LexiMed
Medicolegal Specialists

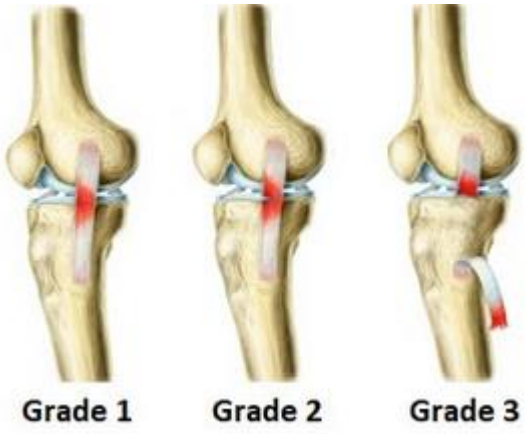
Common Knee Conditions

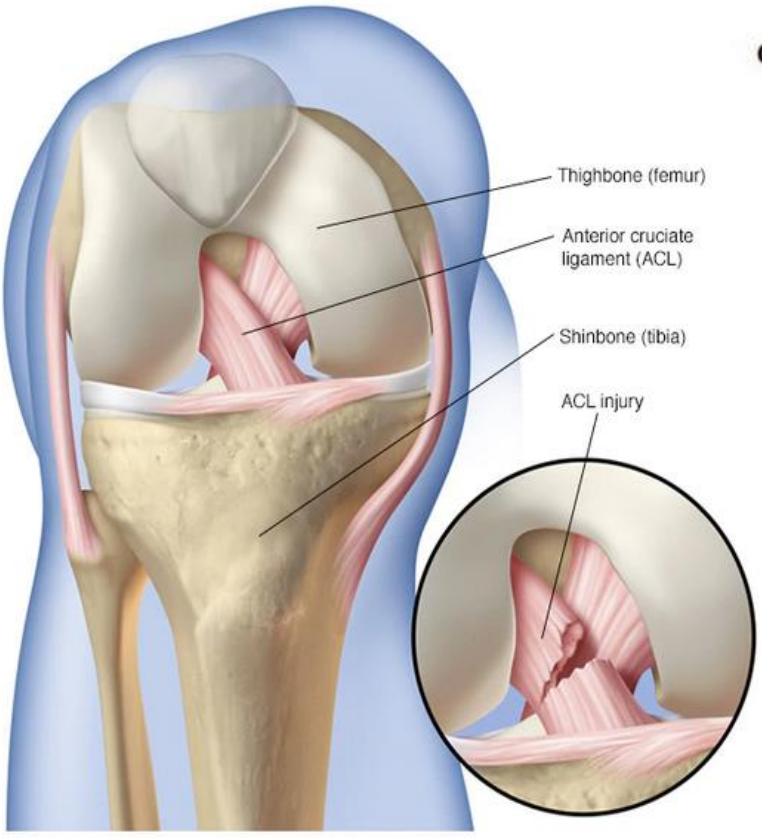
Strains

Most strains are caused by overstretching muscles or tendons. Strains may be minor or severe. Symptoms vary depending on the severity of the strain but may include pain and tenderness that is worse with movement, swelling and brusing, normal or limited muscle movement, or a bulge or deformity at the site of a complete tear. While a minor strain often heals well with home treatment, a severe strain may require medical treatment including physiotherapy.

Sprains

A sprain is an injury to the ligaments that connect bone to bone. Sprains may be mild to severe and can be split into three categories; grade one sprains occur when the ligaments are stretched but not torn; grade two sprains occur when the ligaments are partially torn; and grade three sprains are when the ligaments are completely torn.





There are four major ligaments. The anterior cruciate ligament (ACL) typically sprains during one of the following movements; a sudden stop, a twist, pivot or change in direction at the joint, extreme overstraightening, or a direct impact to the outside of the knee or lower leg. These injuries are commonly seen among athletes including football, basketball and rubgy players, gymnasts and skiers.

