

# MENISCUS INJURY IN SOCCER

The knee is very susceptible to injury in soccer, because of the large forces produced by kicking the ball. It is also the centre of the lever arm of the leg, so it is susceptible to greater forces being transmitted from the trunk through the hip, and from the ground through the foot and ankle.

Your knee meniscus is a piece of fibrocartilage that separates the thigh bone (femur) from your shin bone (tibia). It is commonly referred to as your 'cartilage'. Each knee joint has a medial (inside) meniscus and a lateral (outside) meniscus. The meniscus assists with the rotational stability created by the anterior cruciate ligament, as well as acting as a shock absorber to dampen the tremendous forces on the knee that are created when you walk, run and jump. The amount of force increases exponentially as the speed of movement increases from walking to running to jumping.

## HOW IT HAPPENS

In the younger population, the knee meniscus is usually torn traumatically (ie. in an obvious incident/accident), by twisting on a slightly flexed knee while playing soccer or other sports. In older adults, underlying wear and tear causes degeneration of the meniscus, with arthritic changes that can result in pain. These changes may also predispose it more easily to injury or a tear.

## WHAT'S GOING ON INSIDE?

So, a painful twist occurring on a slightly flexed, weight-bearing knee will indicate the likelihood of a meniscus tear. You may also experience clicking, popping, or locking of the knee. These symptoms are usually accompanied by pain along the knee joint line and joint swelling. There is usually pain when attempting to squat down.

Clinical examination by a physical therapy specialist or sports doctor will determine damage to the medial or lateral meniscus. An MRI scan is the most accurate non-invasive test to confirm a meniscus tear.

Meniscal blood supply is limited: your meniscus receives its nutrition from blood and synovial fluid within the joint capsule. The outside of the meniscus has a blood supply from the synovial capsule and will tend to heal without the need for surgery. However, tears of

the inner meniscus do not usually heal owing to a lack of blood supply and these injuries often require surgery.

## WHAT CAN I DO?

Immediately after injury apply the 'PRICE' protocol, which stands for Protect, Rest, Ice, Compression and Elevation, for the first 24-72 hours. Protection may include the use of crutches if crutches if walking is painful or not possible. Rest is all relative – just don't try anything that is painful. Ice the injury regularly for 10-20 minutes several times a day. Compression, using strapping or bandage, will help to reduce the swelling and bleeding as well as the pain by giving the injury some support. The purpose of elevation is to reduce swelling and aid circulation.

Initially it is important to avoid activities and exercises that place excessive stress through your meniscus and further delay your healing. In some cases, your physical therapy specialist may advise you to keep weight off your knee. In this instances, crutches may be recommended. Everyone is different, so be guided by your physical therapy specialist.

## HOW PHYSICAL THERAPY CAN HELP

A small meniscus tear, or a tear on the outside/perimeter of the meniscus will usually respond quickly to physical therapy treatment, taking approximately 6-8 weeks to heal fully. For more severe injuries surgery may be required; however, most surgeons will recommend a few weeks of physical therapy treatment before contemplating surgery (you may successfully rehabilitate your knee injury without the need for surgery!) and you will require rehabilitation following surgery too.

Physical therapy treatment will aim to:

- reduce pain and inflammation
- normalise joint range of motion
- strengthen your knee: especially

quadriceps (vastus medialis obliquus) and hamstrings

- strengthen your lower limb: calves, hip, pelvis and core muscles
- improve patellofemoral (knee cap) alignment
- normalise your muscle lengths
- improve your proprioception and balance
- improve your technique and function, eg. walking, running, squatting, hopping and landing
- minimise your chance of re-injury.

One of the major roles of your meniscus is shock absorption. Luckily, the other vital shock absorbers around your knee are your muscles. Research has proven that by strengthening your leg muscles, your bone stresses reduce and your knee becomes more dynamically stable. Meniscal injuries are commonly associated with other knee injuries, which need to be treated in conjunction with your meniscal tear.



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