What is a knee ligament injury?

The knee joint is one of the largest joints of the body and is supported a number of ligaments. A ligament is made of tough fibrous tissue and provides strength to a joint by connecting one bone to another. There are four main ligaments around the knee joint:

Collateral Ligaments (MCL and LCL): which runs on the inside (medial collateral) and outside (lateral collateral) of the knee and helps to protect and stabilise the knee joint against too much side to side movement.

Cruciate Ligaments (ACL and PCL): which are found inside the knee joint and helps to protect the joint against too much forward, backward and rotational movement.



https://orthoinfo.aaos.org/en/diseases--conditions/combined-knee-ligament-injuries/

**How is it caused?**

A knee ligament injury occurs when a ligament is forced into an abnormal position, causing it to overstretch.

Injury to the collateral ligaments generally occurs following an sideways stress applied to the knee. This can occur in sports injuries such as skiing, football or rugby or even a simpler situation such as slipping on ice.

Anterior cruciate ligament injuries occur commonly in sports or situations which involve pivoting and sudden deceleration such as football, basketball, netball and skiing. Posterior cruciate ligament injuries appear to be less common and are usually as a result of a direct blow to the front of the tibia with the knee in a flexed position; this can be from contact with an opponent, equipment or falling onto the knee.

**What are the symptoms?**

* Sometimes you may hear an audible pop or crack at the time of injury or the feeling that something is going out and then back.
* Pain and restricted knee range of movement.
* Difficulty weight bearing.
* Widespread tenderness.
* Swelling and discolouration: may be more indicative of a more severe sprain.
* Sometimes feelings of knee instability or giving way.

**How is it diagnosed?**

Knee ligament injuries occur in different severities. The 3 grades of knee ligament injuries are:

Grade 1 – a mild strain (typically involving less than 10% the fibres).

Grade 2 – a partial ligament tear (typically involving between 11-49% of the fibres)

Grade 3 – a complete ligament tear (typically involving more than 50% of the fibres)

If you think you may have a mild knee ligament injury you should seek advice from a health professional such as a GP or First Contact Practitioner. They will start with taking an in-depth history regarding your injury and the situation around which it occurred. If you feel you have a more serious

Diagnosis is generally made clinically following a history taking and physical examination.

You may be referred for an X-Ray if an ankle fracture is suspected. If your knee is not recovering as expected with rehabilitation you may be referred for further investigations such as an MRI scan.

**What can I do?**

The early stages (48-72 hours)

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**Protect** the injury with relative rest (keeping moving but resting often).

**Optimal loading** by gradually increasing the weight through your leg and trying to walk as normally as possible early on. Evidence suggests this aids quicker recovery. If you are struggling with your walking or weight bearing, you may be provided with crutches to help.

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**Ice** applied wrapped in a damp towel to the area for between 10-20 minutes every few hours

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**Compression** bandage such as a tubigrip or neoprene support can be applied to limit bleeding and swelling in the injured area.



**Elevating** the leg above your heart level on pillows will help with pain and may reduce swelling. Both compression and elevation can be completed in-between periods of icing.

Over-the-counter analgesia, such as paracetamol or anti inflammatories such as ibuprofen may also help to reduce your symptoms. If you require further information on pain relief, speak to your GP or pharmacist.

Progressive Exercise

Exercise is an essential part of your recovery following a knee ligament injury. Strength training has been shown to prevent recurrent knee injuries. They should be done as pain allows, with some discomfort being acceptable. If a sharp shooting pain is provoked then ease off. As your pain reduces and your movement improves consider progressing to the more difficult exercises.





Graded return to running: start with walking and jogging intervals. Gradually, increase your distance first and then speed.

