CONDITION

Kneecap dislocation

A kneecap dislocation happens when the kneecap slips out of its normal groove, usually toward the outside of the knee.

WHAT IT IS
Kneecap displaced from its normal groove

BODY SYSTEM
Bones, joints, and muscles

MAIN SYMPTOMS
Sudden knee pain, deformity, swelling, difficulty walking

WHAT CAUSES IT
Twisting or impact, often with anatomical risk factors

HOW IT IS DIAGNOSED
Examination and X-rays; MRI for associated injury

MAIN TREATMENT
Reduction, bracing, rehabilitation, and sometimes surgery

CAN IT BE CURED?
Sometimes - stability returns after treatment

IS IT AN EMERGENCY?
Sometimes - kneecap remains displaced or foot becomes numb

LONG-TERM OUTLOOK
Most recover, but repeat dislocations can occur

Overview

A kneecap dislocation happens when the kneecap, also called the patella, comes completely out of the groove at the front of the thigh bone. It usually moves toward the outside of the knee.

The kneecap may stay out of place until it is moved back, a procedure called reduction. Sometimes it slides back by itself before you receive medical care. The knee still needs assessment because cartilage, bone, or supporting ligaments may have been injured.

A dislocation is different from a subluxation. A subluxation means the kneecap partly slips out but does not remain completely displaced. Both can cause pain, swelling, and a feeling that the knee is unstable.

A first dislocation may happen during sport, a fall, or an awkward turn. Some people have features in the shape or alignment of their knee that make dislocation more likely. After one episode, the kneecap may be more likely to dislocate again.

Symptoms

Symptoms usually begin suddenly. You may feel a pop or a sensation that the knee has shifted.

Common symptoms include:

If the kneecap moves back by itself, the knee may look normal by the time it is examined. Pain, tenderness, swelling, and fear that the kneecap will move again can remain.

Some people develop a large amount of swelling caused by bleeding inside the joint. This can occur when cartilage or a small piece of bone has been damaged.

Numbness, a cold or pale foot, or difficulty moving the foot is not a routine symptom. It may indicate damage to circulation or nerves and needs emergency assessment.

- Severe pain at the front or side of the knee
- A kneecap that looks displaced toward the outside
- Rapid swelling
- Difficulty straightening the knee, standing, or walking
- A feeling that the knee is locked, unstable, or likely to give way

Causes and risk factors

A dislocation can happen when the foot is planted and the body turns, especially if the knee is slightly bent. This can occur during sports that involve pivoting or quick changes of direction.

A direct blow to the inner side of the kneecap can also push it outward. Less often, a high-energy injury such as a vehicle collision causes the dislocation.

Features that may increase the risk include:

These factors do not mean that a dislocation is certain. Some people dislocate a kneecap without a clear injury, while others have a major twist or impact without having underlying knee differences.

In younger people, the shape of the knee can continue changing as the bones grow. This may affect the risk of another episode and how treatment is planned.

- A previous kneecap dislocation or subluxation
- A shallow groove where the kneecap normally sits
- A kneecap that sits higher than usual
- Loose or very flexible joints
- Differences in leg alignment
- Weakness or poor control of the hip and thigh muscles
- A family history of kneecap instability

Diagnosis

A healthcare professional will ask how the injury happened and whether the kneecap returned to place by itself. They will examine the knee, including its swelling, movement, stability, circulation, and nerve function.

X-rays are commonly used to confirm the kneecap's position and look for fractures or pieces of bone pulled away during the injury. X-rays may still be needed if the kneecap has already moved back into place.

An MRI scan gives more detail about cartilage, bone bruising, and soft tissues. It can show injury to the medial patellofemoral ligament, or MPFL. This ligament helps stop the kneecap from moving too far outward. MRI is particularly useful when there is marked swelling, a suspected loose fragment, or continuing instability.

A CT scan is not needed for everyone. It may be used to examine complex fractures or measure the alignment of the kneecap and leg when surgery is being considered.

Treatment and management

If the kneecap remains out of place, it usually needs prompt reduction by a trained healthcare professional. Pain relief, and sometimes medicine to help you relax, may be given first. Do not repeatedly bend the knee or force the kneecap back yourself.

After reduction, the knee is examined again and imaging may be performed. Treatment then depends on whether this is a first or repeated dislocation, the amount of damage, and the shape and alignment of the knee.

Many first-time dislocations without a major fracture or loose cartilage fragment are treated without surgery. Management may include:

Keeping the knee still for too long can lead to stiffness and muscle weakness. Rehabilitation usually begins with controlled movement, followed by exercises for the thigh, hip, balance, and movement control. The pace should reflect the injury and any instructions from the treating team.

A brace may help protect the kneecap during early recovery. It does not correct every underlying cause of instability, and it is not a replacement for rehabilitation.

Surgery may be considered when there is a displaced fracture, a loose piece of bone or cartilage, repeated dislocation, or continuing instability despite rehabilitation. It may also be discussed after a first episode when imaging shows particular high-risk injuries or anatomical features.