The posterior cruciate ligament (PCL) often sprains because of a direct impact to the front of the knee, such as hitting the knee on the dashboard in a car crash or landing hard on a bent knee during sports. These injuries are common amongst people who play football, basketball and rugby.

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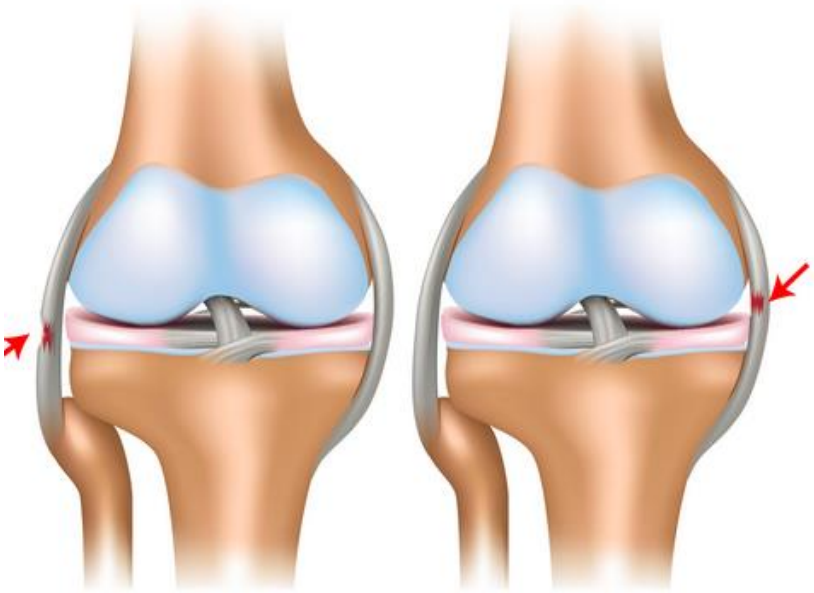


Torn lateral collateral ligament (LCL)

Torn medial collateral ligament (MCL)

The medial collateral ligament (MCL) can be torn by a direct sideways blow to the outside of the knee or lower leg. This ligament can also be injured by a severe knee twist, particularly when a fall twists the lower leg outwards.

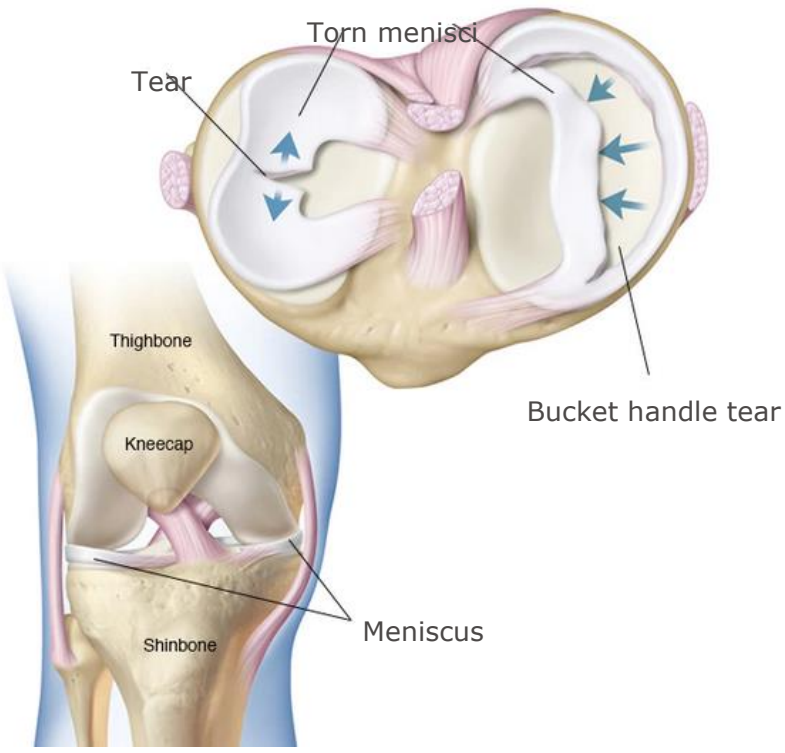
The lateral collateral ligament (LCL) is the least likely knee ligament to be sprained. Injuries to this ligament are caused by a blow to the inside of the knee which is usually shielded by the opposite leg.

