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PATELLA LUXATION IN DOGS AND CATS

Patellar luxation is one of the most common diseases affecting the canine stifle. Medial patella luxation (MPL) is much more frequent than lateral patella luxation (LPL), and small breed dogs are most commonly affected, but it can also be seen in large breeds. Depending on the breed, between 25-50% of dogs are bilaterally affected. Patella luxation in cats has been less frequently described, but medial patella luxation is also more common in cats. It can be seen in any breed or non-pedigree cat, with Abyssinian and Devon Rex cats being predisposed.

In most cases MPL is a developmental disorder, but a traumatic aetiology is also possible. A wide variation and combination of deformities contribute to canine MPL like coxa vara, malalignment quadriceps mechanism, femoral varus, genu varum, shallow trochlear groove, hypoplasia of the medial femoral condyle, internal rotation of the tibia, medial displacement of the tibial tuberosity, proximal tibial varus or valgus, distal tibia external rotation with internal rotation of the foot, and patella alta or baja. In cats a shallow trochlea groove, medial deviation of the tibia tuberosity and underdevelopment of the medial femoral condyle have been described as underlying causes for MPL. A week association between luxating patella and hip dysplasia has also been found in cats.

A thorough work-up is required to identify all abnormalities present. Slightly different grading systems have been suggested for dogs and cats to account for the fact of relative laxity of the feline patella also in non-pathological cases.

Grading of canine and feline MPL:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Dogs</th>
<th>Cats</th>
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<tbody>
<tr>
<td>1</td>
<td>Patella can be luxated when the stifle is held in extension, but readily returns to the trochlea when released</td>
<td>Patella can be completely luxated with digital pressure, but immediately returns to normal position</td>
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<tr>
<td>2</td>
<td>Spontaneous luxation occurs, non-painful skipping lameness, mild bony deformities, tibial internal rotation</td>
<td>Patella can be completely luxated with digital pressure, and remains temporarily luxated when pressure is released.</td>
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<tr>
<td>3</td>
<td>Patella is luxated permanently, but can be returned manually, crouched gait, marked tibial internal rotation and/or more severe other bony deformities</td>
<td>Patella luxates when tibia is internally rotated without exerting direct digital pressure</td>
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<tr>
<td>4</td>
<td>Permanent, non-reducible patella luxation, severe tibial internal rotation and/or severe other bony deformities</td>
<td>Patella is temporarily or permanently luxated without any manipulation</td>
</tr>
</tbody>
</table>

A week association between luxating patella and hip dysplasia has also been found in cats.

Conservative treatment can be successful in cases with no or minimal clinical signs, but often cases require surgical treatment. Treatment aim is restoration of the quadriceps mechanism and stabilisation of the patella in the groove. A variety of osseous and soft tissue techniques can be used to achieve these goals, and, usually, a combination of techniques is required in the same case to correct MPL, with soft tissue techniques playing only a supportive role to the various osseous techniques.
A canine complication rate of 18% has been reported after MPL surgery. After tibial tuberosity transposition 6% of dog were reported with patella re-luxation versus 25% of dogs without tibial tuberosity transposition. In cats with or without tibial tuberosity transposition no statistically significant difference was found in occurrence of patella re-luxation, but over 20% of cats with tibial tuberosity transposition suffered major complications needing revision surgery. An overall revision surgery rate of around 10-15% has been reported in dogs. Clinical improvement after surgery is to be expected for most dogs and cats, but progression of osteoarthritis in all canine cases has been reported and is likely to be expected also in cats.