

Anterior Cruciate Ligament (ACL) Rupture and Treatment

Patient Information Leaflet



The POP-ACLR Study

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Introduction

This information leaflet is designed to provide you with essential information about your Anterior Cruciate Ligament (ACL) injury and your treatment options.

This leaflet should be used alongside the **Option Grid**.

What is the ACL?

The ACL is one of two ligaments that cross inside the knee joint. It attaches between your thigh bone (femur) and shin bone (tibia). The ACL's main job is to provide stability to the knee joint. **Figure 1**, shows an ACL in the left knee.

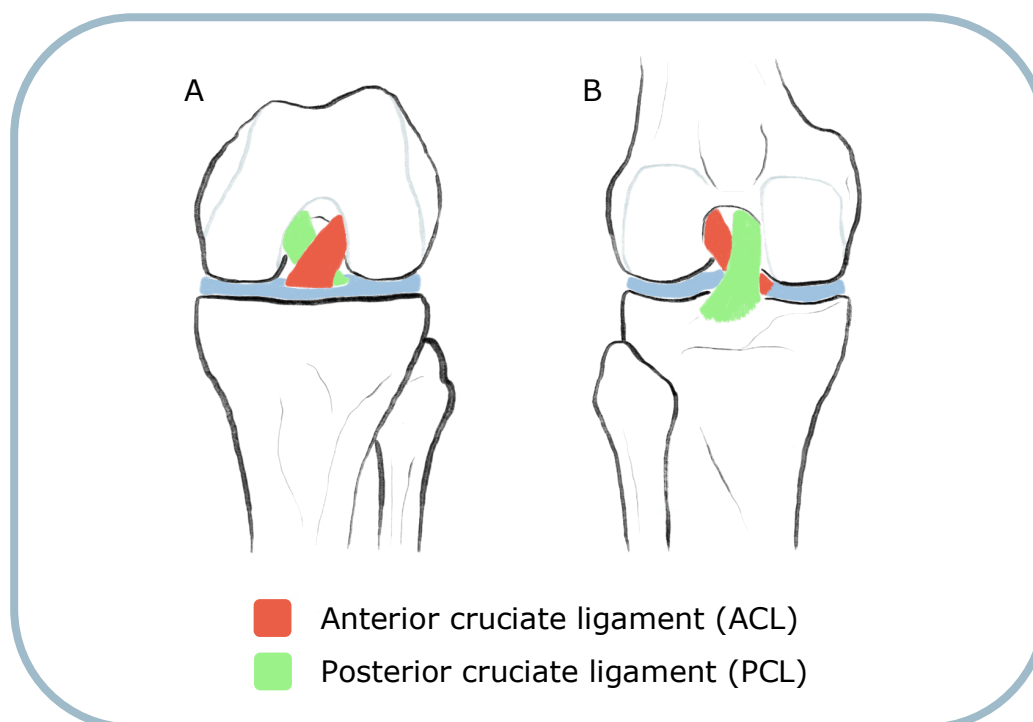


Figure 1 - Left knee joint

- A. Front view of the left knee with the knee bent to 90 degrees
- B. Back view of the left knee joint with the knee fully straight

ACL ruptures (also referred to as tears) are common. They can cause pain, swelling and difficulty with knee function. A rupture can also cause instability of the knee, which can be more of a problem for some people than others.

What are the treatment options?

In the UK, there are two main treatment options:

1. Surgery

2. Non-surgery (also referred to as rehabilitation)

Three research trials have compared ACL reconstruction surgery (ACLR) with rehabilitation (non-surgery). Only one of these was in a UK, NHS setting.

The oldest trial, from 2010, found no difference between surgery and rehabilitation.¹ The researchers suggested that surgery may be unnecessary for some. They recommended that rehabilitation should be trialled first. The second trial, from 2021, compared early ACLR to rehabilitation with delayed ACLR. The researchers of this trial reported early surgery to be better.² The final trial, completed in the UK in 2022, reported outcomes for those having surgery to be better.³

These results show that there isn't a one-size fits all approach when it comes to ACL injury management. This is why making a decision that is right for you is important. Patients involved in developing this leaflet felt it was important to know that ACL treatment (surgery and non-surgery) is both physically and mentally challenging. Both treatment options require time and effort. It is important you are aware what both treatments involve. The following information provides some more detail about each option.

