Practice Plus Group

Patient information

Anterior Cruciate Ligament (ACL) Reconstruction

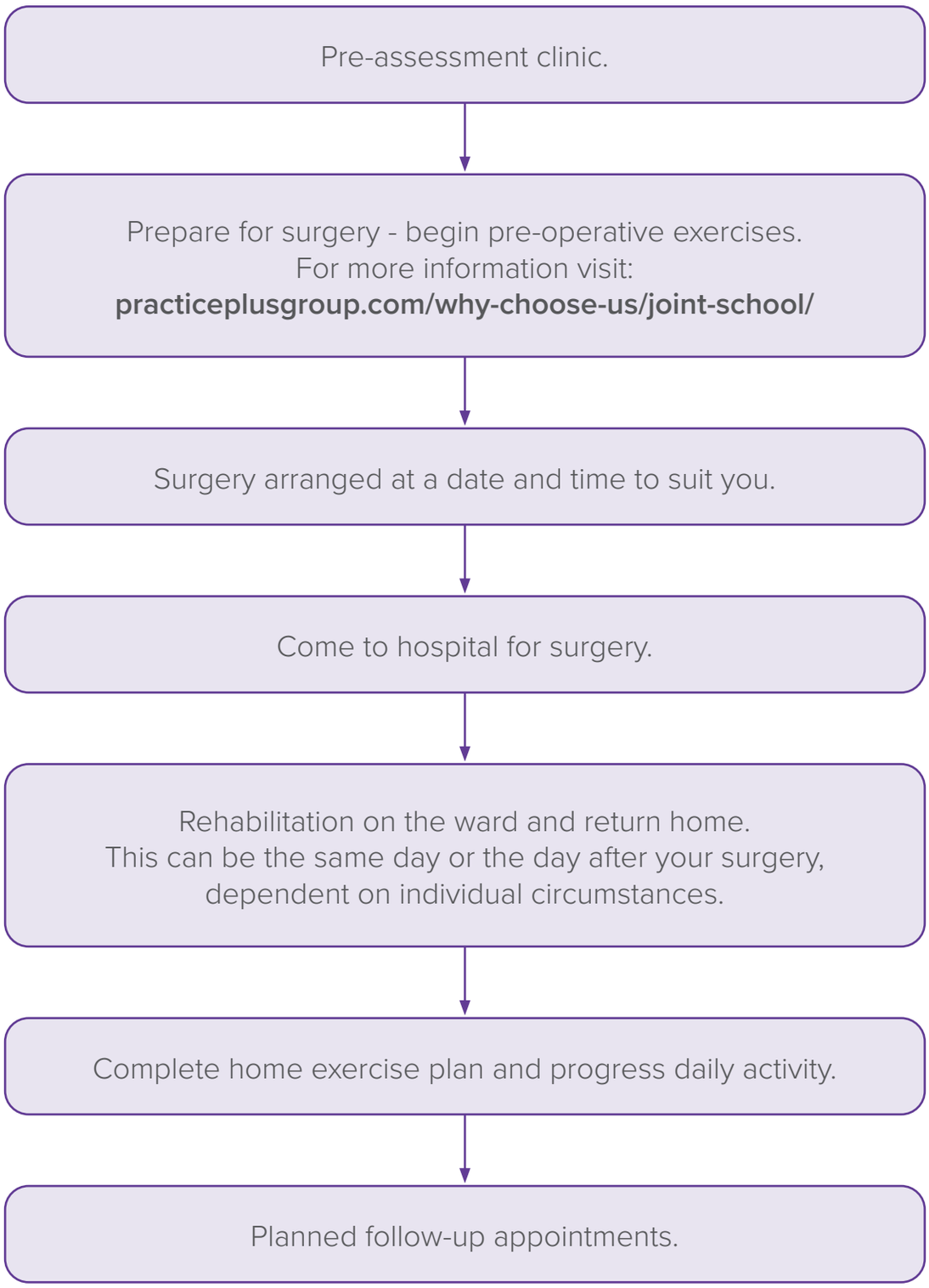
Insert contact details sticker here:

A huge thanks for choosing Practice Plus Group for your Anterior Cruciate Ligament (ACL) Reconstruction. We're delighted to have you onboard and can't wait to welcome you through our doors! Whether you've had surgery before or this is your first time, we work hard to make sure your experience with us is comfortable and you have all the support you need to get back on your feet

This booklet is packed full of useful information about what you can expect on the day of your surgery, all the way through to the best ways to manage any post-surgery discomfort at home. Each section is marked with page numbers to make it super easy to use, but if you don't find the information you're looking for, remember we're just a phone call away! Don't hesitate to give us a call on the numbers provided and one of our team will be happy to help.

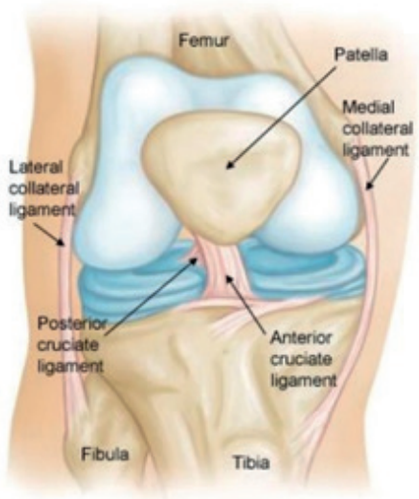
This booklet is structured under the following headings

What will my ACL Reconstruction journey look like?



What is the ACL?

The ACL is one of four major ligaments found in the knee that connect the tibia (shin bone) to the femur (thigh bone). Ligaments are “cords” which join one bone to another, helping to form a joint. They guide, control and limit the movement of the bones.

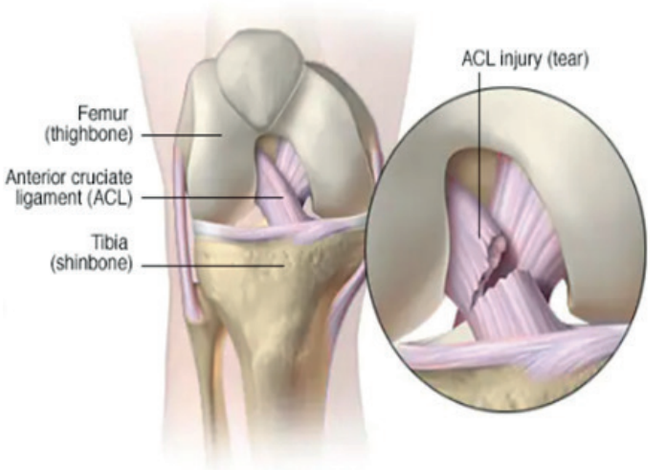


The other bone involved with the knee joint is the patella (kneecap), which glides on the front of the knee as it bends and straightens. The ACL forms an X in conjunction with the Posterior Cruciate Ligament (PCL) in the middle of the knee joint.

