



**NHS Birmingham and Solihull CCG  
NHS Sandwell and West Birmingham CCG**

# **Policy Knee Arthroscopy for Acute Knee Injury**

## Document Details:

<b>Version:</b>	1.0
<b>Ratified by (name and date of Committee):</b>	Treatment Policy Clinical Development Group 20.12.2019
<b>Date issued for Public Consultation:</b>	02.09.2019
<b>Equality &amp; Quality Impact Assessment</b>	17.01.2020
<b>Joint Health Overview and Scrutiny Committee</b>	23.01.2020
<b>Governing Board</b>	04.02.2020

The CCG policy has been reviewed and developed by the Treatment Policies Clinical Development Group in line with the groups guiding principles which are:

49. CCG Commissioners require clear evidence of clinical effectiveness before NHS resources are invested in the treatment;
50. CCG Commissioner require clear evidence of cost effectiveness before NHS resources are invested in the treatment;
51. The cost of the treatment for this patient and others within any anticipated cohort is a relevant factor;
52. CCG Commissioners will consider the extent to which the individual or patient group will gain a benefit from the treatment;
53. CCG Commissioners will balance the needs of each individual against the benefit which could be gained by alternative investment possibilities to meet the needs of the community
54. CCG Commissioners will consider all relevant national standards and take into account all proper and authoritative guidance;
55. Where a treatment is approved CCG Commissioners will respect patient choice as to where a treatment is delivered; AND
56. All policy decisions are considered within the wider constraints of the CCG's legally responsibility to remain fiscally responsible.

## **Category: Restricted**

### The Knee

The 3 bones that meet in the knee are the:

- thigh bone (femur)
- shin bone (tibia)
- kneecap (patella)

These bones are connected by 4 ligaments – 2 collateral ligaments on the sides of the knee and 2 cruciate ligaments inside the knee.

Ligaments are tough bands of connective tissue. The ligaments in the knee hold the bones together and help keep the knee stable.

The menisci are thick pads of cartilage tissue within the knee which act as shock absorbers to absorb body weight and help improve smooth movement and stability of the knee.

The two main areas within the knee which may be damaged by an acute injury include:

1. Menisci (cartilage)
2. Ligaments

## 1. Menisci.

### What is the knee meniscus?

The menisci are thick pads of cartilage tissue within the knee which act as shock absorbers to absorb body weight and help improve smooth movement and stability of the knee. Each knee joint contains a medial and lateral meniscus (inner and outer meniscus).



Figure 1. The Knee Joint

### What is a meniscal injury?

There are varying degrees of damage a patient can do to the menisci. These range from bruising the menisci through to having large tears of the menisci. Meniscal tears can occur during sporting activities through twisting the knee whilst the foot is still in contact with the ground. In severe injuries, other parts of the knee may also be damaged in addition to a meniscal tear. For example, a patient may also sprain or tear a ligament. Meniscal cartilage does not always heal very well once it is torn. This is mainly because the central area of the meniscus does not have a good blood supply. The outer edge of each meniscus has some blood vessels, but the area in the centre has no direct blood supply.

## Conservative Treatment

The PRICE protocol is effective for most sports-related injuries. PRICE stands for Protection, Rest, Ice, Compression, and Elevation.

- **Protection** – protect the affected area from further injury – for example, by using a support.
- **Rest** – avoid exercise and reduce your daily physical activity. Using crutches or a walking stick may help if you can't put weight on your ankle or knee. **Ice** – apply an ice pack to the affected area for 15-20 minutes every two to three hours. A bag of frozen peas, or similar, will work well. Wrap the ice pack in a towel so that it doesn't directly touch your skin and cause an ice burn.
- **Compression** – use elastic compression bandages during the day to limit swelling.
- **Elevation** – keep the injured body part raised above the level of your heart whenever possible. This may also help reduce swelling.

Non-steroidal anti-inflammatory medicines. Drugs like aspirin and ibuprofen reduce pain and swelling.

