



Patellofemoral Pain Syndrome

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Patellofemoral pain syndrome is one of several potential causes of knee pain. Typically it occurs in the front of the knee due to compressive forces on the underside of the knee cap. When this happens, the knee cap grinds against the femur. This can be of an arthritic nature, but is often seen in teenage female athletes. During periods of rapid growth there is often neuromuscular imbalance that tends to occur more in females than males. Pain is often reproduced when sitting with the knees bent for a long period of time, climbing stairs, running, or kneeling.

Some potential causes of this problem are biomechanical. There is a groove on the lower end of the femur, the thigh bone, that the knee cap moves in. When there are muscle imbalances in the quadriceps, hamstrings, calves, or hips, there can be abnormal tracking of the knee cap and cause it to grind against one side of the groove. This can happen with abnormal hip movements that can be associated with muscle imbalances or weakness.

In order to treat this problem, it's important to know where it is coming from. A thorough evaluation needs to be performed including strength and range of motion assessment of the hip, knee, and ankle. Focused stretching exercises need to be performed on a regular basis to improve flexibility. Often we find tightness in the hamstrings, hip flexors, and IT band. Hip strengthening can be important to help improve faulty movements and prevent other injuries seen running and jumping. Sometimes in-shoe orthotics are needed to correct biomechanical abnormalities in the foot. Having flat feet can promote a rotation of the hip that leads to lateral patellar tracking. General lower extremity strengthening is important to develop a balance between muscle forces across the knee with focus on quadricep and hip strengthening.

With this type of problem, it is usually good to take a rest from aggravating activities if pain lasts more than a few hours after aggravating activities. Ice can be used over the involved area to reduce pain and inflammation. If the pain levels are low and subside relatively fast, it is usually ok to continue with sports. It is important to see a qualified professional to assess what has caused the problem and to develop an appropriate plan to correct it. This can sometimes be handled with a simple home program, but can also become a chronic issue and take a long time to resolve.

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