The other two main ligaments of the knee are the Medial Collateral Ligament (MCL) and the Lateral Collateral Ligament (LCL).

What is an ACL injury?

The role of the ACL is to prevent forward movement and rotation of the tibia relative to the femur. A torn ACL has serious implications for the stability and function of the knee joint, causing the knee to buckle and give way.



Most ACL injuries occur through a twisting force being applied to the knee whilst the foot is firmly planted on the ground, (for example when landing on one leg or during a sudden change in direction). In many cases contact with another person is not necessary to cause an ACL injury.

The meniscus, commonly known as ‘knee cartilage’, are a pair of crescent-shaped discs of white fibrous tissue that act as shock absorbers inside the knee. They increase the contact area between the bones, contributing to stability.

Articular cartilage is the other type of cartilage that covers the ends of the bones. After you tear your ACL, if you have further episodes of giving way, you risk damaging your meniscus and/or articular cartilage.

Muscles also play a very important role in knee stabilization. They react to the amount of stress placed on them. With a decreased amount of stress (e.g., immobilisation, protection, non-weight bearing), the muscles weaken and atrophy (waste away). For this reason, the exercises in this program are extremely important to help you recover from the initial injury and to prepare you for surgery.

Managing an ACL injury?

After an ACL tear the knee will usually be swollen, painful, weak and have limited movement. All inflamed joints benefit from RICE: rest, ice, compression and elevation. Apply an ice pack (wrapped in a pillowcase to protect your skin), for 20 minutes every 2 hours until your swelling has reduced. Rest with your leg elevated so that gravity can help to reduce the swelling. As the pain and swelling decrease, gentle exercise and stretching will encourage a return to normal movement. It is very important to regain full range of movement, particularly strengthening of the knee prior to ACL Reconstruction surgery.

The pain and swelling from an ACL injury causes decreased strength in the muscles around the knee. It is important to exercise both legs. The stronger your muscles are before surgery, the faster you will recover afterwards.

Many people can manage without an ACL and find that a course of physiotherapy to improve muscle strength is sufficient to carry out activities of daily living. However, those that live a more active lifestyle and wish to return to sports often require an ACL Reconstruction, due to instability of the knee and a lack of confidence when twisting or turning.

What is an ACL Reconstruction?

An ACL Reconstruction is an operation to treat the torn ACL in your knee. The ACL is an important ligament that helps keep your knee stable, especially during twisting or turning movements.

During surgery, the damaged ligament is replaced with an autograph, which the surgeon harvests from the tissue of one of your existing muscle tendons.

This graft is usually taken from either the:

- Hamstring tendon
- Patellar (kneecap) tendon
- Quadriceps tendon

In most cases, the tissue is taken from the same knee as your injury.

What does the procedure involve?

Most commonly, the graft is made using two hamstring tendons taken from the back and inner side of your knee. These are removed through a small incision (about 3-4 cm) just below the knee.

In some cases, your surgeon may recommend a different graft, such as:

- The middle part of the patellar tendon
- A section of the quadriceps tendon
- A section of the peroneus tendon from the ankle
- Occasionally, a donated tendon (allograft)

Your surgeon will discuss the options with you and help decide which is most suitable.

The operation is performed using a camera (arthroscope) inserted into the knee through small incisions.

Small tunnels are created in the femur and tibia. The graft is passed through these tunnels and secured in place using screws or other fixation devices. These are designed to remain in your knee permanently.

Additional surgical procedures:

Lateral Extra-Articular Tenodesis (LET)

In some cases, your surgeon may recommend an additional procedure called a lateral extra-articular tenodesis (LET). This is done to provide extra stability to the knee, particularly if there is a higher risk of the new ACL being placed under excessive strain or re-injured.

During this procedure:

- A small strip of tissue is taken from the iliotibial (IT) band on the outside of the thigh
- This is then attached to the outer side of the knee to help control twisting movements

The decision to perform this is based on your assessment before surgery and examination of your knee during the operation.

If required, it is carried out at the same time as your ACL Reconstruction through a small additional incision.

Meniscal Surgery

During your ACL Reconstruction, your surgeon will also examine your meniscus. The meniscus is a piece of cartilage that acts as a shock absorber in your knee.

Although scans (such as MRI) may show a tear before surgery, the final decision about treatment is often made during the operation. The aim is to preserve as much of the meniscus as possible to protect your knee in the long term.

If a tear is found, the treatment options include:

Meniscal repair

- The tear is stitched if it is in an area that can heal.
- You may need a brace after surgery.
- There may be temporary limits on bending your knee and weight-bearing.

Meniscectomy

- The damaged part of the meniscus is removed.
- As much healthy tissue as possible is preserved.

Expected benefits

The aim of ACL Reconstruction is to restore stability and function to your knee.

Most patients can expect:

- Improved knee stability (less giving way).
- Improved movement and flexibility.
- Reduced pain and swelling over time.
- Greater confidence in the knee during daily activities.
- Return to sport or physical activity (for many patients).

Reconstruction can also help reduce the risk of further damage to the knee.

Recovery takes time and requires commitment to rehabilitation. Outcomes vary, and return to high-level sport cannot be guaranteed for everyone.

Potential complications:

All operations carry some risk, although serious complications are uncommon.

Graft stretching

It is normal for the new ligament to stretch slightly as it heals. In some cases, it may stretch too much, leading to ongoing looseness in the knee.

Following your rehabilitation programme carefully helps reduce this risk.

Graft failure (re-injury)

There is a risk that the graft can tear again, particularly during high-impact or twisting sports.

To reduce this risk:

- Complete your full rehabilitation programme.
- Meet strength and movement goals before returning to sport.
- Avoid early return to high-risk activities.
- Wait until 9 months and your surgeon is happy for you to do so before returning back to pivoting sports.

Donor site pain

You may experience pain or discomfort where the graft was taken from.

This may include:

- Pain when kneeling (especially with patellar tendon grafts).
- Tightness or weakness in the hamstring or thigh.
- Local swelling or bruising.

These symptoms usually improve over time but can occasionally persist.

Nerve irritation

Small nerves around the knee can sometimes be affected, causing numbness or tingling. This often improves, but may not completely resolve.

Pain after surgery

Pain is normal after surgery and is usually worst in the first 48 hours. A milder ache can last for several weeks.

Pain is usually well controlled with medication. Rarely, a condition called complex regional pain syndrome (CRPS) may develop.

Stiffness

Your knee may feel stiff after surgery. This is common and improves with exercises and physiotherapy.

Other risks (less common)

Infection

We all carry millions of bacteria on both the inside and outside of our bodies.

Normally, these don't cause any problems but if they get into an open wound, they may then become an issue. To reduce this risk, you will be provided with a special skin wash which must be used as per the instructions prior to your surgery It is also important that you do not have any cuts, grazes or sore areas on your legs before attending your surgery.

To reduce the risk of your surgery being cancelled, try to avoid activities that may lead to cuts (like gardening and shaving) for a few weeks before your surgery. It's also really important to maintain good hand hygiene before and after your surgery. This is to avoid transmitting germs to your knee via touch.