Physiotherapy for those whose symptoms do not resolve.

## Surgical Treatment

Procedure. Knee arthroscopy is one of the most commonly performed surgical procedures. During a knee arthroscopy,, a miniature camera is inserted through a small incision (portal). This provides a clear view of the inside of the knee. The orthopaedic surgeon, then inserts miniature surgical instruments through other portals to trim or repair the tear.

- Partial meniscectomy. In this procedure, the damaged meniscus tissue is trimmed away.
- Meniscus repair. Some meniscus tears can be repaired by suturing (stitching) the torn pieces together. Whether a tear can be successfully treated with repair depends upon the type of tear, as well as the overall condition of the injured meniscus. Because the meniscus must heal back together, recovery time for a repair is much longer than from a meniscectomy.

## **Risks of meniscal surgery**

The knee may not be exactly like it was before the injury, and the patient may still have some pain and swelling.

This may be because of other injuries to the knee, such as tears or injuries to ligaments, which happened at the same time as or after the injury.

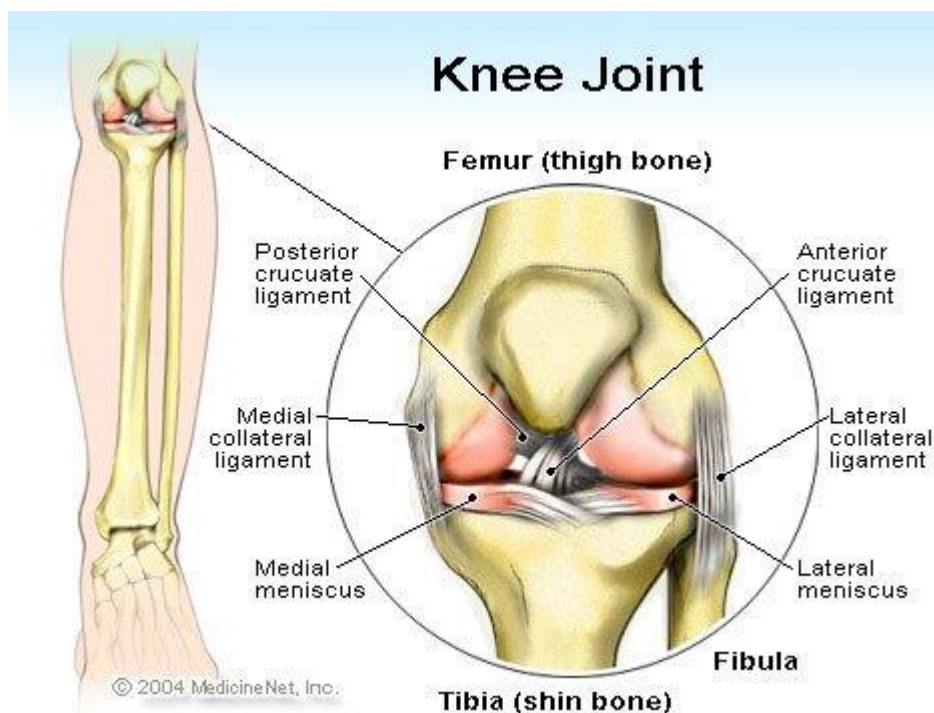
As with all types of surgery, there are some small risks associated with knee surgery, including infection, a [blood clot](#), knee pain, and knee weakness and stiffness.

## 2. Ligaments (Anterior Cruciate Ligament (ACL); Posterior Cruciate Ligament (PCL); Collateral Ligaments R/LCL)

### What are the Knee Ligaments?

The Ligaments found within the knee are tough bands of tissue joining the thigh bone to the shin bone at the knee joint.

The ligaments run diagonally through the inside of the knee and around each side which give the knee joint stability. It also helps to control the back-and-forth movement of the lower leg.



### Ligament injuries

Knee injuries can occur during sports such as skiing, tennis, squash, football and rugby. Ligament injuries, in particular Anterior Cruciate Ligament (ACL) injuries are one of the most common types of knee injuries, accounting for around 40% of all [sports injuries](#).

