Manchester *Sports Medicine* Clinic

Contralateral (opposite side) Patellar Tendon Graft ACL Reconstruction and Rehabilitation

Patient Information Booklet

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Introduction

Deciding to have your Anterior Cruciate Ligament ACL) reconstructed is a big decision to make and will involve discussion between yourself and Mr Jari.

Our aim is to provide you with information, support and rehabilitation **before** and after the surgery. We will work with you, through your rehabilitation with the aim of getting you back to your normal working, social and sporting activities.

Both the surgery and rehabilitation will be explained fully so that you understand what is expected of you before your surgery and during your recovery.

What is an ACL Reconstruction?

The ACL (Anterior Cruciate Ligament) is an important ligament deep inside the knee, which helps to stabilize and control the knee and its movements. If it is torn during an injury it does not tend to repair itself and if it is not reconstructed, the knee will be less stable and is likely to give way, particularly if you are doing twisting or jumping movements or heavy labour.

Some people find that if they work hard on strengthening the knee adequately and do little of the above activities they can manage happily with the torn ligament. However, if you wish to return to sporting and leisure activities or heavy labour, reconstructive surgery is necessary to repair the ligament and return the knee to its normal functional stability and movement.

The operation can be done two ways. This booklet covers the contralateral reconstruction, which means the tendon graft is taken from the front of the opposite knee. The main benefit with this approach is that the rehabilitation is usually faster. This is because the donor site, which needs immediate strengthening to encourage the tendon to regenerate and strengthen, can be started immediately when it is not taken from the same side as the reconstructed leg.

The decision on which side the tendon graft is taken from is a decision, which should be made between yourself, Mr Jari and the physiotherapist. If you have any concerns or questions regarding the approach to the operation please discuss this with Mr Jari or your physiotherapist.

How is it done?

Mr Jari will access the injured knee via a short incision (cut) at the front of the knee. Patella (kneecap) tendon tissue from the front of the other knee will be used to make graft to replace the torn ACL. The tendon tissue is very strong and once in place, will work in the same way as the original ligament to prevent excessive knee movement and instability.

Before Surgery

The condition of your knees before surgery is important to your recovery after surgery. Getting your injured knee to a normal state (apart from having the ACL tear) is vital. It will speed up recovery time after ACL reconstruction and allow your goals to be more easily achieved.

Before your operation we will look at your injured knee movement, swelling and leg strength.

Before surgery you must have;

1. Full symmetrical knee movement; including full symmetrical hyper-extension and being able to sit on your heels easily.
2. Little or no swelling
3. Normal Walking
4. Good strength

Before surgery you will also be asked to complete a questionnaire.

One of our specialist knee physiotherapist can arrange to give you an 'ACL talk' to explain all about the pre-op, the operation itself and the post-op rehabilitation if you require.

A physiotherapist will also carry out stability and strength testing assessments. These will include;

- KT1000 stability testing to compare the stability of your knee with the opposite knee
- Isokinetic testing. This will test your leg muscle strength so we can compare your affected leg with your other leg.

Day of Surgery

Following surgery, an elastic stocking, (TED), and light dressings will be put on your knees.

The reconstructed knee

In the operating theatre recovery Mr Jari will apply a CryoCuff to your reconstructed knee. A CryoCuff has two functions, compression to prevent swelling, and cold to minimise pain / swelling. The cuff should fit snugly on your knee at all times, except when exercising. The water should be exchanged every 30-40 minutes to keep it cold. You will be shown how to use the cryocuff and will take it home with you. You will require a supply of ice to use.

Your knee will also be in a Continuous Passive Movement Machine, (CPM), this will gently bend and straighten your knee for you, under your control. The purpose of the CPM is to help elevate your leg, improve your knee mobility and decrease swelling.

NB Your reconstructed leg should remain in the CPM and CryoCuff at all times except when doing exercises.