While it is normal for a new surgical wound to be slightly warm and red to touch, if you start to feel unwell or feverish, the pain is getting worse and/or the wound starts to leak fluid, please contact either the hospital, your GP or 111.

Deep Vein Thrombosis (DVT) / Pulmonary Embolism (PE)

Blood clots can occur after any type of surgery but the risks are higher in surgeries involving the lower limbs. To

reduce the risk of blood clots, you'll be given blood-thinning medication and should start circulation exercises as soon as you can following your surgery.

A DVT occurs when blood in a vein of the lower limb clots. This may cause your leg to become hot, reddened, hard or painful to touch during the first few weeks after surgery. Please contact the hospital, your GP or 111 initially, to assess whether you need to attend A&E.

Although very rare, a PE occurs when the clot in a vein breaks off and then travels through your blood stream to become lodged within your lungs. You should seek urgent medical treatment if you experience sharp chest pains, breathlessness and/or are coughing up blood.

Swelling

Is very common in the thigh, leg, and foot in the early stages of recovery following your ACL Reconstruction. This will normally resolve without a problem over time, but occasionally the swelling can be caused by a DVT in the leg.

Urinary incontinence/retention

May be temporarily experienced following spinal anaesthesia until full bladder sensation returns. If you're unable to pass urine, you may need a catheter. This will help empty your bladder and can usually be removed once your normal bladder sensation returns.

Constipation

Can commonly occur with the increased use of analgesia, dietary changes, and reduced mobility. Oral laxatives can be prescribed if you experience significant discomfort and changes to your normal bowel habit(s).

Delirium

Delirium or acute confusion can affect anyone being admitted to hospital, especially those undergoing major surgery. Some people have higher risk factors than others prior to their admission, and common causes are a

reaction to analgesia, signs of infection, constipation, dehydration and alcohol/ drug withdrawal.

Pre-operative appointments

Once you've had your initial consultation and decided to proceed with your ACL Reconstruction, you'll be assessed by one of the outpatient nurses. This is to make sure you're physically ready to have surgery. The nurse will check your:

- Height.
- Weight.
- Bloods.
- Blood pressure.
- Heart rhythm via Electrocardiogram (ECG).

You will then be assessed by the anaesthetic team, who will discuss your fitness for surgery and discuss the benefits, risks, and possible complications of anaesthesia.

Reducing your risk of falling

- Move furniture to allow you enough space to move with your walking aids.
- Consider having a handrail fitted if you have stairs without a banister.
- Remove loose rugs.
- Ensure that there are no trailing cables.
- Use a night light next to your bed so that you can get to your toilet safely at night.
- Use cordless or mobile phones so that you can contact someone in an emergency.
- Relocate items from low or high places to somewhere easier to reach.

Day case surgery

ACL Reconstruction surgery is normally performed as a day case procedure. This means if you're well enough, you'll be able to go home on the same day as your surgery.

Getting prepared for your ACL Reconstruction surgery:

Before your ACL reconstruction surgery your GP and the outpatient nursing teams will want to identify and stabilise any health conditions that you may already have. They may also provide you with lots of useful help and advice to support you to get in the best possible shape prior to you having surgery, although it is also very important that you try to help yourself by:

1. **Eating a good diet** - helps to improve your recovery and tissue healing.

   If you are overweight, reducing your weight prior to surgery can decrease the risks of wound healing problems, anaesthetic problems and help to improve your rehabilitation potential. It is also important to try to keep your weight down after surgery to reduce the risk of your joint wearing out. If you have any concerns about your weight, please see your GP as they can refer you for professional support.

   Try to have sensible portion sizes at meal times, and limit your intake of inflammatory foods such as red meat processed meats, sugar, saturated fats, salt and simple carbohydrates, whilst increasing your intake of anti-inflammatory foods, such as fish, nuts, seeds, fruits, vegetables and whole grains.

   Daily water intake is required to replenish daily losses, on average females require 1.6 Litres per day, and males require 2.0 Litres per day. If you have any concerns about your diet, please contact your GP for further advice.

2. **Exercising** - before your surgery is a great way to help yourself recover faster. You should try going for short daily walks, using an exercise bike or swimming as these are considered low impact activities. Also practice the exercises given in this booklet (on page 12) as these will help strengthen your muscles before your surgery.

3. **Reducing smoking and alcohol** - Reducing or stopping the amount you smoke and the amount of alcohol you drink before surgery can help speed up your recovery.

   The risk of smoking complications, such as wound infections, blood clots, heart attacks, kidney failure and revision surgery can be reduced from 52% to 18%, if smoking interventions occur six to eight weeks prior to surgery.

   While the general consensus is to stop drinking alcohol at least 24 hours before the knee surgery, medical professionals tend to agree that the longer a patient can refrain from alcohol before surgery, the better.

   If you require any assistance please ask at one of your pre-operative appointments. For further support and advice you can contact the NHS smoking helpline: **0300 123 1044.**

4. **Try to get enough sleep**
   Aim for seven to nine hours of quality sleep each night. A good night's sleep is essential for your mental health.

5. **Manage stress**
   Implement stress management techniques such as meditation, deep breathing exercises, yoga, or journalling.

6. **Skin preparation**
   Ensure that you use the skin wash provided to you at your pre-assessment appointment as instructed. Using this will reduce the risk of post-surgical infection.

Please speak to a member of the team if you have any concerns before your procedure. It's important to us that your perioperative journey is as worry-free as we can make it.

Benefits and goals of pre-habilitation

Pre-habilitation prior to reconstruction surgery is very important to aid your recovery back to health. Regaining strength and movement in your knee before the surgery will improve your recovery after the reconstruction.

The goals/aims are to:

1. Return range of movement to normal and decrease the risk of post operative stiffness.
2. Achieve good muscle tone, control, strength and flexibility.
3. Improve balance.
4. Walk without a limp.
5. Achieve an increased level of cardio-vascular fitness.

Pre-operative home exercise programme

30 minutes of cardio at least 3 x week. This activity should be low impact, straight line activities eg, Cross trainer and / or static bike.

Before starting the strength training exercises, Full range of motion is needed at the knee. If you do not have this, you should complete the range of motion exercises 4-5 times a day.

Strength training 3 x week.

Regain full knee motion

Aim to build up to 20 repetitions, 3-4 times a day

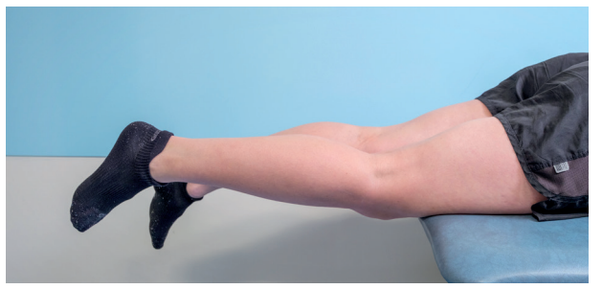
1. Extension prone hangs

Laying on a bed make sure your knees are slightly hanging over the edge.