Symptoms of knee strains vary depending on which ligament is torn but can include swelling, discolouration around the knee, knee instability, the knee giving way and tenderness.

Initial treatment for a sprain includes rest, ice, compression and elevation. While a minor sprain will often heal well with conservative treatment, a moderate to severe sprain may require surgery.

Meniscal Tears

A torn mensicus is one of the most common knee injuries. A meniscal tear is damage to one of the rubbery discs that cushion your knee joint. Any activity that causes you to forcefully twist or rotate your knee, especially when putting your full weight on it, can lead to a torn meniscus.



A torn mensicus causes pain, swelling and stiffness. The patient might also feel a block to knee motion and have trouble extending their knee fully.

Conservative treatment, such as rest, ice, medication and physiotherapy is sometimes enough to relieve the pain of a torn meniscus and give the injury time to heal on its own. In other cases however, a torn meniscus requires surgical repair.

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Patellar Tracking Disorder

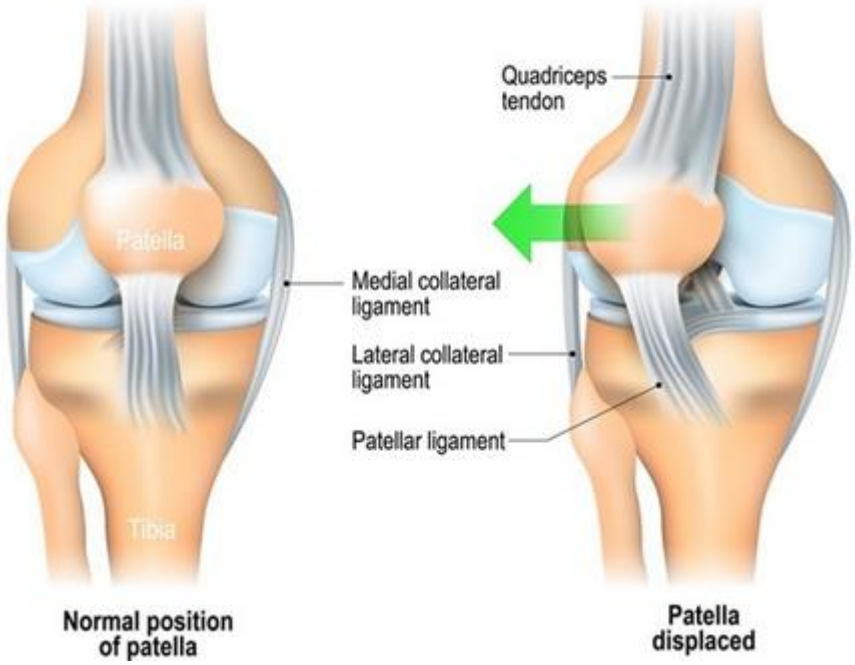
The patella is a bone that is attached to the femur and tibia by tendons and ligaments. When the knee joint is working properly, the patella glides in a groove near the end of the femur called the trochlear groove. Injuries from sport, overuse or trauma can cause the patella to move slightly off and not track properly in the trochlear groove. In most cases the kneecap shifts to the outside of the leg.

Symptoms include pain, a popping, grinding or catching feeling when the knee bends, and a feeling that the knee is buckling.

Treatment involves rest, stretching and strengthening exercises, knee braces, taping, and over the counter pain relievers. Surgery is not often needed. There is conflicting evidence about the efficacy of surgery for patellar tracking disorder.

Patella Dislocation

A dislocation occurs when a bone is pulled or pushed out of place. In a normal knee, the patella is positioned within a groove at the bottom of the femur. A patella dislocation refers to the situation when the patella is completely displaced out of its alignment. The most common direction for a patella to dislocate is outwardly.



When a dislocation occurs, the muscles and ligaments on the inside of the knee become overstretched and damaged.

