Patella Luxation
in dogs and cats

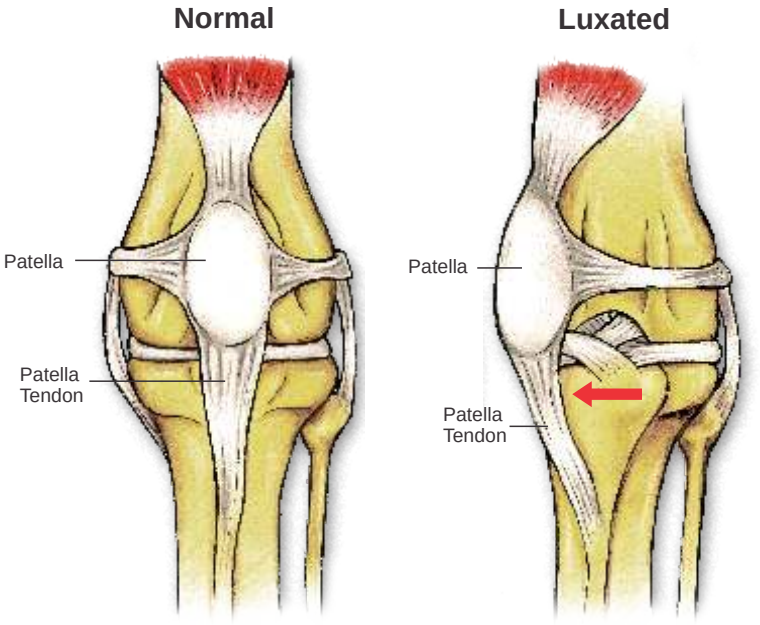
What is patella luxation?

Patella luxation (move out of place) in small animals such as dogs and cats is a very common finding by veterinarians.

Whether the luxation is found in a general clinical examination or after an injury, our main aim is to ensure the pet has normal walking and running motion, and is pain free.

Luxation means the same as dislocation or moving out of place. A patella is referring to the kneecap that rides within the groove of the lower part of the main upper legbone (the femur). The trochlear groove allows the patella to run smoothly over the knee joint.

In some animals, the patella either pops out of the groove or does not run smoothly within the groove, causing physical dysfunction of the leg and often pain.



Why does your pet have patella luxation?

Animals that have a luxating patella either on 1 side or both, do so because of;

- A congenital (existing at birth) deformity in the anatomy of the leg
- An injury causing the ligaments around the patella to become loose

Congenital
The patella normally sits within the trochlear groove and is attached above and below by ligaments and tendons. In an animal with normal anatomy, the attachments ensure that the patella runs vertically and so cannot pop out of joint.In an animal with abnormal anatomy, the ligaments and tendons do not run vertically and as such direct the patella inwards. When the knee moves in certain planes during flexion and extension it is allowed to pop out of joint. The animal may correct this itself just by flexing or extending the knee. In a few animals the patella may permanently be sitting out of the groove.

Accident or Injury
The patella is prone to dislocate in some animals after an accident or injury. It may be forcibly pushed out of joint causing immense pain and possible permanent loosening of the patella ligaments and tendons. It may be possible to relocate the patella back into the groove but it might then be too loose to remain in position.

How is patella luxation diagnosed?

The diagnosis of luxating patella may be done in a normal clinical consultation by manual palpation (feeling the knee). Occasionally, the degree of luxation, contributing anatomy, and chronic arthritic changes may need to be visualized by radiography (X-rays).

A grading score is used by vets to allow us a common understanding of to what degree the luxation has occurred.

- **Grade 1** - the patella can be moved by palpation to dislocate but pops back in when released

- **Grade 2** - the patella can be moved to dislocate or it can happen automatically when the knee is flexed. It stays in that position until pushed back in or until the animal extends it's leg.

- **Grade 3** - the patella is luxated most of the time but can be pushed back into the groove on extending the knee. Moving the knee will cause it to pop out again though.

- **Grade 4** - the patella is permanently out of joint and cannot be replaced.

What is the treatment?

Conservative

In animals with grade 1 and in some grade 2 cases, a conservative approach may be used as long as the patient is not experiencing extreme discomfort.

Veterinarians may recommend a non steroidal anti inflammatory medication to prevent pain , settle down inflammation and prevent arthritic changes occuring.

Exercise can also help in these cases. Continuing to keep the animal mobile, preventing muscle atrophy (wasting away) or degeneration (deteriorating) may be enough to keep the function of the knee joint going. The wasting away of muscle will allow the ligaments and tendons to become loose and the patella will be more likely to luxate.

Surgical

The theory of the surgical approach is to tighten the patella ligaments and tendons, re-align the attachments and deepen the groove, so that the patella cannot dislocate anymore.

Trochleoplasty / sulcoplasty
This is the deepening of the trochlear groove. This can be done a number of ways depending on the view of the veterinarian.

A common method is to cut a wedge shape in the groove and temporarily remove that section. A second deeper groove is then cut and this cartilage removed. The initial wedge is then replaced into the groove. The initial wedge will now sit deeper within the groove hence allowing the patella to run better and have less chance of jumping out of the groove. This method can also be done as a square cut rather than wedged.

Tibial Transposition
In this surgical method, the tibial tuberosity – the ridge on the shin bone – is partially removed from the bone while leaving the patella attachment – and re-positioned back on in a more lateral position.

The ridge is pinned back on with K-Wires (a stainless steel pin). This allows the moving patella to have a new direction to run in such that it is unlikely to want to jump out of the groove.

Lateral Imbrication
The closure of the knee will often involve tightening up the joint capsule on the outside (lateral side). This is done by slightly overlapping the layers as they are brought together to close the joint area.

Post operative care

Patients return to normal use of the leg within 8-12 weeks, though many will be ready to take part in normal activity much earlier.

Antibiotics and pain relief are continued when the patient heads home and anti-inflammatories may also be prescribed to decrease post operative swelling and discomfort.

When you get your pet home it is very important that you restrict exercise to short walks on lead to toilet only. No running laps around the block! During recovery it is best to confine your pet to a small space, gradually increasing the duration and frequency of their walks as time goes on.

The surgery itself is only one part of the healing phase, the other part comes from the post operative care you provide to your pet at home, so you must restrict your pet from moving around too much.

Prognosis

Patients having undergone surgery do really well after the healing process has occurred. It is rare to have an animal need repeat surgery as the surgery is a permanent change to the anatomy of the joint.

Non surgical cases can and do develop arthritic changes to the knee. This can be minimised by the use of anti-inflammatories.

If you have any further questions regarding this condition, please don't hestitate to contact us at the practice. We will be more than happy to address any of your concerns.