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Patella Instability / Patella Dislocation

Patella dislocation describes a dislocation of the patella off to the side of the knee, usually after an injury. Patellar instability can occur *following* a dislocation, or can occur due to any condition that compromises the stability of the kneecap. Unstable patella can cause recurrent (repeated) dislocations, or a feeling that the kneecap is coming out of place. Patella dislocation is the most common dislocation in the knee, but is different from a true knee dislocation, where the femur and tibia separate completely.

Symptoms:

Pain in the front of the knee is most common, especially with an acute dislocation. The kneecap may slide out to the outer side of the knee (never the inner side), and may pop back into place, or may stay dislocated. Recurrent instability may cause repeated dislocations, or a feeling that the kneecap is sliding out. Sometimes this manifests as knee instability, as the knee may give way when the kneecap slides out or starts to slide out. With an actual dislocation there is deformity, and there may be bleeding into the knee, causing it to swell.

Cause:

An acute dislocation may be caused by a fall, often with the knee bending inward, a direct blow to the knee, or a sudden bending inwards while stopping suddenly. The kneecap may be forced to dislocate directly, or may dislocate due to the quadriceps muscle pulling forcefully while the knee bends inwards. This causes a lateral force on the kneecap, facilitating dislocation. There are some developmental causes of patellar dislocation/instability, such as hypoplasia (under-development) of the trochlear groove (the v-groove that the patella "rides" in on the end of the femur), or hypoplasia of the patella itself.



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Diagnosis:

A careful history and physical examination will typically reveal patellar instability. An acute dislocation is usually readily apparent, due to the appearance of the knee, or description of the appearance if the kneecap has already slid back in. Plain x-rays will reveal a dislocated patella, or may show that the kneecap is riding slightly out of its normal position in the v-groove of the femur. There may be small fractures, either due to supporting ligaments pulling off a piece of bone, or when the kneecap slides out it can knock a piece of the patella off, or a piece of the wall of the v-groove on the femur. CT scan or MRI may be needed, and show better show fractures, under-development of the bone, or ligament tears. With a patella dislocation, there is often a partial or complete tear of the most important stabilizing ligament of the kneecap, the MPFL (medial patellofemoral ligament).

Treatment:

Most acute dislocations are treated nonsurgically, with reduction of the dislocation (usually in the E.R., or on its own) followed by bracing with the knee straight for 3-4 weeks. Crutches may be needed briefly. Surgery may be required if there are fracture fragments or loose pieces of cartilage floating in the knee. For chronic instability or repeated dislocations, bracing along with physical therapy to strengthen the knee can sometimes help, but surgery may be required for ongoing instability. Surgery often involves reconstruction of the MPFL, the main stabilizer of the patella. Other surgical procedures may be required if the bone is developed abnormally.