



Patellar Dislocation (Kneecap Dislocation)

With a patellar dislocation, the patella (kneecap) pops out of its usual place in the groove at the end of the femur (thigh bone). Normally, the kneecap moves up and down within this groove when the knee is bent or straightened. During dislocation, the kneecap slips out of this groove, most often moving to the outer aspect of the knee. There is often sudden onset of pain and swelling associated with patellar dislocation. In some cases, there may be injury to the soft cartilage (soft bone) surface overlying the patella or femur.

Causes

Many patellar dislocations occur in a “non-contact” manner when a person’s foot is planted on the ground and they twist or quickly change direction. In this type of injury there may be an underlying looseness (laxity) of the knee joint. Often individuals who sustain this type of injury have a particular structure of the bones such as a shallow or uneven groove for the patella or a patella that sits a little high on the femur (patella alta), which make dislocation more likely. These factors determine how the kneecap moves in its groove and may make it easier for the kneecap to slip out of place.

Additionally, a kneecap may dislocate after a direct blow to the knee. This type of injury requires a strong force to the knee and therefore often causes more damage to the surrounding structures.

Up to 25% of people with this injury have a family history of patellar dislocations. This condition is seen most often in adolescent and young adults.

Signs & Symptoms

Patellar dislocations often cause severe pain and swelling. People may have stiffness and difficulty straightening the knee. They may notice the kneecap has slipped off to the side. There may be a popping or creaking sound when they move their knee or a sensation that the kneecap is unstable. There may be tenderness along the inside border of the kneecap. Often, the kneecap will spontaneously pop back into place when the knee is straightened.

Diagnosis

People who have suspected patellar dislocations should be evaluated by a sports medicine specialist or orthopedic surgeon. The physician will take a complete medical history and ask about how the injury occurred. They will carefully examine the knee and observe how the kneecap moves in the patellar groove and evaluate the ligaments, tendons and muscles of the knee.

The physician will generally obtain x-rays to look at the shape of the kneecap and patellar groove, to evaluate for small chips of bone which may have dislodged with injury, and to rule out fractures of the kneecap or thigh bone. Further imaging with an MRI may be recommended if there is concern for other injuries to the ligaments, tendons or cartilage of the knee.



Treatment

After a patellar dislocation, the kneecap will often return to its normal position spontaneously. When a kneecap remains dislocated, a trained specialist may be able to gently push the kneecap back into its groove; in some cases, this procedure requires sedating medications and monitoring.

Treatment for an initial patellar dislocation involves a stepwise process of rehabilitation. Initially, use of a brace will keep the patella in its groove; crutches may be needed for walking more comfortably. Rest, ice and elevating the affected leg will help reduce pain and swelling in the knee. Rehabilitation exercises focusing on improving range of motion and strengthening the hip and thigh muscles to keep the kneecap aligned are added gradually. The final phase of the rehabilitation process includes skill-specific training to prepare for return to sports.

Recurrence of patellar dislocation is relatively common, particularly in younger patients. Some patients with loose bone or cartilage fragments or recurrent dislocations require surgical treatment. The type of surgery varies depending on the underlying cause of the dislocations.

Returning to Activity & Sports

Most people with patellar dislocations are able to return to sports after a supervised, stepwise rehabilitation program. A physician should assess strength and balance to determine when it is safe to return to sports. Use of a brace with sports is generally recommended for individuals following a patellar dislocation.

Preventing Patellar Dislocation

Young athletes who have experienced a patellar dislocation in the past should maintain their core, hip and leg strength and consider use a brace to lessen the chances another dislocation.