1. Surgery

Surgery involves **reconstructing the torn ligament with a graft**. This graft is usually taken from another part of your body. The graft most used in the UK is a piece of tendon (part of the muscle) from your hamstring. However, a graft can also be taken from the tendon in your knee or from a donor.

If you decide to have surgery, you will have a conversation with your surgeon about which graft is best for you.

After your ACL reconstruction you will need to undergo a progressive rehabilitation programme with a physiotherapist. This will take at least 6-months and depending on your goal (e.g. if you wish to return to competitive sports), may take longer than 12-months.

2. Non-surgery

Non-surgery involves **rehabilitation with a therapist**, such as a physiotherapist or sports rehabilitator. This will involve exercises that aim to improve your walking, knee range of movement, strength and stability. Although there is some similarity with everyone's rehabilitation, your rehabilitation will be specific to you and depend upon your symptoms and ability.

Other options

There has been some early evidence that the ACL may be able to heal itself, without surgery. This research, from 2022, showed that 32 patients had evidence of some ACL healing on an MRI scan after 2 years.⁴ At this stage we cannot say that your ACL would heal itself without surgery. The evidence is not yet strong enough.

What are the outcomes of each treatment option?

Most patients want to know when they can return to work, physical activity, sport and driving. **Table 1** shows some statistics taken from research studies to answer these questions.

Further information is discussed below the table.

	Surgery	Rehabilitation
Return to preinjury activity level	28% by 18-months	24% by 18-months
Return to sport	55% returned by 40 months	No research available
Work	2.5 months (average, job dependent)	No research available but job dependent
Driving	Typically 6-weeks	No set restriction
Satisfaction	83% felt their knee was better than before treatment	68% felt their knee was better than before treatment

Table 1 - Treatment outcomes

Return to preinjury activity level

Returning to your preinjury activity level means going back to your activities 'as normal'. For example, returning to the same level football league as you were playing in before your injury. The percentages in the table are from a 2022 UK trial.³ Other research trials have shown that for those having surgery:

- **24%** have returned to their preinjury levels of activity **after 1-year**
- Less than **45%** have returned at **2-years**.^{5,6}

Return to sport

Return to sport means that you have gone back to your sport but may not be competing at the same level.

There is no research reporting the number of people who return to sport after rehabilitation. A 2014 study (that also included people having revision ACL

surgery) reported **55%** returned to competitive sport **40 months after surgery**.⁷

Return to work

Return to work hasn't been reported as frequently in the research as return to sport. It also varies depending on how physically active/labour intense your job is. A 2017 study completed in the Netherlands reported that on average, patients had returned to work by **78 days after surgery**.⁸ Returning after 78 days was most likely for those in more labour-intensive jobs or those who needed crutches for longer after surgery.

There is no data to suggest when you can return to work if you choose not to have surgery. If you're currently off work and choose not to have surgery, your clinician (e.g. physiotherapist or occupational therapist) will support you in returning when it is right for you.

Return to driving

There is no data to suggest when people return to driving after surgery or rehabilitation.

Typically, you can return to driving 6-weeks after your operation. Although there are no set limitations, you can return when you feel safe and are able to carry out all emergency procedures. Your car insurance company may have set limitations for when you can return, so it is worth checking with them too.

If you choose not to have surgery, your clinician will support you to return to driving.

Satisfaction

In the 2022 UK trial comparing ACL surgery with rehabilitation, patients were asked about satisfaction of their treatment at an 18-month follow-up.

Surgery

Of those who were treated with surgery:

- 83% said their knee was better than before treatment.
- 80% said they would choose surgery again, 5% said they would not.

Rehabilitation

Of those who were treated with rehabilitation:

- 68% said their knee was better than before treatment.
- 61% said they would choose rehabilitation again, 18% said they would not.

Other

As the research around ACL self-healing is new, there are no statistics to draw upon in the research to answer any of the above questions.

What are the risks?

There are some risks associated with having surgery which include:

Re-rupture

There is a chance the graft could **re-rupture** after surgery. A 2022 study reported 7.2% of patients underwent revision surgery within 9 years of their first surgery due to a re-rupture.⁹

Complications of surgery

Some patients may develop a '**cyclops lesion**' (a ball of excess graft tissue at the front of the ACL graft). The chance of this occurring is approximately 21-35% and is more common in women.¹⁰ Cyclops lesions can require further surgery to be removed. Once removed, patients typically make a full recovery.