A dislocation can be a problem even if the bone pops back into place. Soft tissues in or around a joint, such as the ligaments, tendons, muscles, cartilage and the joint capsule may stretch or tear; nerves and blood vessels may be damaged by the injury; and a piece of bone at the base of the joint may break off and end up inside the joint.

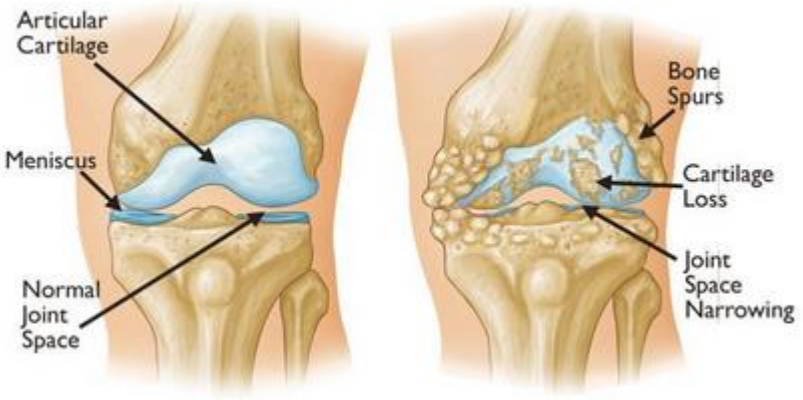
Initial treatment will involve relocating the patella. This will be followed by physiotherapy treatment. In some cases, where there has been significant bone or ligament damage, surgery may be required.

Patella fractures

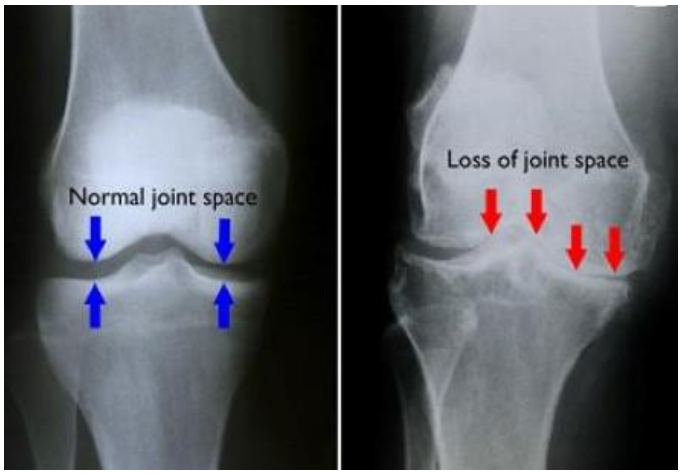
A patellar fracture is a break in the patella, or kneecap. Because the patella acts as a shield for the knee joint, it is vulnerable to fracture if you fall directly onto your knee or hit it against the dashboard in a vehicle collision. A patellar fracture is a serious injury that can make it difficult or even impossible to straighten the knee or walk.

Some simple patellar fractures can be treated by wearing a cast or splint until the bone heals. In most patellar fractures, however, the pieces of bone move out of place when the injury occurs. For these more complicated fractures, surgery is needed to restore and stabilise the kneecap and allow for the return of function.