Let gravity pull your leg down and straighten your knee. Try to sustain this hold for as long as possible.

NB: To make this more difficult:

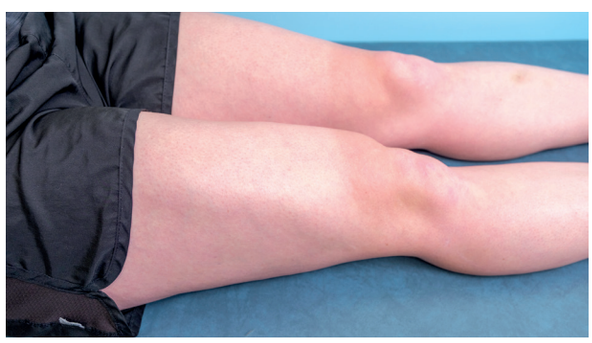
- Place your good leg onto your heel and push it down.
- Place a small ankle weight on the ankle.



2. Static quadriceps

Sit on a flat surface with legs out in front of you. Tense the thigh muscle.

Hold for 10 seconds, then relax.



3. Assisted extension

Sit on a flat surface with your legs out in front of you, place a rolled-up towel underneath your heel and push the back of the knee down towards the bed.

Hold for 10 seconds, then relax.

4. Heel slides in chair

Sitting on a dining chair bend your bad knee far as you can by sliding your foot backwards, Cross the other leg over your ankle and use it to help bend the knee further.

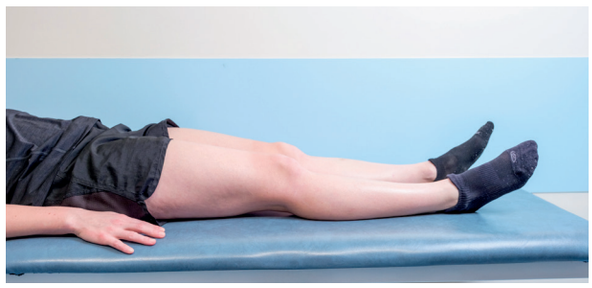
Hold the position for 10 seconds.

5. Heel slides on the bed

Lying or sitting on a flat surface slide heel towards you bottom as far as you can.

NB: you can also assist it further with your hands.

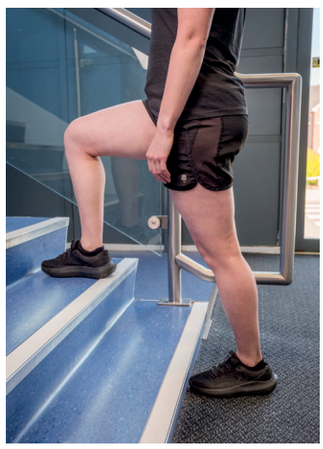
Hold the position for 10 seconds.



6. Reverse flexion on step

Place your foot on the 2nd step and push your hips forwards as if you are lunging.

Hold the position for 10 seconds.



Strengthening exercises

It is important to strengthen all muscle groups, ideally on both legs. Be aware of pain: soreness during the exercises is normal but you should not experience severe pain. If this is the case, reduce the number of exercises you do.

Aiming for 3 sets of 8-12 reps, 3 times a week. Start with less reps and build up gradually.

1. SAQ

Sit with your legs out with a rolled-up towel underneath your knee, point your toes to the ceiling and lift the heel off the bed, ensure your knee stays on the towel.

Hold for 10 seconds.

NB: To progress add a small ankle weight.

2. SLR

Sit with your legs out. Ensure your toes are pointing up to the ceiling, tense thigh muscle and lift the leg.

Hold for 10 seconds.

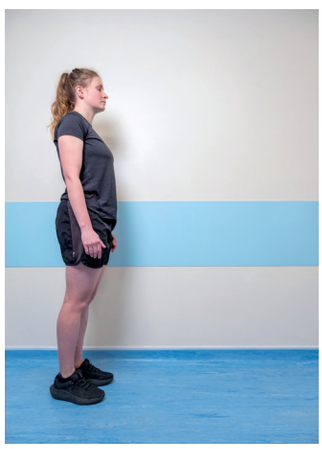
NB: To progress add a small ankle weight.

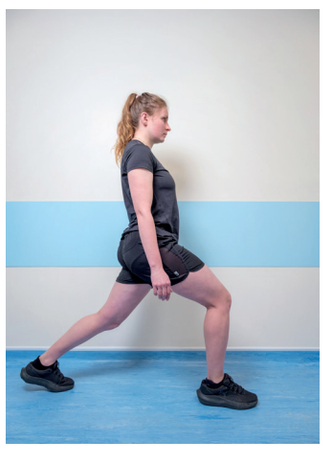
3. Split lunge

Stand with legs shoulder width apart. Take a large step forward keeping your back leg straight. Bend the forward knee to 90 degrees, then step back to the start position. During the exercise keep your knee aligned over your second toe.

Hold the position for 10 seconds.

NB: To progress use hand held weights.



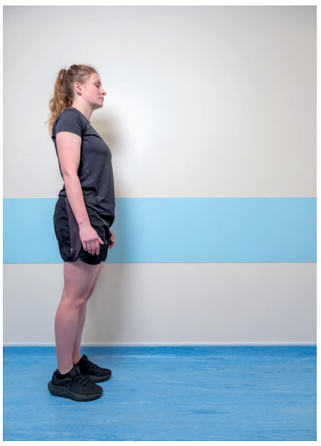


4. Lunge

Stand with legs shoulder width apart. Lunge forward and bend both legs to 90 degrees, keeping weight equally distributed and return to starting position.

Hold this position for 10 seconds.

NB: To progress use hand held weights.




5. STS - Bad leg bias

Sitting in a tall chair, with your bad leg slightly behind your good leg. Place all your weight through your bad leg as you do a sit to stand. From standing, slowly lower yourself down into the chair.

During the exercise keep your knee aligned over your second toe.

Aim to complete 20 reps.

NB. To progress this exercise, position your good leg straight out in front of you so you only have your bad leg in contact with the floor.



6. Standing hamstring curl

Stand holding onto a chair, bend your bad knee as much as you can.

Hold for 10 seconds.

NB: To progress add a small ankle weight or resistance band.


7. Bilateral bridge

Lying on your back with feet flat on the floor and knees bent. Gently squeeze your stomach and buttock muscles and push through your heels to lift your bottom off the floor.

Ensure your hips are level and return to starting position.

Hold this position for 10 seconds.


NB: To progress reduce upper limb support.




8. Single leg Romanian dead lift

Stand on your bad leg hinge at the hips, and lower your torso while extending the other leg behind you for balance. Gently squeeze your bottom muscles and slowly return to the upright position.

NB: To progress use hand weights.