There are also risks associated with having surgery such as **infection** (less than 2%) and a **blood clot** (less than 1%).¹¹

Donor site pain/discomfort

You may experience some **pain/discomfort** where your donor graft has been taken from (e.g. hamstring).

Osteoarthritis and further injury

It is a common thought that surgery protects against the development of **osteoarthritis**. However, a 2022 study found no difference in the rate of osteoarthritis between those who did or did not have surgery.¹² Whether you go on to have surgery or not, you are at an increased risk of developing osteoarthritis because of your ACL injury.

It is also thought that without surgery, you are at risk of a **meniscal (cartilage) injury**. The evidence about this is unclear. We cannot say for sure that surgery prevents further meniscal injury.¹³

Instability

If you choose not to have surgery, there is a chance you **may not regain stability** in your knee. This might mean you are unable to return to the activities you want to. Where this is the case, you will need to discuss the option of surgery with your clinician. In research studies comparing rehabilitation with surgery, approximately 50% of patients who had rehabilitation first, went on to have surgery later.¹⁻³

Your clinician will discuss these risks with you.

What to expect

The typical patient journey for surgery and rehabilitation is outlined in **Figure 2**.

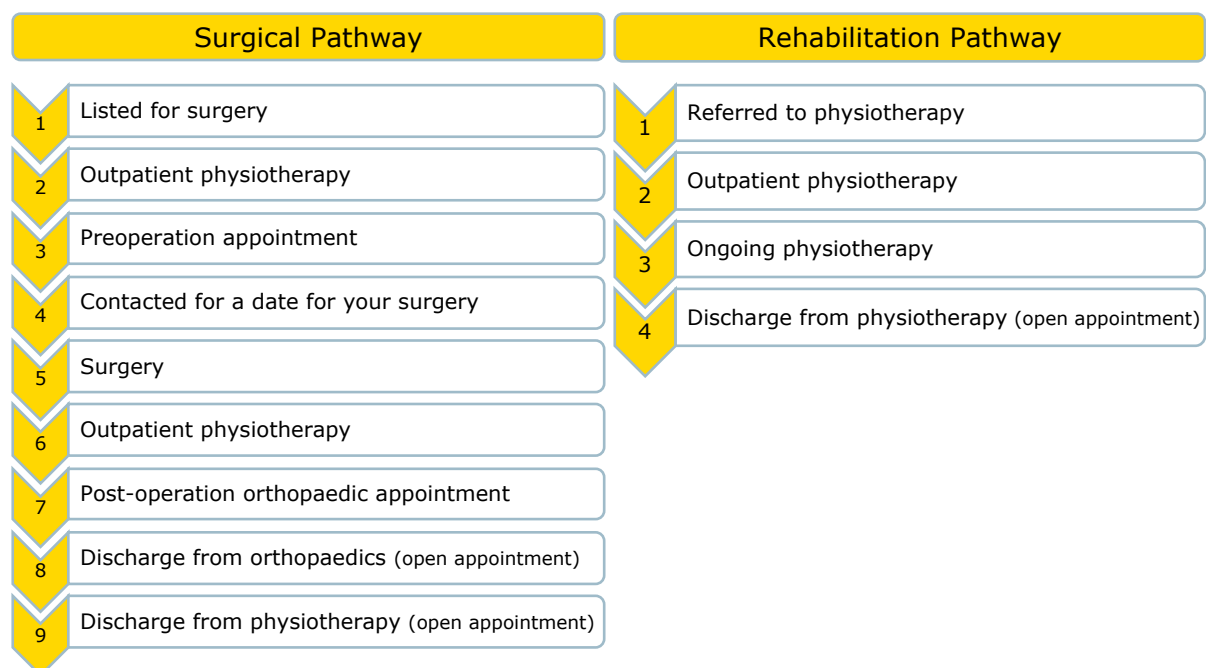
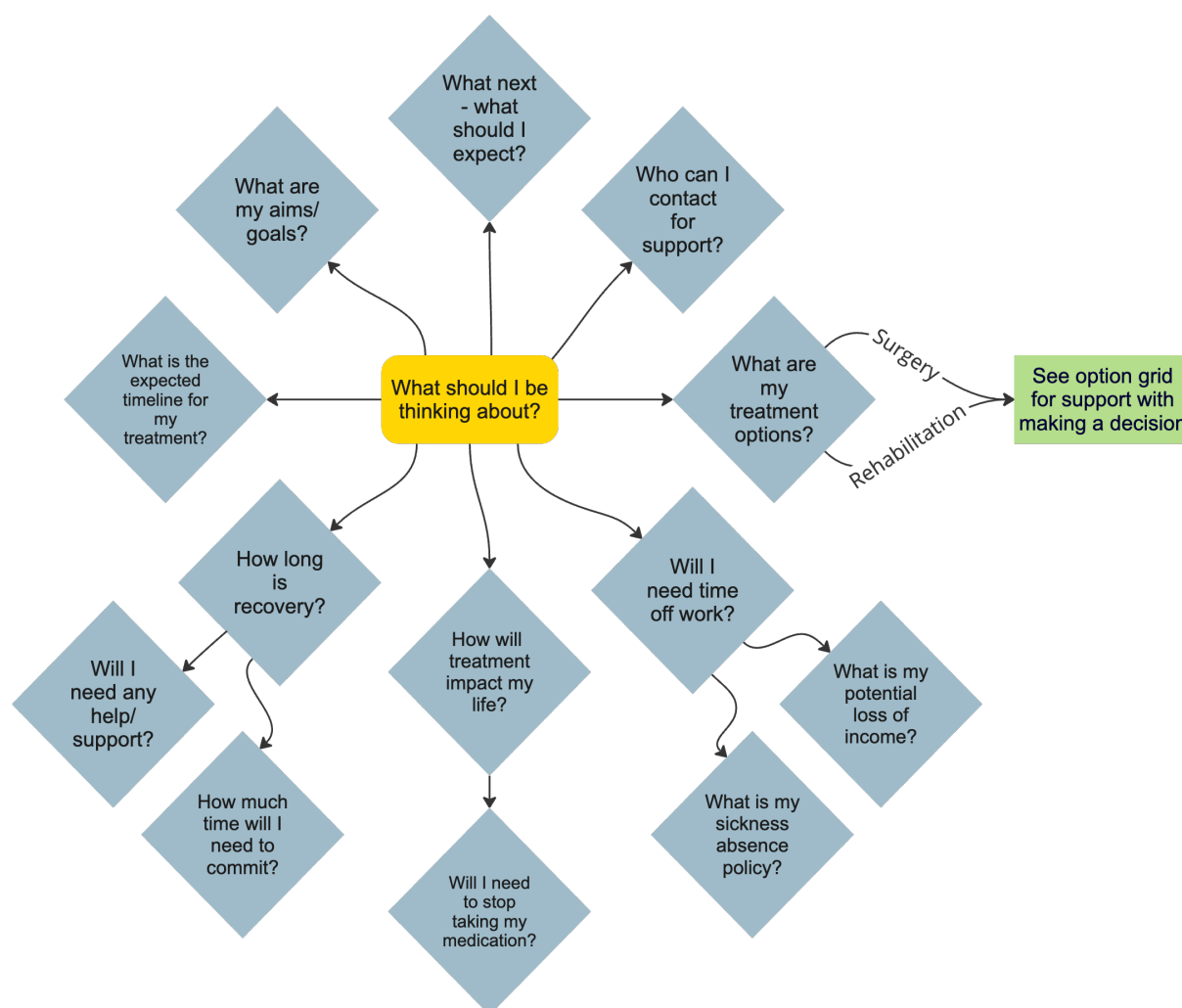


Figure 2 - Expected journey

We recommend discussing expected timeframes for each step with your clinician.

What to think about

The 'what should I be thinking about' diagram (next page) outlines some key questions to think about. You should discuss these with your clinician. These will help you to make a decision about what treatment is best for you.



What next?

You will need to make a decision about what treatment is best for you. At present, the evidence isn't strong enough for us to conclude that surgery is necessary for everyone or that rehabilitation is the best option.

This information leaflet aims to provide you with the necessary information to help you understand your options.

The **Option Grid** should be used with your clinician(s) to help you decide on the treatment that is right for you.

Other information

There is a lot of information about ACL injuries and treatment available online. Some of this information is more accurate than others. If you read anything online that doesn't fit with what your healthcare professional is telling you or that you have read here, you should ask them about it.

References

Below are links to the research studies mentioned in this leaflet. The number next to the sentence in the leaflet represents the research the finding was taken from.

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