

Chondromalacia Patellae

Chondromalacia patellae is damage to the cartilage at the back of the kneecap (patella). The usual treatment advised is to avoid overuse of the knee and to have physiotherapy, which is effective in most cases.

What is the patella?

The patella is the kneecap bone. It lies within the quadriceps tendon. This large tendon from the powerful thigh muscles (quadriceps) wraps round the patella and inserts into the top of the lower leg bone (tibia). The quadriceps muscles straighten the leg.

The back of the patella is covered with smooth cartilage. This helps the patella to glide over the lower part of the thigh bone (femur) when you straighten your leg.

What is chondromalacia patellae?

Chondromalacia patellae is damage to the patella cartilage. It is like a softening or wear and tear of the cartilage.

The roughening or damage can range from slight to severe.

A note about terminology

Chondromalacia patellae overlaps with the knee condition known as patellofemoral pain syndrome. This is a term used by doctors to describe pain at the front of the knee, which can be from various causes, but which does not seem to be due to a severe problem such as serious arthritis or injury.

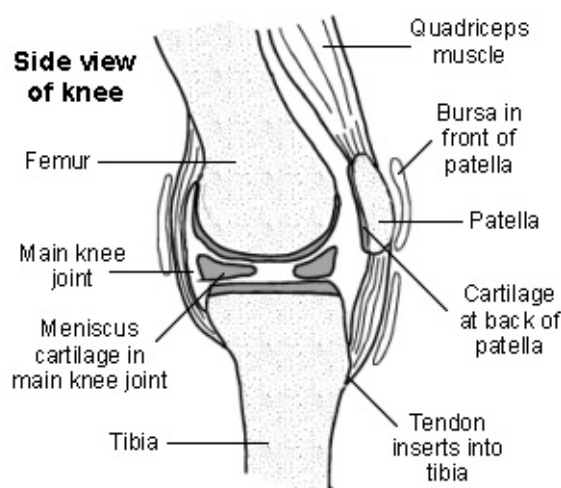
What causes chondromalacia patellae?

Chondromalacia patellae occurs most often in young adults and teenagers. It is more common in women. The reason why damage occurs to the cartilage is not clear. It is thought that the patella may rub against the lower part of the thigh bone (femur) instead of gliding smoothly over it. This may damage the patellar cartilage.

Situations where this is more likely include the following:

- Overuse of the knee, such as in certain sports.
- Some people may have a slight problem in the alignment of the knee. This may cause the patella to rub on, rather than glide over, the lower femur. It may be due to the way the knee has developed. Or, it may be due to an imbalance in the muscles around the knee - for example, the large quadriceps muscle above the knee. If one side of the quadriceps muscles pulls harder than the other side, then the patella may not glide true and may rub on one side.
- A combination of an alignment problem (as above) and overuse with sports, may be the most common reason for getting chondromalacia patellae.
- Injury to the knee may contribute - perhaps repeated small injuries or stresses due to sports, or due to slack ligaments (hypermobile joints).
- In older people it may develop as part of the ageing process where there is wear and tear of cartilage in many joints.

What are the symptoms?



- Pain around the knee. The pain is usually located at the front of the knee, around or behind the kneecap. The pain is typically worse when going up or down stairs. It may be brought on by sitting (with the knees bent) for long periods.
- A grating or grinding feeling or noise when the knee moves (crepitus).
- Rarely, some fluid swelling (effusion) of the knee joint.

How is chondromalacia patellae diagnosed?

Usually, a provisional diagnosis is made from your symptoms plus a doctor's examination of the knee. This will be a working diagnosis rather than a definite one, because the cartilage cannot be seen without further tests (see below). In this situation, where there is no proof of chondromalacia, some doctors call the pain patellofemoral pain syndrome or anterior knee pain. This does not matter, as the treatment will be the same at this point (see below).

Are any tests needed?

Often, no tests are needed, as treatment can be started on the basis of a working diagnosis of chondromalacia.

Tests may be used in some situations, either to confirm the diagnosis or to rule out other causes. For example, if the diagnosis is not clear, or if symptoms do not improve after treatment. Tests which may be used are:

- Blood tests and/or a standard knee X-ray - these may help to rule out some types of arthritis or inflammation.
- MRI scan - shows details of the knee joint and can show up many cases of chondromalacia.
- Arthroscopy - a tiny flexible camera is inserted into the knee to see exactly what the cartilage looks like. This requires an anaesthetic and has small risk of complications.

What are the treatment options?

- *Avoid strenuous use of the knee* - until the pain eases. Symptoms usually improve in time if the knee is not overused.
- *Painkillers* - paracetamol or anti-inflammatory painkillers such as ibuprofen may be advised to ease the pain.
- *Physiotherapy* - improving the strength of the muscles around the knee will ease the stress on the knee. Also, specific exercises may help to correct problems with alignment and muscle balance around the knee. For example, you may be taught to do exercises which strengthen the inner side of the quadriceps muscle.
- *Taping of the patella* - is a possible treatment which can reduce pain. Adhesive tape is applied over the patella, to alter the alignment or the way the patella moves. Some people find this helpful. Some physiotherapists can offer patellar taping treatment.

Surgery

Surgery is not usually necessary, but may be advised if the above treatments have not helped. Arthroscopic surgery is the usual operation. A tiny flexible camera is inserted into the knee. The surgeon sees the inside of the knee joint and the cartilage, and may then operate through the camera tube, using very fine instruments. Possible surgical treatments are as follows:

- Tight ligaments on the side of the patella may be cut to allow the patella to align better and move more smoothly.
- Smoothing or shaving the cartilage behind the patella.
- Rarely, if all other options do not help, the patella can be removed (the knee can still function without it).

What is the outlook?

The outlook is good. Most people get better with simple treatments such as physiotherapy. Chondromalacia does not seem to be linked to arthritis later in life.

Further reading & references

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