9. Side lye hip abd

Lie on your good side, keeping legs straight, Lift the bad leg up towards the ceiling ensuring toes continue to face forwards. Hold this position for 10 seconds, then slowly lower down to starting position.

NB: To progress add ankle weights.

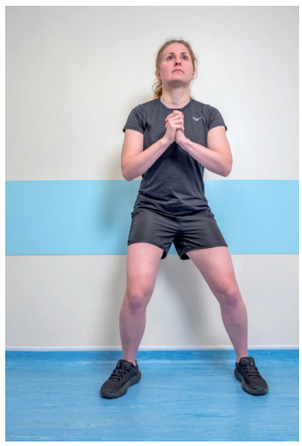
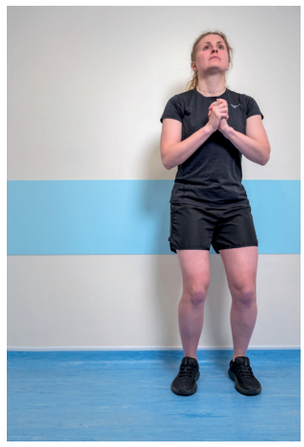

10. Crab walks

In a mini squat position with feet shoulders width apart, walk sideways 5 metres whilst maintaining the mini squat. Maintain the shoulder width distance between your feet.

When you have done 5 metres in one direction, go in the other direction and repeat to fatigue.

NB: To progress:

1. Increase step length.
2. Add a resistance band to your ankles, keep the resistance on the band as you walk sideways.

11. Forward step ups

Start with the foot of your bad leg on a step and step up.

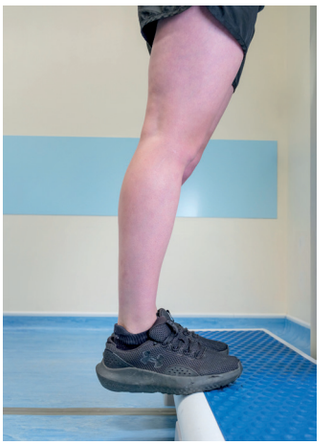
Hold for 5 seconds at the top and then step back down with your good leg, slowly lowering through your bad knee. During the exercise keep your knee aligned over your second toe.

NB: To progress:

1. Increase the height of the step or use hand weights.
2. Use a weight in each hand.


12. Gastroc - calf raises

Hold on to something for support whilst standing on the balls of your feet on a step and your knees straight. Slowly go up onto your toes and then return to the start position.



Aim: 20 reps or to fatigue.

NB: To progress:

1. Add weight to your back e.g. rucksack of books.
2. Double leg to single leg.

13. Soleus calf raises

Hold on to something for support whilst standing on you bad leg (on the balls of your foot) on a step with your knee bent (45 degrees).

Slowly push up onto your toes and then return to the start position.

Aim: 20 reps or to fatigue.

NB: To progress add weight to your back.

Balance

1. SLS - flat surface

Stand on your bad leg, keeping your shoulders and pelvis in line.

Aim: 3 x 45 seconds

NB: To progress:

1. Close your eyes.
2. Turn your head whilst maintaining standing.

NB: To progress use hand held weights.

2. Bilateral stand - wobble board

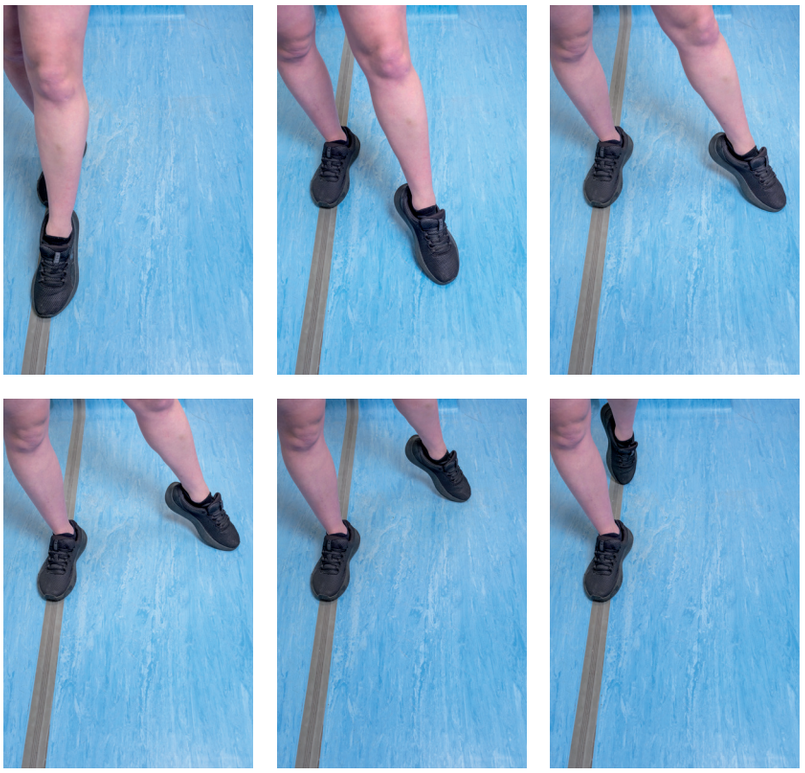
Standing on an upturned wobble board keeping your feet and pelvis in line. Maintain you balance.

Aim: 3 x 45 seconds

NB: To progress:

1. Close your eyes.
2. Single leg stand.

3. SLS - clock face



Stand on your Bad leg with your knee slightly bent, extend your good leg out in the direction of the numbers on a clock face.

Aim: Go around the clock 3 x clockwise and 3 x anti-clockwise.

4. SLS - wobble board

Standing on your bad leg in the middle of an upturned wobble board, keeping your shoulders and pelvis in line maintain your balance.

Aim: 3 x 45 seconds

NB: To Progress close your eyes.

Agility

1. 2 leg jump and land

Jump up vertically. Land softly; **keep your knees over your second toe** and pushing your bottom out in to a squat position.

Aim: 20 repetitions.

How long will I be staying in hospital for?

You will have your surgery on the day you are admitted.

Although this procedure is usually carried out as a day case, it is sensible to plan for an overnight stay. Same day discharge depends on several factors, including the time you return from theatre, your medical stability, and being assessed and cleared for discharge by the Physiotherapy team.

Please ensure you have made all necessary home support arrangements before coming into hospital.

What should I bring to hospital with me?

- This booklet.
- Mobile phone and charger.
- Any toiletries that you use for everyday hygiene.
- Any glasses and hearing aids that you normally use (and spare batteries).
- Reading materials etc. to help pass time while you are in hospital.
- Loose fitting nightwear, including a dressing gown.
- Comfortable day-wear; as you are having an elective procedure you will be expected to wear normal clothing throughout the day.
- Well-fitting, flat supportive footwear with backs (your feet may swell after surgery so bring footwear that allows a little extra room).
- All medications you are currently taking.

It's best to avoid bringing jewellery and other valuables with you to hospital.

