Vet Surgery Services

Patellar Luxation

What is patellar luxation?

The patella ('knee cap') connects the quadriceps ('quads') muscles to the top of the tibia (shin bone). The patella articulates with the femur (thigh bone) within a groove.

Patellar luxation is a common condition of small to medium breed dogs where the patella frequently dislocates from its groove or occasionally is permanently dislocated. Dogs with patella luxation frequently show a skipping lameness where they may intermittently hold the leg up for a few strides before placing it normally again. Cats occasionally have patellar luxation, clinical signs in cats are less obvious but may include reluctance to jump, crouched gait or sudden vocalisation.

The exact cause of patellar luxation is often variable, frequently small changes in the alignment of the animal's leg that are present since birth predispose the dog to luxation, the groove the patella sits in may be shallow or the femur may have a deformity which predisposes to luxation; with time and repeated luxation there may be worsening. Frequently osteoarthritis develops which may also worsen lameness or other clinical signs seen.

How is patellar luxation diagnosed?

Patellar luxation is generally diagnosed on a conscious clinical examination, feeling the patella as the stifle (knee) is flexed and extended to identify whether it moves from its normal location is generally enough. Some dogs may be very tense and not allow a thorough exam, in these dogs repeating the exam under sedation may be needed.

Can other problems occur with patellar luxation?

Other common conditions of the stifle joint in dogs can worsen patellar luxation, particularly disease of the cranial cruciate ligament. This ligament is important in controlling rotation of the femur and tibia. Excessive rotation that occurs when this ligament is insufficient can worsen patellar luxation. Disease of the hip can sometimes contribute to alignment issues; the significance of any concurrent hip disease needs to be assessed before treatment.

How is patellar luxation treated?

Treatment for patellar luxation is always individualised. Addressing the unique problems is important for the best outcome.

Multiple treatments are often combined during an initially surgery. The typical treatments carried out on most dogs including a tibial crest transposition – moving the insertion point of the patellar ligament from its original location to the site to reduce sideways pull on the patella. Release incisions in the muscle and connective tissue around the patella to allow it to move sideways. Tightening sutures on one side to pull the patella in the correct direction. Deepening of the groove the patella sits in. Occasionally more advanced procedures may be needed – osteotomies of the femur to straight it out or alter rotation; moving the attachment point up or down to better sit the patella within the groove of the femur.

What can I expect after surgery?

Surgery aims to reduce the frequency of or eliminate the luxation and reduce the clinical signs you noticed. However, this a major surgery and there needs to be strict care in the weeks to months afterwards to get the best outcome. Activity needs to be strictly controlled whilst the incisions and bones heal. Typically, this will be on the lead only for 6-8 weeks followed by slow introduction to more normal activity.

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Physiotherapy and hydrotherapy can be utilised to further improve recovery.

Animals with significant osteoarthritis may need ongoing management of this and all animals with patella luxation are likely to develop this with time which may need management in the future.

What are the potential complications?

Complications include recurrent luxation and occasionally ongoing lameness. Complications relating to the surgical incision include wound breakdown and infection. Deeper infection such as in the stifle joint or around the metallic implant is a more serious problem. There is risk of fracture or poor healing through the bone cuts and very occasionally movement of the wedge of bone created to deepen the groove. Complications also include those related to the anaesthetic – severe reactions including death are extremely rare (0.1%) but sadly can occur.