**Factors influencing pain and recovery**

Whilst you are experiencing pain a number of other factors can influence your pain levels. Keep the following factors in mind to help move the healing process along:

Look after yourself

Pain is not usually simply a physical problem. Your general well-being can make you vulnerable to pain and your wellbeing can also be made worse by pain. Looking after your general health and well-being will help recovery. There is helpful advice on this website: [https://www.nhs.uk/oneyou](https://www.nhs.uk/oneyou/)

Reduce stress and anxiety

It is normal for people with pain to have stress, anxiety and change in mood. This may affect your ability to cope with the pain and may influence your pain levels. Help is available if you are being affected by stress, anxiety or low mood – see the links below or discuss with your practitioner.

It is important that your whole nervous system is in a healthy state to aid recovery. If your brain is stressed or overworked this may slow recovery. Relaxation is an important part of your recovery. Simple relaxation techniques may help manage pain and stress. Try to set aside some time each day to relax – you can use relaxation techniques as linked below, or simply an activity you enjoy – reading, deep breathing, sitting in the garden, singing – whatever relaxes you.

Find help and support here: <https://www.nhs.uk/oneyou/every-mind-matters/>

<https://www.northessexiapt.nhs.uk/west-essex>

Physical Activity

Exercise improves fitness, confidence with movement and strength. It can also help reduce your stress and tension and improve your mood and quality of sleep, helping support you to return to normal activities. Perhaps you could simply start by trying to walk for 10 minutes per day.

Alcohol

Avoid alcohol in the early stages of healing (first three days). Evidence has shown this can slow down recovery and increase the chances of re-injury. <https://www.drinkaware.co.uk/>

Sleep

Sleep is very important for your wellbeing. Poor sleep quality, and lack of sleep can make managing pain more difficult. Consistently getting 6-9 hours is recommended. Get help and tips here:

<https://www.nhs.uk/live-well/sleep-and-tiredness/>

Smoking

Smoking can also impact how quickly tissues can heal and affect pain levels. For help with stopping smoking <https://www.essexlifestyleservice.org.uk/stop-smoking/> <https://www.nhs.uk/better-health/quit-smoking/>

**How long will it last?**

In the first few weeks you will weight bear as pain allows using the support from elbow crutches and a knee support if necessary.

Mild sprains would be expected to recover within 3-4 weeks.

Moderate or severe sprains treated conservatively would be expected to recover within 6-8 weeks.

If your symptoms have persisted or worsen despite following the advice and exercise provided in this leaflet you will need to visit your GP surgery again.

You may need the guidance of a physiotherapist to help you return to normal activity:

* If your injury is more severe; or
* If you wish to return to sports involving jumping activities or high speed movement;

If you require 1:1 physiotherapy treatment please fill out a self-referral form which can found at <https://eput.nhs.uk/our-services/essex/west-essex-community-health-services/adults/rehabilitation/musculo-skeletal-physiotherapy> and send to epunft.mskphysio@nhs.net

**Is there anything I should avoid?**

* Overstretching within the first few weeks can put too much strain on the healing tissue.
* You should avoid pushing through pain and work within your pain limits. As your injury starts to heal your pain will reduce and you will be able to do more. You should aim not to increase your pain above a 4-5/10. Your exercises may feel challenging and make the muscles feel achy and fatigued but they should not be increasing your pain excessively for a prolonged period of time. If this is the case then discontinue and contact your physiotherapist.
* Complete rest or prolonged periods of reduced activity are likely to delay your recovery and return to normal function.

**What other options are there?**

Bracing:

This is sometimes recommended in more severe cases to in the early stages to help protect the injured area. Braces may limit side to side movement or restrict the amount of knee bending. If a brace is required you will be guided by your consultant or therapist about how it should be used.

Physiotherapy:

Physiotherapists can provide expert guidance with exercise, gait retraining and where necessary manual therapy to help you return to normal activity.

Surgery:

Surgery to reconstruct a ligament is mainly reserved for patients who have chronic instability after a knee ligament injury and who have not responded to a comprehensive exercise-based physiotherapy programme. You will be referred to an orthopaedic surgeon to discuss your options.