A patient may tear the knee ligaments if the lower leg extends forwards too much. It can also be torn if the knee and lower leg are twisted.

Common causes of a ligament injury include:

- landing incorrectly from a jump
- stopping suddenly
- changing direction suddenly
- having a collision, such as during a football tackle

## Conservative management

The PRICE protocol is effective for most sports-related injuries. PRICE stands for Protection, Rest, Ice, Compression, and Elevation.

- **Protection** – protect the affected area from further injury – for example, by using a support.
- **Rest** – avoid exercise and reduce your daily physical activity. Using crutches or a walking stick may help if you can't put weight on your ankle or knee. A sling may help if you've injured your shoulder.
- **Ice** – apply an ice pack to the affected area for 15-20 minutes every two to three hours. A bag of frozen peas, or similar, will work well. Wrap the ice pack in a towel so that it doesn't directly touch your skin and cause an ice burn.
- **Compression** – use elastic compression bandages during the day to limit swelling.
- **Elevation** – keep the injured body part raised above the level of your heart whenever possible. This may also help reduce swelling.

Non-steroidal anti-inflammatory medicines. Drugs like aspirin and ibuprofen reduce pain and swelling.

Physiotherapy for those whose symptoms do not resolve.

## Reconstructive Ligament surgery

A torn ligament cannot be repaired by stitching it back together, but it can be reconstructed by attaching (grafting) new tissue on to it.

The ligament, for example the ACL, may be reconstructed by removing what remains of the torn ligament and replacing it with a tendon from another area of the leg, such as the hamstring or patellar tendon.

The patellar tendon attaches the bottom of the kneecap (patella) to the top of the shinbone (tibia).

## Risks of ligament surgery

The knee may not be exactly like it was before the injury, and you may still have some pain and swelling.

This may be because of other injuries to the knee, such as tears or injuries to the cartilage, which happened at the same time as or after the ligament injury.

As with all types of surgery, there are some small risks associated with knee surgery, including infection, a [blood clot](#), knee pain, and knee weakness and stiffness.



## Evidence Review

There was no NICE Guidance identified which reviewed this surgical intervention, and no systematic reviews were identified.

Utsaerts et al. (2016) produced a follow-up paper to their RCT, which is considered high quality with long follow-up. In this high quality randomised controlled trial, with minimal loss to follow-up, a strategy of rehabilitation plus early ACL reconstruction did not provide better results at five years than a strategy of initial rehabilitation with the option of having a later ACL reconstruction. Results did not differ between knees surgically reconstructed early or late and those treated with rehabilitation alone. These results should encourage clinicians and young active adult patients to consider rehabilitation as a primary treatment option after an acute ACL tear.

Frobell et al (2013) found there was no increased risk of osteoarthritis or meniscal surgery if the ACL injury was treated with physiotherapy alone compared with if it was treated with surgery. Neither was there any difference in patients' experiences of function, activity level, quality of life, pain, symptoms or general health.

Measures included Knee injury and osteoarthritis outcome score (KOOS), the Medical Outcomes Study 36-item short-form health survey (SF-36), short-form health survey (SF-36), and the Tegner activity scale. In the full analysis set, the mean change in KOOS4 score from baseline to five years was 42.9 points for patients assigned to rehabilitation plus early anterior cruciate ligament reconstruction and 44.9 points for those assigned to rehabilitation plus optional delayed reconstruction (between group difference 2.0 points, 95% confidence interval -8.5 to 4.5;  $P=0.54$  after adjustment for the baseline score). No statistically significant differences in KOOS4, any of the five individual subscales of KOOS, SF-36, or Tegner activity scale between the two treatment strategies were identified at five years or in the change between two and five years.

In conclusion, the evidence does not support the use of surgical repair as a primary treatment immediately following injury. However, in cases where conservative treatment over 3 months has failed: physiotherapy; analgesia and PRICE, then the current evidence demonstrates that knee arthroscopy with ligament / menisci repair may be clinically appropriate.