The Donor Leg

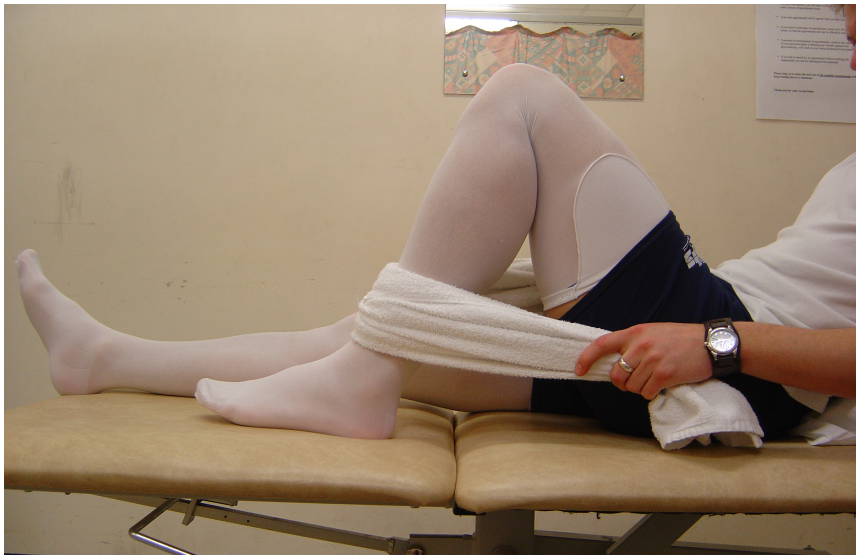
You will have an ice pack applied to the donor knee to help reduce and minimize any swelling. Remember to apply a damp towel between the ice pack and your knee to prevent ice burns. Swelling should be much less of a problem on the donor side as Mr Jari has not disturbed the knee joint itself.

Exercises

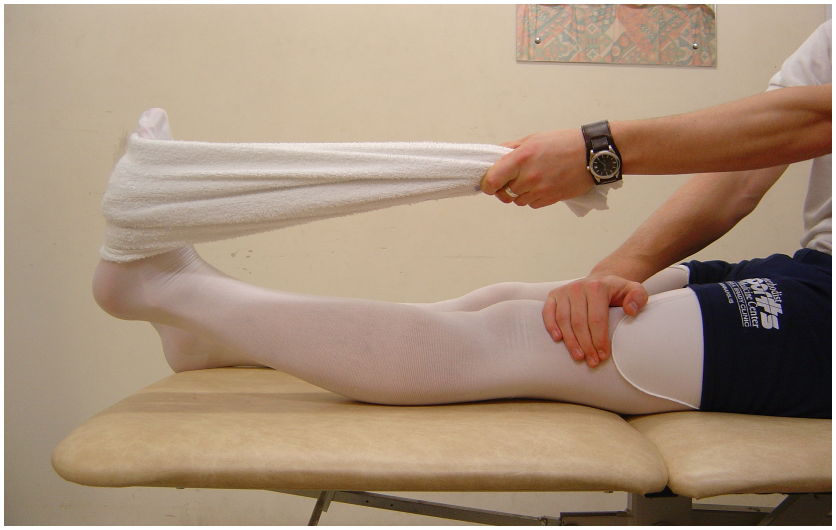
A physiotherapist will see you on the day of surgery before you go to theatre, to instruct you in your exercises. These are to be completed every 2 hours. These exercises can be completed on both legs.
The exercises included are: -

1. **Heel Slide Exercises**

Lying down, slide your heel towards your bottom, use a towel or your hands to assist the knee bend as far as possible. Hold this position for a minute then pull further for a few seconds before you release it. Repeat this 10 times.