An operation may repair or reconstruct the MPFL, remove or fix a loose fragment, or adjust the alignment of the kneecap. The appropriate procedure is based on the specific cause of instability. Surgery lowers recurrence risk in some situations, but it cannot guarantee that the knee will never dislocate again.

- A brace or knee support for a limited period
- Crutches until walking becomes safer and more comfortable
- Ice wrapped in cloth to help with pain and swelling
- Suitable pain relief
- Physiotherapy and a gradual return to movement

Complications

A dislocation can damage the smooth cartilage covering the kneecap or the groove beneath it. Small pieces of cartilage or bone can break loose inside the knee, sometimes causing catching or locking.

Other possible complications include:

Repeated instability and cartilage damage can contribute to osteoarthritis in the kneecap joint over time. Osteoarthritis means that the joint's cartilage has become worn or damaged. It is not inevitable after one dislocation.

- Another dislocation or repeated partial slipping
- Ongoing pain at the front of the knee
- Swelling after activity

- Knee stiffness or loss of muscle strength
- A continuing sense that the kneecap may give way
- Reduced confidence during sport or everyday movement

Prevention

Not every kneecap dislocation can be prevented. An unexpected fall or impact may cause one, and inherited bone shape or joint flexibility cannot be removed through lifestyle changes.

After a dislocation, completing rehabilitation may reduce the chance of another episode. Exercises often focus on thigh and hip strength, balance, and control of the knee during landing, turning, and changing direction.

A gradual return to sport allows strength and confidence to rebuild. Returning before swelling, movement, and muscle control have recovered may increase the chance of another injury.

Some people are advised to use a stabilising brace for certain activities. Its usefulness depends on the type of instability and should be reviewed rather than assumed to be permanent.

When repeated dislocations are linked to the shape or alignment of the knee, exercise alone may not prevent further episodes. Specialist assessment can clarify whether surgery is a reasonable option.

Living with it and what to expect

Pain and swelling are often most noticeable during the first days after a dislocation. Movement and walking usually improve gradually with protection and rehabilitation. Recovery time is influenced by associated cartilage or bone damage, previous dislocations, and the physical demands of work or sport.

The thigh muscles can weaken quickly after injury. Even when pain has settled, the knee may not yet be ready for running, jumping, or sudden turns. Rehabilitation commonly continues for weeks or months.

Many people return to normal daily activities after a first dislocation. Some return to their previous sport, while others change activities because of recurrent instability, discomfort, or concern about another episode.

A sense of apprehension is common. You may feel uneasy when the knee is bent or when someone touches the inner side of the kneecap. This can improve as strength and control

return, although persistent fear or instability deserves follow-up.

Repeat dislocations are more likely after a previous episode, particularly in younger people and those with certain knee shapes. Recurrent instability is not something you have to simply accept. Further imaging, rehabilitation, bracing, or surgery may be considered.

Long-term follow-up is not always needed after an uncomplicated recovery. Routine review is appropriate if pain, swelling, locking, or giving way continues, or if progress stops.

When to get medical help

Seek emergency care if:

Keep the knee supported in the position you find it. Do not try to straighten it forcefully or push the kneecap back yourself.

Get urgent assessment the same day if the kneecap appears to have moved back by itself. You may still need X-rays and an examination for fractures, cartilage injury, or ligament damage.

Prompt assessment is also appropriate for rapid swelling, severe pain, inability to bear weight, or a knee that catches or locks.

Arrange routine follow-up if the knee repeatedly gives way, the kneecap keeps partly slipping, or pain and swelling are not improving. These symptoms may need physiotherapy, imaging, or an orthopaedic assessment.

- The kneecap is visibly out of place or the knee is badly deformed
- You cannot move the knee after an injury
- A bone is visible or there is a deep wound over the knee
- The foot becomes cold, pale, blue, numb, or weak
- The injury followed a major fall, collision, or other high-energy impact

Common questions

Can a dislocated kneecap pop back in by itself?

Yes. It may return to its groove when the leg straightens or relaxes. You should still have the knee assessed because the injury can damage cartilage, bone, or ligaments even when the kneecap looks normal again.

Can I walk after a kneecap dislocation?

Some people can walk after reduction, while others need crutches at first. Walking should be guided by pain, stability, associated injuries, and the advice given after assessment. Do not continue sport or force weight through a visibly deformed knee.

How long does a kneecap dislocation take to heal?

There is no single recovery time. Pain and basic walking may improve over several weeks, while rebuilding enough strength and control for sport often takes longer. A fracture, cartilage injury, or repeated instability can extend recovery.

Will my kneecap dislocate again?

It can. A previous dislocation increases the chance of another, especially when the kneecap groove is shallow, the kneecap sits high, or the joints are unusually flexible. Rehabilitation can improve control but cannot change every anatomical risk factor.

Do all kneecap dislocations need surgery?

No. Many first-time dislocations are managed with reduction, temporary support, and rehabilitation. Surgery is more likely when there is a loose bone or cartilage fragment, a significant fracture, repeated dislocation, or continuing instability.

Can I play sport again?

Many people return to sport, but the decision should be based on recovery rather than a fixed date. The knee generally needs comfortable movement, minimal swelling, good strength, and safe control during running, landing, and turning.

Sources

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