## Eligibility Criteria: Restricted

Knee Arthroscopy for Acute Knee injury is only commissioned in the following clinical circumstances:

- The patient does not have degenerative knee disease AND
- The patient has experienced an acute knee injury AND
- Following the acute knee injury, the patient has undergone clinician verified conservative treatment for at least 3 months with physiotherapy; analgesia and PRICE, which have all failed AND
- The patient continues to have mechanical symptoms which are causing functional impairment.

Degenerative knee disease is an inclusive term, which many consider synonymous with osteoarthritis. The term degenerative knee disease is used to explicitly include patients with knee pain, particularly if they are >35 years old, with or without:

- Imaging evidence of osteoarthritis
- Meniscus tears
- Locking, clicking, or other mechanical symptoms except persistent objective locked knee OR
- Acute or subacute onset of symptoms

**N.B. Functional impairment** is defined as interfering with activities of daily living, i.e. walking; sleeping; eating.

Investigations for suspected or proven malignancy are outside the scope of this policy and should be treated in line with the relevant cancer pathway.

This means **(for patients who DO NOT meet the above criteria)** the CCG will **only** fund the treatment if an Individual Funding Request (IFR) application proves exceptional clinical need and that is supported by the CCG.

## Guidance

- [1] Treatment for acute anterior cruciate ligament tear: five-year outcome of randomised trial. *BMJ* 2013; 346 doi: <https://doi.org/10.1136/bmj.f232>
- [2] Mutsaerts ELAR, van Eck CF, van de Graaf VA, Doornberg JN, van den Bekerom MPJ. Surgical interventions for meniscal tears: a closer look at the evidence. *Arch Orthop Trauma Surg* 2016;136:361-37
- [3] Smith TO, Davies L, Hing CB (2010) Early versus delayed surgery for anterior cruciate ligament reconstruction: a systematic review and meta-analysis. *Knee Surg Sports Traumatol Arthrosc* 18:304–311
- [4] Webb,R., Brammah,T., Lunt,M., et al. (2004) Opportunities for prevention of 'clinically significant' knee pain: results from a population-based cross sectional survey. *Journal of Public Health (Oxford)*. 26(3), 277-284
- [5] Brophy RH, Zeltser D, Wright RW, et al. Anterior cruciate ligament reconstruction and concomitant articular cartilage injury: incidence and treatment. *Arthroscopy*. 2010;26:112-120.  
<http://www.ncbi.nlm.nih.gov/pubmed/20117635?tool=bestpractice.com>
- [6] Bowers AL, Spindler KP, McCarty EC, et al. Height, weight, and BMI predict intra-articular injuries observed during ACL reconstruction: evaluation of 456 cases from a prospective ACL database. *Clin J Sport Med*. 2005;15:9-13.  
<http://www.ncbi.nlm.nih.gov/pubmed/15654185?tool=bestpractice.com>
- [7] Mandalia V, Fogg AJ, Chari R, et al. Bone bruising of the knee. *Clin Radiol*. 2005;60:627-636. <https://bestpractice.bmj.com/topics/en-gb/589/complications#referencePop109>
- [8] Rodkey WG, Steadman JR, Li ST. A clinical study of collagen meniscus implants to restore the injured meniscus. *Clin Orthop Relat Res*. 1999:S281-92.  
<http://www.ncbi.nlm.nih.gov/pubmed/10546653?tool=bestpractice.com>
- [9] NHS website: <https://www.nhs.uk/conditions/arthroscopy/>
- [10] Kruseman N, Geesink RGT, van der Linden AJ *et al*. Acute knee injuries: diagnostic & treatment management proposals.  
<http://arnos.unimasas.nl/show.cgi?fig1?46875>
- [11] Steve Bollen: Injuries of the sporting knee - Epidemiology of knee injuries: diagnosis and triage <https://bjsm.bmj.com/content/34/3/227.2>