ACL Reconstruction - on the day of your surgery

We'll let you know in good time when you should aim to arrive during your pre-operative phone call, but it's usually an early start: between 6.30am and 7.00am! This is to give the nursing team enough time to safely admit you, and to ensure that everything is as it should be prior to you having your surgery

Your surgeon and anaesthetist will also likely want to talk to you prior to them starting their theatre lists for the day. Your surgeon will want to ensure that you fully understand the planned procedure, check your consent form, and draw a mark on the leg that is to be operated on.

Theatre expectations

Please be aware that the surgical list order is usually arranged and prioritised upon medical criteria. This does mean that some patients may have to wait a little while for their surgery, but the nursing team will keep you up-to-date of any changes to your surgery timings.

Members of the theatre team will wear special clothing, including hats and masks, while the surgeon and scrub nurses will also wear helmets and gowns in order to reduce the risks of surgical infection.

Anaesthetic

Before your surgery can begin, your anaesthetist will need to administer anaesthetic. Most patients have their ACL Reconstruction under a spinal anaesthetic, which will numb your legs, hips and lower abdomen. This is administered into your lower back and means you'll be awake for the entire procedure but won't feel any pain. It is often combined with sedation which will allow you to not be as awake during your operation and, whilst not a full or general anaesthetic, many patients sleep through their procedure with this technique. A spinal anaesthetic typically supports a faster recovery than a general anaesthetic

If you'd prefer to receive a general anaesthetic, simply discuss this with your anaesthetist. This is administered through your veins and sends you to sleep for the entirety of the surgery. Whilst this is also an effective type of anaesthetic, some patients experience an unpleasant "hung-over" effect after their surgery, which can make them feel sick for some time and the recovery be a little slower. A nerve block may also be given in conjunction with both the spinal and general anaesthetics, and will help to numb the nerves in your leg during your surgery

Once your anaesthetic has 'taken effect', your surgeon then carefully positions you on the operating table and prepares your leg with an antiseptic solution. Your surgeon then makes incisions on the front of your knee, and the ACL Reconstruction surgery described earlier begins. During your operation we are happy for you to listen to some music of your choice, as this has been found to help reduce anxiety.

Following your ACL Reconstruction

Following your surgery, you'll spend some time in the recovery unit. Our nurses will be keeping a close eye on you until you're ready to return to the ward.

Returning to the ward

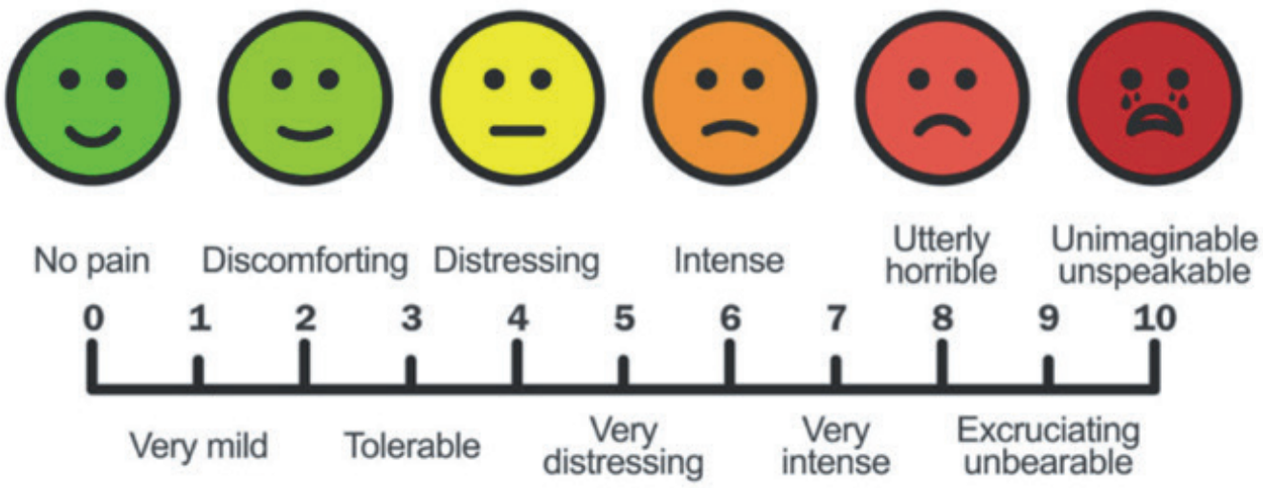
The inpatient nursing team will continue to monitor:

- Your blood pressure, pulse, temperature, respiratory rate and oxygen saturation levels.
- Your pain levels.
- Your bladder and bowel function.
- Your surgical wound.
- The return of sensation and power to your lower limbs.

As the anaesthetic wears off, it's normal to experience some discomfort. The nurses will provide regular pain relief to help manage this.

You will be asked frequently to rate your pain on a scale of 0 - 10 to gauge how effective your pain relief is. Try to be aware when your pain is climbing above four as catching it early can make the pain easier to control.

Please make the nursing staff aware if you feel your pain levels are not manageable.



When the anaesthetic wears off, you'll start to regain the feeling in your legs. At this point, one of the nurses or physiotherapists will assess whether you're ready to start moving. If this is the case, you'll be encouraged to get out of bed. Research has shown that the earlier a person gets out of bed, starts walking, eating and drinking after surgery, the speedier their recovery time will be.

Even if you were initially planned as a day case you may have to stay overnight if the medical nursing and physiotherapy teams are not entirely satisfied that you are safe to be discharged as a day case.

Your surgical dressing

The dressing applied to your wound after surgery is a specialist post operative wound dressing, which is designed to soak up any leakage from your wound. This dressing should stay on until your sutures are removed between 10-14 days after your surgery. You might see a small amount of bloody fluid within the dressing itself, but if this becomes excessive, please get in touch with us for advice.

Do I require a knee brace?

The need for a brace will depend on the procedure(s) performed and whether your surgeon believes you require one. You will be advised if this is necessary, and the physiotherapist will fit the appropriate brace either when you return to the ward or before you begin mobilising.

Exercises to do while on the ward

Deep breathing exercises help maintain a clear chest: take a deep breath in through your nose so that your ribcage expands, then slowly exhale through your mouth. Repeat three more times and then cough. Please repeat this exercise every hour.

Foot and 'ankle pumps' are important circulatory exercises which help to reduce the risk of a DVT. Vigorously move both feet up and downwards for 60 seconds, every 30 minutes during the day.

Weightbearing

Getting up, mobilising and starting to be independent after your surgery is very important. This helps speed up your recovery, and reduces the complications associated with prolonged bed rest.

While the medical and nursing teams will continue to assess and monitor your health you will also be seen by a member of the physiotherapy team. They will make sure you can move around safely after surgery.

Most people can start putting weight on the leg as comfort allows (this is called weight bearing as tolerated). You can gradually increase how much weight you put through the leg, and many patients use crutches for the first 2-4 weeks to help them walk safely and with good walking pattern.

