remain in up to 50% of cases, but this does not generally cause further lameness. Signs of osteoarthritis will likely progress on radiographs, but this does not necessarily mean your dog will have clinical signs. Keeping your dog trim and doing low impact exercise will help maintain healthier joints.

WHAT HAPPENS DURING SURGERY?

Your dog will be admitted to the hospital the morning of surgery and will generally go home the next day.

The surgeon will choose from several different techniques for correction of the luxation, depending on the severity of the luxation and the dog’s anatomical defects. The most common procedures involve the following strategies:

- Reconstruction of the soft tissues surrounding the stifle to stabilize and realign the area
- Deepening of the femoral groove so that the patella is deeply seated in normal position
- Transposing the tibial crest where the patellar tendon attaches, in order to realign the system that extends the leg
- Correction of an abnormally-shaped femur through cutting the bone, correcting the deformation and immobilizing it with a bone plate

After surgery, post-op radiographs will be taken as necessary based on the techniques performed in surgery. Pain control for your dog will be addressed throughout the dog’s stay at the hospital and the first weeks of recovery at home.

WHAT WILL RECOVERY AND REHABILITATION BE LIKE?

For the first 6-8 weeks after surgery, your dog will require confinement to a small room or crate when unsupervised. When you are at home and can directly supervise, your dog can be out with you if he or she is able to remain calm and quiet. No running, jumping or playing with other pets is allowed during this time.

Radiographs may be required at 6 and 10 weeks post-op depending on which surgical procedures were used in your dog’s case. After getting the go-ahead from your surgeon, you should slowly begin to increase your dog’s activity to normal level over a four-week period.

WHAT ARE THE POTENTIAL COMPLICATIONS OF THIS SURGERY?

As with any surgery, there is an anesthetic risk. Anesthetic complications are rare, however, and risk in minimized by our use of best practices in anesthesia choice and extensive monitoring of your pet by our surgeons, licensed veterinary technicians, and advanced monitoring equipment. Reported complications are infrequent, but may include infection, migration/breakage of surgical implants, or re-luxation of the patella.