

PATELLAR DISLOCATION

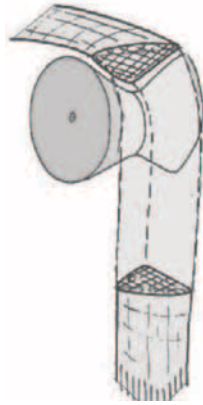
Knee Clinic

SPIKE ERASMUS

INTRODUCTION AND BACKGROUND

The mechanism whereby you extend your knee can be compared to a rope and pulley system.

The rope is represented by the quadriceps muscle, the quadriceps tendon, the patella and the patella tendon which attaches to the front of the lower leg at the tibial tubercle. This combination of structures is called the extensor mechanism.



The pulley consist of a groove in front of the upper leg called the trochlea. The kneecap (patella) is V-shaped and fits into the trochlear groove and that in combination with soft tissue structures that work like stays prevents the extensor mechanism to slip out of the groove or dislocate. The main soft tissue structures are the MPFL (medial patello femoral ligament) and to a lesser extent the lateral retinaculum that helps to stabilize the patella.

In basically all cases of patella dislocation there are underlying predisposing factors with the result that your patella dislocates easier than normal. The most important factor is a shallow groove (trochlea) and a kneecap (patella) that has a flat shape. Other factors include a patella that is too high in relation to the trochlea; so called patella alta, rotational malalignment of the lower limb and generalized ligamentous laxity.

When the patella dislocates there is always damage to the soft tissue stabilizers, specifically to the MPFL (medial patello femoral ligament) which often does not heal properly resulting in a 40% possibility that the patella will again dislocate after the first episode. Sometimes there is also damage to the joint surface of the patella and the femur.

NON SURGICAL TREATMENT

Considering the fact that the possibility of a redislocation, after a first dislocation, is only 40% we will in most primary dislocations treat the injury non-surgically.

Non-surgical treatment consists of restricting the last 30° of extension with a knee brace for 4 weeks hoping that the torn MPFL will heal sufficiently to prevent further dislocation. After 4 weeks you would need intensive muscle rehabilitation by a physio and biokineticist. In some cases, with severe underlying predisposing factors, we might consider a primary surgical stabilization.

SURGICAL TREATMENT

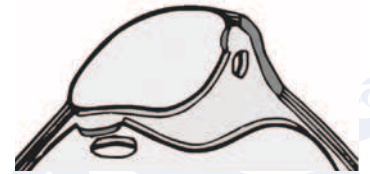
With surgery we will always do

1. An arthroscopy, looking into the joint and if necessary treat damage to the joint surface
2. A reconstruction of the medial patello femoral ligament (MPFL) with a stronger ligament than before the dislocation

Then depending on the degree and number of predisposing factors we might add some or in very extreme cases all of the following:

3. Tibial tubercle osteotomy with distal and sometimes medial displacement
4. Rotational osteotomies of the upper or lower leg
5. Trochleoplasty, where the abnormal shallow groove (trochlea) is deepened

We individualize the surgery and try to do the least amount of surgery necessary to stabilize the patella.



POSSIBLE COMPLICATIONS AND PROGNOSIS

With surgery there is always the small possibility of developing an infection, bleeding or even a blood clot. Specific to this procedure is the possibility of having difficulty in locking your knee, or loss of a few degrees of flexion. This usually resolves with intensive physio and muscle strengthening but if it does not, it may be necessary to do a small surgical release of the reconstructed ligament.

We expect that you will be able to continue your sport at the same level as before after recovery. The possibility of having a redislocation in our experience, with nearly 300 cases, is 1.2%. Depending on the amount of damage to the back of the kneecap with the original injury, you may have discomfort over the front of your knee when putting a heavy load on the kneecap.

REHABILITATION

Pre-operative:

It is important to immediately start strengthening your quadriceps muscle and specifically learn to do a good isometric contraction of the muscle while keeping the knee in full extension.

Post-operative:

0 – 6 weeks

Immediate full range of knee motion. Full weight bearing on the operated leg as tolerated. Isometric quadriceps exercises. If an osteotomy was performed you will get specific instructions on sitting down and getting up. In rare cases we might prescribe a brace.

6 – 12 weeks

Progressive strengthening exercises by a physio and biokineticist

12 – 18 weeks

Start sport specific rehabilitation

18 weeks and longer

As soon as a satisfactory level of rehabilitation is achieved you will be allowed back to the sport of your choice.