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## PATELLAR LUXATION CORRECTION

### WHAT IS IT?

The patella or kneecap is a small bone buried in the tendon of the quadriceps muscles of the thigh. Patellar luxation is a dislocation of the kneecap. Dogs of any age or breed may have patellar luxations, but small and toy breeds are most frequently affected. It is usually a congenital developmental disease (80%) but it can result from trauma to specific soft tissue or skeletal structures. Patellar luxation affects both knees in 50% of all cases.

The patella normally rides in the groove within the stifle (Figure 1a). The patellar tendon attaches on the tibial crest, a bony prominence located on the tibia, just below the knee. The quadriceps muscle, the patella and its tendon form the “extensor mechanism” and are normally well-aligned with each other. Patellar luxation is a condition where the kneecap rides outside the femoral groove when the stifle is flexed (Figure 1b). It can be further characterized depending on whether the kneecap rides on the inner (medial) or on the outer (lateral) aspect of the stifle. Patellar luxation can occur in cats as well.

Figure 1a

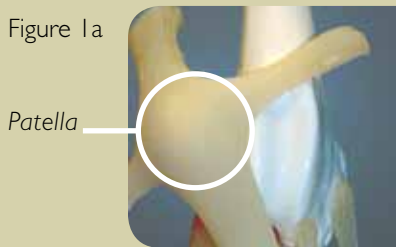






Figure 1b



### WHAT WILL HAPPEN IF PATELLAR LUXATION IS LEFT UNTREATED?

Every time the kneecap rides out of its groove, cartilage (the normal lining of bones within joints) is damaged, leading to osteoarthritis and associated pain. As the trauma continues, the knee cap may ride more and more often out of its normal groove, eventually exposing areas of bone. This can lead to chronic lameness and ultimately arthritis in the joint.

### INDICATIONS FOR PATELLAR LUXATION CORRECTION

-  Patients with grade I luxations (patella unstable but remains inside of the trochlear groove) generally show no lameness and do not need surgery.
-  Patients with grade II luxations (patella luxates out of position temporarily) occasionally carry the limb up for a few steps and may be seen shaking or extending the leg prior to regaining full use. As the disease progresses in duration and severity, this lameness becomes more frequent and eventually becomes continuous.
-  Lameness is frequent in patients with grade III luxations (patella usually luxated but can be reduced) varies.
-  Patients with grade IV luxations (permanently luxated) tend to walk in a “crouched” position because they are unable to extend the stifle properly.

X-ray of a medial patellar luxation  
(kneecap is on the inside of the femur).



# PATELLAR LUXATION CORRECTION

## PROGNOSIS

- About 95% of cases will heal without complication, recover most of their strength and range of motion and live a normal life.
- Osteoarthritis (degenerative joint disease) often progresses despite surgical treatment, but does not tend to cause serious problems later in life.
- The infection rate (less than 1%) for patellar luxation correction is less than average for other orthopedic procedures.

## POSTOPERATIVE CARE



The surgeon who has operated on your pet will best be able to advise you and establish a personalized post-operative treatment plan. For example, pain medications are usually recommended for 1-2 weeks with suture removal occurring 10-12 days after the day of surgery.

**FIRST 6 WEEKS:** Mostly room rest, short walks on a leash and light physical therapy. You will often recheck with your surgeon at 6 weeks for an exam and possible x-rays.

**WEEK 6-12:** Progressive increase in activity until the end of week 12. Physical therapy may be indicated to help your pet "wear in" their new groove.

## PROCEDURE

- Surgical correction is indicated for most patients of any age affected with a lameness resulting from a patellar luxation. In some patients, a first surgical correction can be required as early as 4 months of age to allow proper development of the stifle structures. Most cases can be corrected using a combination of tibial crest transplplantation (TCT), trochleoplasty and lateral capsular imbrication.
- TCT allows the function of the quadriceps mechanism to be re-established. A chisel is used to cut a superficial layer of bone at the tibial crest where the patellar tendon is inserted. The patellar ligament is repositioned so it is properly aligned. Once in the new position, it is usually stabilized with two pins.
- TROCHLEOPLASTY: Two commonly used techniques are trochlear wedge recession and trochlear bloc recession. They are used to deepen the trochlear groove to help the patella to track properly.
- LATERAL CAPSULAR IMBRICATION: It is used to shorten the stretched ligaments and give more support to the outside (lateral) aspect of the joint capsule to keep the patella in position.
- PATELLOPLASTY: Occasionally the patella is too wide to fit in the trochlear groove and needs to be reduced in width.
- Correction of abnormally shaped femurs and tibias is occasionally required in cases where the kneecap rides outside of its groove most or all the time. This procedure involves cutting the bone, correcting its deformation and stabilizing it with a bone plate.



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