Osteoarthritis



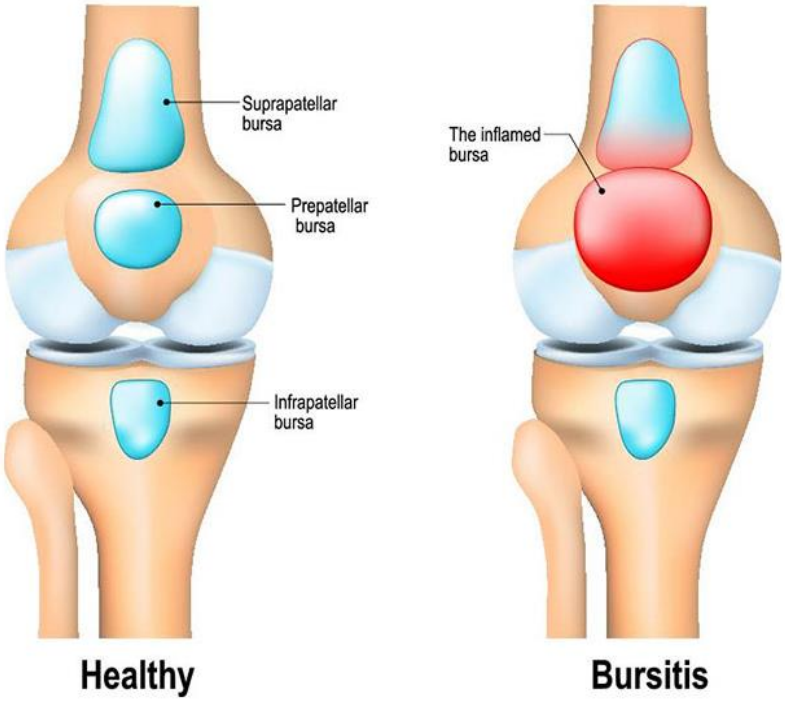
Arthritis is inflammation in one of your joints. Any joints in the body can be affected but it is particulary common in the knee. Osteoarthritis is the most common form of arthritis. It occurs when the cartilage in the knee joint gradually wears away. As the cartilage wears away, it becomes frayed and rough, and the protective space between the bones decreases. This can result in bone rubbing on bone and produce painful bone spurs. Osteoarthritis develops slowly and the pain it causes worsens over time.



There is no cure for arthritis rather, treatment is aimed at helping to relieve the pain and disability it causes. This includes, physical therapy, lifestyle changes, assistive devices such as a cane, medications, and other remedies. Surgery may be recommended if the pain from arthritis causes disability and it is not relieved by non surgical treatment. Various surgeries are available from cartilage crafting to total or partial knee replacement surgery.

Bursitis

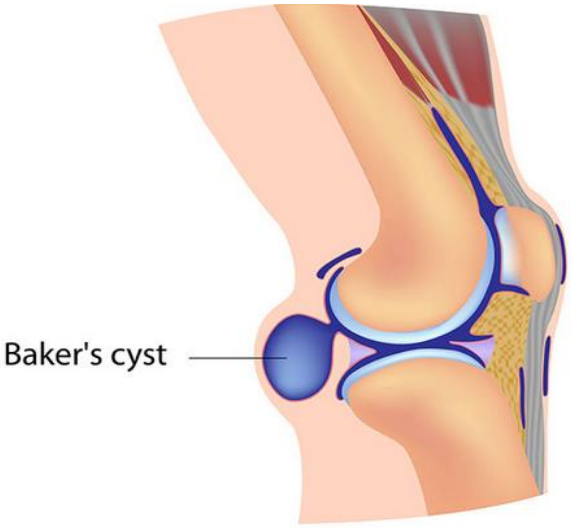
The knee joint has eleven bursae. A bursa is a small sac of fluid that cushions and lubricates an area. Bursitis can be caused by prolonged or repeated pressure on a bursa or by activites that require repeated twisting or rapid joint movement. It can also be caused by trauma, infection or systemic diseases such as arthritis.



Symptoms may include pain, especially with motion or pressure on the involved bursa, swelling caused by increased fluid within the bursa, and redness and warmth.

Bursitis can often be treated at home by resting, applying ice or cold packs to the area, and avoiding activities that irritate the area or cause pain. If the area is warm and red, an infection may also be present. This requires medical evaluation.

Baker's cyst



When excess knee joint fluid is compressed by the body weight between the bones of the knee joint, it can become trapped and separate from the joint to form the fluid filled sac of a Baker's cyst, also known as a popliteal cyst. It is often painless but occasionally the cyst can rupture and drain into the tissues of the lower leg causing pain and swelling.

Baker's cysts often resolve with draining of the excess fluid in the knee in conjunction with a cortisone injection. Medications are sometimes given to relieve pain and inflammation.

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