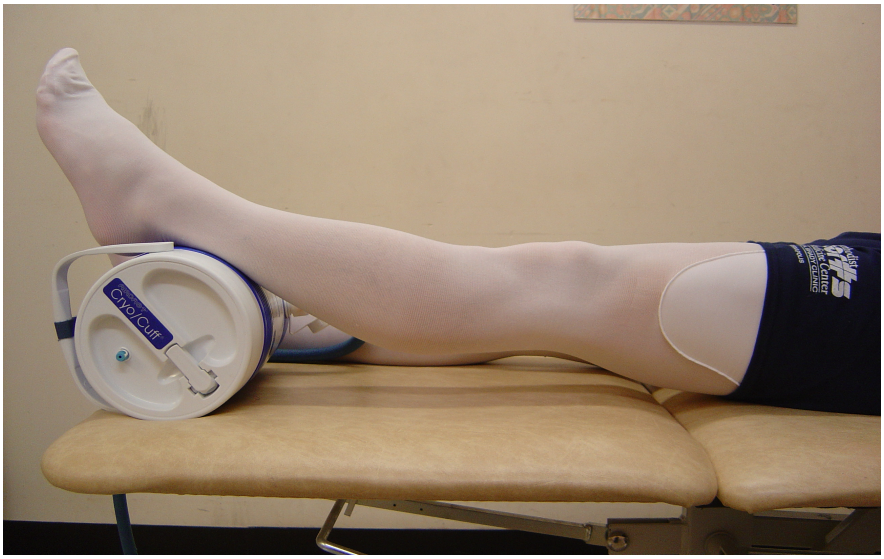


2. **Towel Pulls** – Keeping your thigh flat on the bed, use a towel around your foot to pull and lift the heel off the bed. Use one hand to hold the towel and one hand to push down on your thigh to stop it coming off the bed. Then try and tighten your thigh muscle to hold this position when you release the towel. Hold for 10 seconds and repeat this 10 times.

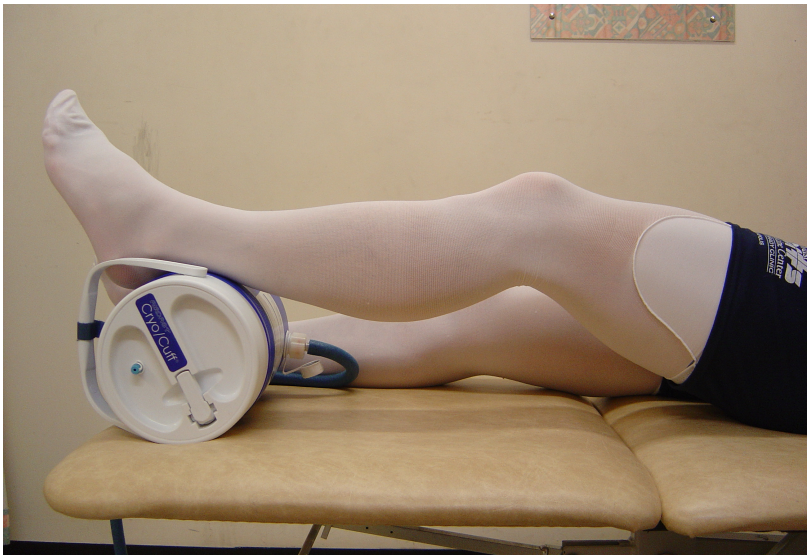


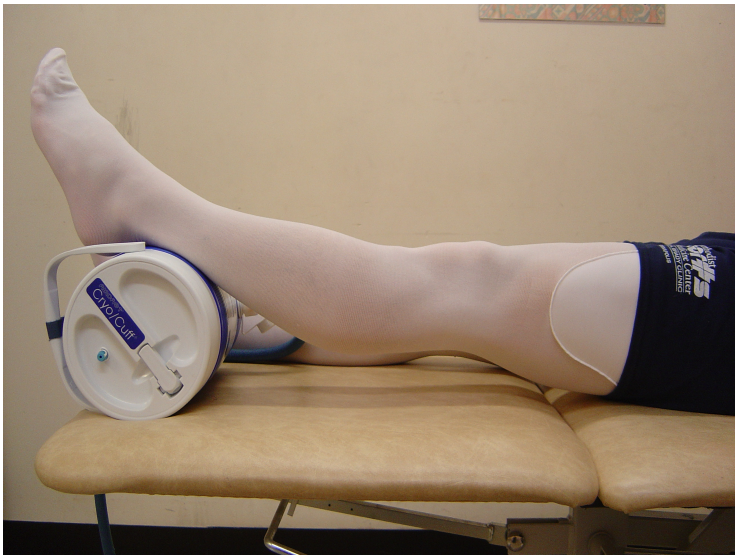
3. Extension Stretches

Place your heel on the CryoCuff container and relax your knee into a straight position. Place ankle weights over the front of your shin, or oven gloves with cans in each side over the front of your leg to increase the stretch. Prop your other leg on and compare the extension. Hold this position for 10 minutes.



