

Patellar Luxation

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The patella is a small bone that is located in the stifle (knee) joint. It is positioned in the junction of the quadriceps musculature and the patellar ligament and sits within the cartilage lined trochlear groove (sulcus) in the femur. The patella glides in this groove and assists in the extension and flexion of the joint.

Patellar luxation (PL) occurs when the patella pops or slides out of the trochlear groove (Fig.1). Most frequently it moves to the inside of the knee (medial), but outside (lateral) luxations can also occur. Patellar luxations are a congenital problem and commonly affect both hind limbs. One leg may be more symptomatic than the other leg.

Luxation can also be the result of trauma.

When the patella luxates it can cause pain. Many dogs with PL will skip or hold the affected leg up until the patella goes back into a normal central position. If both hind legs are symptomatic the dog may be reluctant to walk or jump up.

Chronic PL results in stretching and thickening of the joint capsule and some damage to the cartilage. PL also places more strain to the Cranial cruciate ligament, which may then tear.

Severity of PL is categorized by a grading scale.

Grade 1: Mild, intermittent luxation

Grade 2: More frequent. Patella is mostly central

Grade 3: Patella is luxated out most of the time

Grade 4: Patella is luxated out and fixed in position

Surgical correction involves a combination of:

1. Trochleoplasty – deepens the sulcus (Fig 2)
2. Release of restrictive joint fibrous tissue
3. Imbrication by suturing stretched tissue
4. Placement of anti-rotational sutures
5. Tibial tuberosity transposition TTT (Fig. 3)
realigns and straightens the patellar tendon

Prognosis:

Once the patella is stabilized in a central position discomfort is resolved and the use of the leg improves. The joint and tissues must have time to heal before the pet can return to full activity. (~2-3 months).

Off-leash activity, running and especially jumping must be avoided. Confining small pets to a large kennel helps. Risk of re-luxation or failure of the repair is higher if the pet is too active too soon. Prognosis is better in younger pets with lower Grade of luxations.

Physical therapy is encouraged after surgery to maintain and strengthen the muscles.

Figure 1

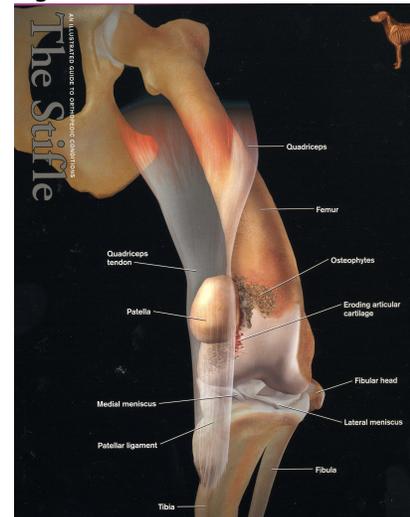


Figure 2

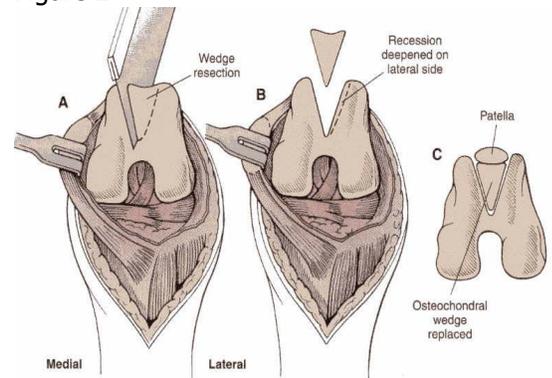
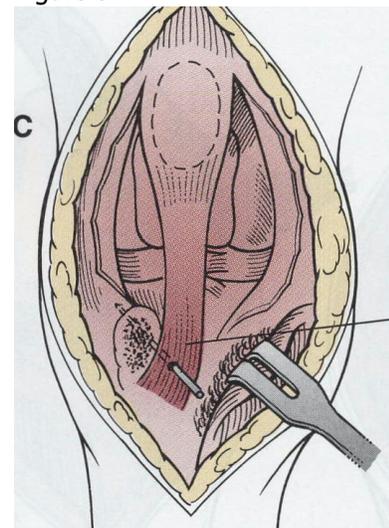


Figure 3



Illustrations are reproduced from the following sources:

Figure 1: Novartis Animal Health "An Illustrated Guide to Orthopedic Conditions":

Figure 2 and 3 : Johnson AL, et al. Comparison of Trochlear Block Recession and Trochlear Wedge Recession for Canine Patellar Luxation Vet Surg 30:140-150, 2001 (Michelle Murray- illustrations)