If your surgeon needed to do any extra procedures during your operation, there may be specific limits on how much weight you can put on your leg. Your physiotherapist will explain exactly what you can and can't do before you get up and start walking.

How to get in and out of bed safely

Most people find it easier to get into bed using the non-operated leg first, and getting out of bed using the operated leg first. However, if you prefer, it is fine to do the opposite of this too, unless doing so causes you a significant increase in pain around the knee.

Reaching back for the bed with your arms, slowly lower yourself down in order to sit on the edge of the bed. You may find it more comfortable to bring your operated leg forwards, and non-operated leg back whilst sitting down.

Using your hands on the bed to help, shuffle your bottom backwards towards the middle of the bed. Then turn your body and swing your legs around, so that you are lying comfortably in the centre of the bed.

To get out of bed reverse these steps and remember to sit comfortably on the edge of the bed for a few moments before standing. This will allow your body time to adjust to a more upright position, and reduce your risk of falling

How to mobilise safely

Crutches are used to give you extra support and reduce the load on your knee joint in the early stages of your post-operative recovery. Whilst your walking pattern may change as you get more confident, to begin with your walking pattern should be:

- Move your crutches forwards.
- Step forwards with your operated leg.
- Step forwards with your good leg.

Crutch use - COG

Crutches

Operated leg

Good leg

Most patients progress from using two crutches to one within the first 1-3 weeks after ACL surgery. Your exact timing may be a little different depending on your surgeon's plan and how your knee is healing. You are ready to progress to one crutch when you can walk without limping and your pain is well managed. The focus is on moving safely and comfortably rather than rushing the process.

When using just the one crutch is should be held on the non-operated side and move at the same time as your operated leg.

Walking distances

The amount you need to walk each day often depends on your individual fitness levels. Initially you should try and walk 'little and often' around the house. As you become more confident you can set yourself realistic targets to try and increase your walking distances on a daily basis.

If you notice that your knee and leg are becoming significantly more painful and swollen as you start increasing your walking distances, your body is telling you that you are walking too far. If this is the case, listen to your body and rest, reduce your walking time and distances for a few days and increase your use of ice packs and elevation of the leg.

Start your home exercises

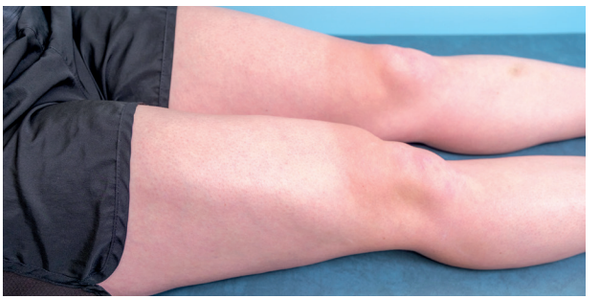
The following exercises are needed to improve the range of motion and strength in your leg. While these exercises are likely to be uncomfortable at first, you must persevere and take ownership for doing them 3-4 times a day.

Initial post-operative exercises:

Static quadriceps

Sitting up with your legs out straight. Tense and tighten your thigh muscles.

Hold for 10 seconds, then relax. Repeat 10 times.

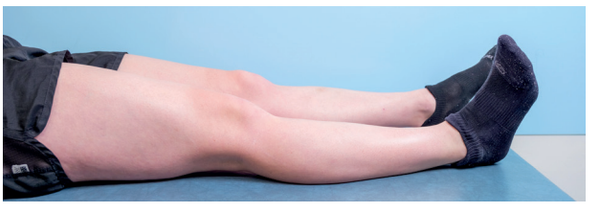


Active knee extension

Sitting with your legs out straight. With your operated leg, point your toes to the ceiling, tense your thigh muscle whilst pressing the back of your knee down into the bed.

Hold for 10 seconds, then relax. Repeat 10 times.

NB To progress this exercise further, you can place a rolled up towel underneath your ankle.



Seated active knee flexion

Sitting up straight on a sturdy chair so that your feet are supported on the floor.

Slide your foot backwards on the floor (which will bend your operated knee) as much as possible.

Hold the tension for 10 seconds and return to the starting position. Repeat 10 times.

Seated active assisted flexion

Sitting up straight on a sturdy chair. Cross your ankles with the good leg on top of your operated leg.

Move the foot on the operated leg backwards by bending your knee, assisting the movement with your good leg.

Hold this position for 10 seconds, then return to the starting position.

Repeat 10 times.

Static hamstring

Lying on the bed with your operated knee slightly bent (as shown in the picture) gently push your heel downwards into the bed, so the muscle on the back of the thigh is tense and tightened (no movement should occur at the knee).

Hold for 10 seconds, then relax.

Repeat 10 times.

My additional exercises notes

Depending on your individual needs, your treating physiotherapist might give you some additional exercises to complete after your surgery. These exercises will be tailored to your specific needs, and it might be useful to jot them down in the space below.

Safely climb the stairs

A member of the physiotherapy team will complete a stairs assessment with you to ensure you can climb up and down stairs safely prior to discharge. Even if you do not have stairs at home, it is a good idea to practice your technique in a safe and controlled environment. You are likely to come across stairs and steps in the early stages of your recovery, and being confident with your technique reduces the likelihood of you falling.

It is always advisable to use any available handrails you have in situ at home. The following explanation assumes that you have one handrail on your stairs. Please discuss your individual circumstances with your treating physiotherapist, who can advise you of the correct procedure if you have two, or even no handrails.

Getting upstairs safely:

1. Using the handrail for support move your good leg up one step.

2. Then move your operated leg up onto the same step.

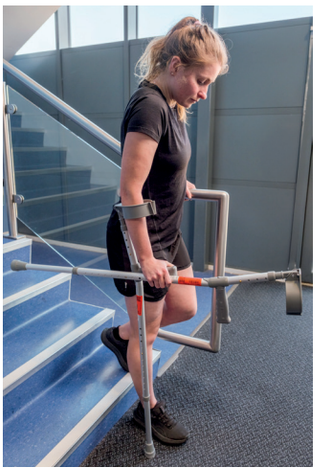
3. Then move your crutch(s) up on to the same step.

4. Repeat this process for each subsequent step.

Getting downstairs safely:

1. Using the handrail for support move your crutch(s) down one step.

2. Then move your operated leg down onto the same step.



3. Then move your good leg down on to the same step.

4. Repeat this process for each subsequent step.

Before leaving the inpatient ward for home

Please make sure you have packed all your belongings. You will be able to travel home by car, please arrange a lift with family and friends. If you are unable to arrange your own transport this can be done through your local community transport service. Please see your GP's surgery for more information.

You will be given wound care advice, including when and where you will need follow up wound dressing appointments.

You won't need to wear surgical stockings unless advised otherwise.

You will be given your initial post-operative medications, once they have been checked by the nursing and pharmacy teams.

Upon leaving the hospital, we'll give you a discharge letter with information about your operation. We'll get a copy of this in the post to your GP to let them know how the operation went.