4. **Knee Drops-** With heel on the cannister bend your knee slightly and then relax and let your knee drop down straight. Repeat this 10 times.





5. **Straight Leg Raise –** From resting on the CryoCuff container, tighten your thigh muscle and lift your leg up, keeping your knee straight and hold for 10 seconds. Repeat this 10 times. Repeat this on both legs (one at a time!)

The Donor Leg

These additional exercises should be carried out on your donor leg

6. **Resisted knee extensions (Therabands)**

Sit with your legs stretched out in front of you. With the donor knee bent place the black theraband (doubled) around the foot of the donor leg. Slowly straighten the leg against the resistance of the theraband and then slowly bend the knee back again to the starting position. Repeat this 50 times every 2 hours during the daytime.

You can watch a video of this at https://www.youtube.com/watch?v=wRG-3QJZ2zQ on TheKneeDoc you tube channel.

1st Day after Surgery

Your TED stockings will remain on to help keep your dressings in place and provide light compression.

You should remain in bed with your reconstructed leg in the CPM and CryoCuff, except for going to the bathroom or your 2 hourly exercises. Use the ice pack on the front of your donor knee to minimise swelling.

You should continue to work through the exercises every 2 hours.

Your Physiotherapist will help you to get up and start walking correctly so you can go to and from the bathroom. They will provide you with crutches to aid your mobility. When you do walk you can put as much weight on both your legs as is comfortable.

Putting weight on your reconstructed leg will not affect the reconstruction; however, being on your feet with your knee below the level of your heart will cause your knee to swell. This swelling will reduce the movement at your knee and so slow your recovery and delay your rehabilitation.

Therefore for the first week after your surgery you should elevate your reconstructed leg with the CryoCuff on at all times except when exercising or going to the bathroom.

When elevating your leg at home, put some pillows under your calf and foot, not under your knee.

You will be discharged from hospital on the 1st day after the operation, providing you achieve the following: -

- Full Hyperextension of both knees.
- Good flexion of both knees, (around 70 degrees).
- The ability to lift both legs (one at a time) with your own muscles, and hold it up.
- Walking independently with crutches.
- Understanding of your exercises and instructions for home.
- Satisfactory pain control

Pain Relief

An Intra-Venous anti-inflammatory, will be set up on the day of surgery to run for 24 hours. This aims to control your swelling and pain.

On day of discharge you will be given an additional boost of intra-venous anti-inflammatory to last through the day.

Mr Jari will prescribe your painkillers on discharge, and these will include an oral anti-inflammatory and another basic painkiller, like paracetamol. These two medications must be taken regularly for the first 14 days whether or not you have pain.
Other painkillers may be used on the ward, or prescribed for you to take at home, depending on your pain levels. Please record any extra medication you take on the sheet provided.

At Home the first Week

1. **Elevate the legs and minimise walking**

While at home you must lie down with your reconstructed leg elevated and **only** walk to the toilet and back to bed. Standing and walking will cause swelling to gather quickly, which can delay your recovery.

2. **Use your cryocuff regularly through the day.**

Use this all the time your leg is elevated. Refil the canister with ice regularly. Use the ice pack (on top of damp towel) on the donor leg regularly through the day.

3. **Work on the knee straightening exercises (heel-prop) (reconstructed leg)**

Ten minutes of every hour should be spent doing the heel-prop exercise on the reconstructed leg, where the heel is placed on a rolled up towel or the cryocuff cannister and allowed to stretch the knee straight.

4. **Continue the heel slide exercises (both knees)**

This exercise will be helping you to increase your knee bend again. Work slowly and gradually but firmly to increase your bend on both legs.

5. **Work on thigh muscle strengthening exercises (both legs)**

Keep working on the thigh tightening exercise to start the thigh muscles working again and to build them up.

6. **Knee extensions (Donor leg)**

Keep working on the knee extension exercises with the theraband on your donor leg. The aim of this is to help the donor site of the tendon to regenerate and strengthen.

- On day 2-3 progress to the **grey** theraband doing 50 reps every 2 hours.
- On days 4-5 Double the **grey** theraband and continue with the same level of repetitions.
- Around day 6 you will return to physio The physiotherapists will check your progress and advise you on further progressions for this exercise.

If you get any severe pain or are worried regarding your progress with these exercises please seek advice from your physiotherapist.
You should have an appointment to see your physiotherapist approximately one week after your surgery. If this is not the case you must ring to arrange this.

Problems To Watch Out For?

You may notice some numbness around your cuts. This is normal. The numb area will shrink in size but you may experience a very small area of numbness permanently.

Occasionally problems do occur. Signs of possible problems include;

- Increased temperature. It is normal to have a slight fever following surgery but anything more or that lasts may indicate a problem
- Increased knee soreness not reduced with medication
- Dramatic increase in knee swelling
- Stomach upset after taking medication
- Increase drainage from the the wounds or dressing problems
- Sustained loss of knee movement
- Marked calf pain or swelling

If you experience any of these problems in your first week please contact your Mr Jari, your GP or physiotherapist.

Your Physiotherapy Appointments and Rehabilitation

After the physiotherapist has seen you for the first time after the surgery they will decide how often they would like to see you depending upon your progress. It may be more often at the beginning when you need more support and advice, and less as you become more active and confident with your exercises.

It is very important that you continue to work on your exercise programme regularly. If things change or you are worried about your progress please ring Mr Jari or your physiotherapist for advice.

The rehabilitation programme is designed so that you can do it yourself at home. We will simply guide you on what to do and what not to do, as well as monitoring your progress. **If you want the best result it is up to you to work hard on your rehabilitation.**

Two to Four Weeks After Surgery

You will be seen at two weeks after surgery in physiotherapy where your physiotherapist will check;

1. **Range of knee movement**- Hyperextension should be full and easy on both legs and your bend should be almost full on the reconstructed leg and full on the donor leg.

2. **Swelling** - This should be less than the previous week

3. **Leg/thigh muscle control-** You should be able to tighten the thigh muscles and lift your leg off the bed whilst keeping it straight (one at a time).

4. **Walking-** You should be walking normally now without crutches

Your physiotherapist will design an individual rehabilitation programme for you depending on your goals and needs.

Four to Twelve Weeks After Surgery

At each of these visits your strength, range of movement and swelling will be checked. Your rehabilitation will advance as your strength, comfort and confidence will allow. Your physiotherapist will continue to monitor your rehabilitation until you have returned to your pre-injury, fully competitive level of activity.

Additional clinic or physiotherapy appointments will be made if there are thought necessary by your physiotherapist and Mr Jari.
Your physiotherapist will also carry out stability and strength testing to monitor your progress. This will include;

- KT1000 stability testing on the reconstructed knee to compare the stability of your knee with the opposite knee

- Isokinetic testing. This will test your leg muscle strength so we can compare your operated leg with your other leg (approx 3 months).

We will ask you to complete questionnaires at 1 month, 6 months, 1 year and 2 years after your surgery.

Measuring your Progress

Before your operation, in hospital and after your operation we will see you to measure your progress. Although everyone is different there are rough guidelines on what we want you to be able to achieve at certain timescales.

A rough guide is to expect you to be able to fully hyperextend both your knees on the day of surgery. It is very important for you to maintain this. After four weeks you should have full movement in your knees

Sequence of Events

Pre op; No swelling, full symmetrical movement, good leg control.

Surgery; Full movement after graft inserted

Post-op; Full movement and little swelling

Increase leg strength

Balance and agility work

Sports/ activity specific Drills

Competitive sport/ full activities.

How to Keep up with your Exercise Programme.

For many people starting a regular exercise programme as part of your rehabilitation may be the first time you have exercised regularly, while for others it may be a normal part of your lifestyle.

Whichever of these applies to you, it is important to understand that you are likely to experience setbacks and often you will need to work at your motivation.

Many people start off very keen and motivated after surgery as they are unable to walk normally and are not able to do their normal activities. As things improve and people get back to work and normal activities they are often less motivated to keep up the exercise programme.

This is an important time as this often happens early in the rehabilitation process which is the time when the exercise intensity should increase and the work really begins!

Reward yourself regularly for keeping up with your rehabilitation programme.

If you have any questions or queries about this information booklet please feel free to ask any of the team at any time.

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