We will make you an appointment with the physiotherapist to start your post operative rehabilitation.

Managing pain at home

You will be prescribed pain relief upon returning home. It is important that you take this regularly, as this improves the medication's effectiveness, so making your rehabilitation easier Remember, the aim is to keep your pain levels below a four out of 10 on the pain scale from page 22. With this in mind, it's important you don't run out of pain relief medication. If you do, your GP will be able to prescribe more In addition, if you feel the medication is not helping to keep your pain levels down, please discuss this with your GP, as alternative medications that work better for you may be available.

Managing swelling at home

It is normal to have some post-operative swelling after your knee surgery. This can also effect the foot and ankle. You can help manage this swelling by elevating your leg regularly with an ice pack (a bag of frozen peas wrapped in a pillow case will suffice) for 20 minutes every two hours.

Caring for your incision

It is very important that your wound heals quickly as this helps to reduce the risk of infection. As discussed earlier on page 10, eating a healthy diet is extremely important for supporting good wound healing. Normally the following process is followed:

All stitches will need to be removed between 10 and 14 days post surgery. If you are an NHS patient you will need to arrange an appointment for this to be performed at your GP practice. Please do not try and change the dressing yourself

If you do not have stitches, we will inform you of this prior to discharge.

The wound should be kept dry until your clips and sutures are removed. We use a special waterproof dressing that allows you to wash or take a shower.

Spare dressings can be provided for you, if required. If you notice any leakage, redness, increased pain or an offensive smell coming from your wound, please contact the inpatient ward for further advice.

Bathing and showering

Unless otherwise advised, you can shower with the dressing on that you leave hospital with. Once you have this dressing, and the stitches underneath removed, the treating healthcare professional will advise you when it is OK to have a shower.

It is best to avoid fully submerging your knee in the bath until the wound is completely healed.

Causes for concern

Please contact your GP, 111, or Practice Plus Group hospital if you experience any of the following:

- A severe, sudden increase in pain around the knee joint or leg which cannot adequately be eased with pain relief.
- Your knee repeatedly giving way
- Any shortness of breath or pain when breathing.
- A painful, tight, swollen leg that is red and hard.
- Persistent leaking of the wound, a painful wound that was previously settled, or if the wound appears much redder or hotter than normal.
- Any signs of sepsis - a severe raise in temperature, shaking, confusion, struggling to pass urine, red dots on the skin or nausea. Please contact your local Practice Plus Group hospital, GP or 111 initially, to assess whether you need to attend A&E.

Rehabilitation

Recovery varies from person to person, and your progress will be closely monitored by the physiotherapy team. There are certain activity restrictions in place to protect the new ligament while it becomes strong enough to manage everyday stresses. It is therefore essential that you follow the rehabilitation guidelines carefully.

Rehabilitation will begin on the day of your surgery. A member of the physiotherapy team will go through your exercises with you, ensure that you are mobilising safely, and provide the advice discussed earlier in this booklet. You will also receive guidance to help you continue your rehabilitation independently at home.

Although the physiotherapists will provide support and instructions, it is important to remember that completing the rehabilitation programme at home is your responsibility.

You will have follow up appointments to review your progress and advance your rehabilitation as appropriate. These will be arranged by your physiotherapist as needed throughout your recovery.

The full rehabilitation process typically lasts between 9 and 12 months. Following the programme as prescribed is vital to achieving the best possible function in your knee.

Returning to driving:

You should not drive (either an automatic or manual car) for two weeks following your ACL Reconstruction surgery. At two weeks if you are comfortable to do so, you can perform an emergency stop, and are confident that you can safely operate all the controls of your particular vehicle you may start to drive. We recommend that you initially try this while the car is stationary. It is also advisable to contact your insurance company to check their individual policy requirements, as insurance companies may require you to be signed off as fit to drive.

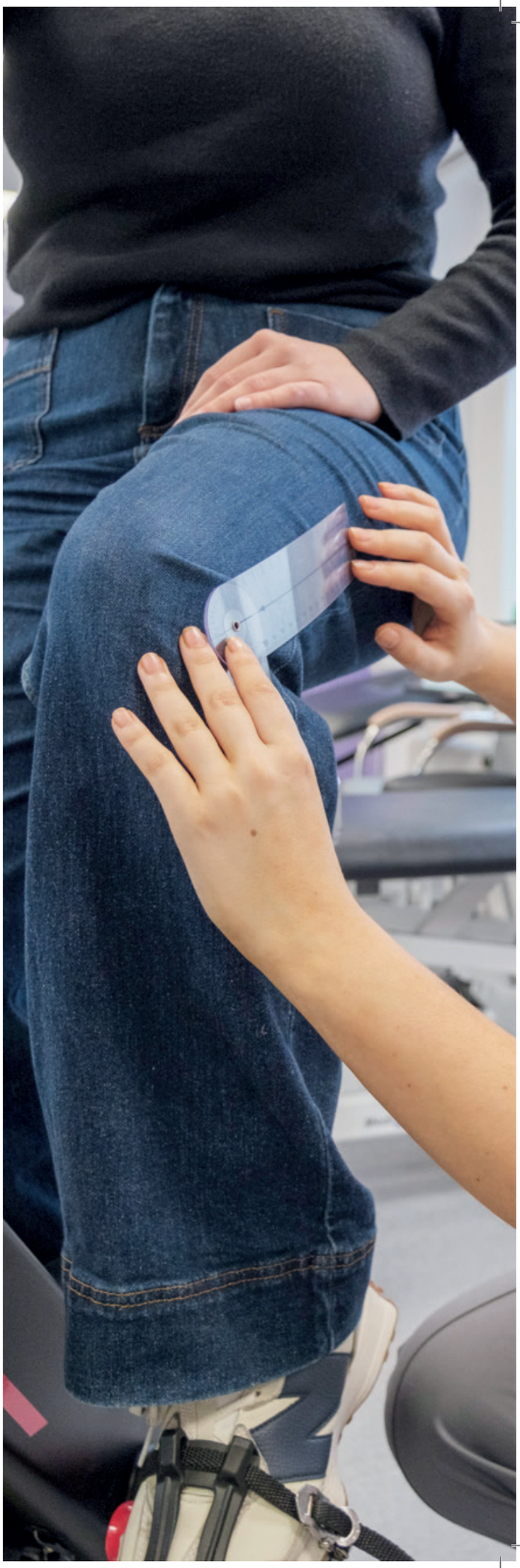
Returning to work and sports:

Your return to work will depend on the type of job you do. The timescales below are general guidelines, but it's important to confirm your individual plan with your surgeon before going back.

Estimated return to work times:

- Office based work: 1-2 weeks.
- Light manual work: 6-8 weeks.
- Heavy manual work: Around 3 months.

Avoid returning to sport too early, as the new ligament needs time to heal properly. Your physiotherapist and surgeon will guide you on when it is safe to start sporting activities again.



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