Guidelines for Patients having an
Anterior Cruciate Ligament Reconstruction

Last Revised May 2011
Anterior Cruciate Ligament Reconstruction

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Introduction

This information booklet has been written to give you and your family a basic understanding of what is involved when you require an anterior cruciate ligament reconstruction.

In this booklet we provide information, including things you should know before and after your operation. It is important for you to understand the advantages but also the possible problems, which may occur after this surgery.

Throughout your stay in UPMC Beacon Hospital, you will receive continuous advice and support from all members of the team.

What is an Anterior Cruciate Reconstruction?

Anterior Cruciate ligament injury or rupture is a common sporting injury but also occurs in others situations where the knee is subject to significant force in certain positions.
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The knee is quite a complex hinge joint formed by the ends of the femur and the tibia. The femur has 2 smooth rounded joint surfaces, which move on the nearby flat joint surfaces of the tibia.

Between the 2 sets of joint surfaces there are two ligaments. These ligaments make a cross, and are called the cruciate ligaments. One ligament starts at the front of the knee and is called the anterior cruciate ligament or ACL. The other starts at the back and is called the posterior cruciate ligament or PCL. These cruciate ligaments keep the femur and the tibia properly aligned as you bend and straighten your knee.

It is often not possible to repair the ACL and so the torn ligament is removed and replaced with a graft from another ligament. To reconstruct the torn ligament, a piece of healthy tendon, called an autograft, is "harvested" from another area in your leg and used to for reconstruction.

**Manage Your Pain**

Pain is a common occurrence following any surgical procedure. It can be well managed with medications, special pain management devices and ice. The pain will naturally reduce as your wound heals and with regular use of analgesics (pain killers). It is imperative to keep your pain well controlled so you can mobilise comfortably, perform your physiotherapy exercises and resume normal activities after your surgery.

You will be asked to rate or score your pain regularly after your surgery. The score will depend on how your pain feels to you.

0= No Pain, 10= worst pain imaginable

(Please point to the number that best describes your pain)

Assign the number you feel best describes your pain. The nurses will administer appropriate treatments/medications depending on your pain score. The nurse will reassess your pain score after the treatment to make sure it has worked to reduce your pain.

It is normal to have pain and possibly swelling around your knee after surgery. The swelling may last 5-6 weeks and the pain is variable. Acute pain, however, is relieved after the first 3-7 days after surgery. It is normal to even see some bruising up to your thigh or down to your calf. Take your oral pain medication as directed for pain. If you have severe pain or redness contact Nursing staff.
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**Physiotherapy**

When muscles are not used, they become weak and do not perform well in supporting and moving the body. Some of your muscles are probably weak because you haven’t used them much due to your knee problems.

The surgery can correct the problem, but the muscles will remain weak and will only be strengthened through regular exercise. You will be assisted and advised how to do this, but the responsibility for exercising is yours.

**EXERCISE PROGRAM**

Exercise is very important following Anterior Cruciate ligament repair surgery.

**Frequency:** You will need to exercise at least **three times** a day to ensure you reach your rehabilitation goals.

Please be sure to read the exercises carefully and ask your physiotherapist any questions that you may have before you leave the hospital.

**Walking**

You must walk with your crutches, using the same pattern taught to you by your physiotherapist. Full weight bearing is permitted as tolerated unless you are otherwise informed. Mobility progression occurs at your physiotherapy review 1-2 weeks post discharge.

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1) **Ankle Pumps:**
   - Lying on your back, bend and straighten your ankles
   - Repeat 10 times

2) **Static Quads:**
   - Lying on your back with legs straight
   - Bend your ankles and push your knees down firmly against the bed
   - Hold for 5 seconds- relax
   - Repeat 10 times

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3) Inner Range Quads:
- Lying on your back, bend your non-operated leg and rest your foot on the bed and place a rolled towel or cushion under the operated knee.
- Pull your toes up, tighten your thigh muscle and push the operated knee down into the towel/cushion- keeping knee on the cushion- Your foot will rise off the bed
- Hold for 5 seconds, relax
- Repeat 10-15 times

4) Straight Leg Raise
- Lying on your back with the operated leg straight and the other leg bent
- Pull your toes up, straighten the knee and lift the leg 20cm off the bed
- Hold for 5 seconds, relax
- Repeat 15 times

5) Knee Bends
- Lying on your back
- Bend and Straighten your operated leg
- Aim to increase the range daily
- Repeat 15 times
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6) Extension Hang
   • Start lying face down on the bed with feet over the edge
   • Let the weight of your feet straighten your knees
   • Hold 20 seconds, Repeat 5 times

7) Prone Knee bend
   • Lying face down with a band around your ankle
   • Bend your knee and pull the band pulling your ankle towards your bottom- you will feel a tightness on the front of your thigh
   • Hold 5 seconds, Repeat 10 times

8) Prone Extension
   • Lying face down
   • Bend your knee and lift your foot up towards the ceiling
   • Repeat 10 times

9) Side lying Abduction
   • Lying on your side with operated leg on top
   • Straighten knee and lift leg towards the ceiling
   • Repeat 10 times
10) Side Lying Adduction
   • Start lying on your side with top leg bent in front of the operated lower leg and the foot on the bed.
   • Roll top tip slightly forwards, use top arm to support you in front
   • Lift lower (operated) leg to clear the bed keeping toes pointing forwards
   • Lower to starting position
   • Repeat 10 times

11) Calf Stretch
   • Lying with leg straight out in front and place a band around foot, pulling toes up
   • Gently pull the band and feel the stretch in your calf
   • Hold 20 seconds
   • Repeat 5 times

Crutch Walking
   • Place your crutches forwards
   • Step your operated leg between the crutches
   • Step forward with your non operated leg

Stairs
   • Lead with your un operated limb (good leg) when climbing stairs, then step up with operated leg, then bring crutches up onto the step.
   • Go one step at a time until instructed otherwise by your physiotherapist

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- On descending stairs, place crutch on step below, then step down operated leg followed by the non-operated (good leg).

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**General Recommendations**

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<tr>
<th>Sleeping</th>
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<td>While in hospital some patients find it harder to sleep for various reasons, i.e. different bed and environment, discomfort. If you are unable to rest due to pain or discomfort then please ask a member of the Nursing Staff to assist you in becoming more comfortable.</td>
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<th>Nausea</th>
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<td>Some of the medications you can be prescribed can cause nausea. Please inform the nursing staff if you feel sick or are getting sick as your medications may need to be changed/adjusted. The nursing staff can also get a medication prescribed to help relieve this nausea.</td>
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<th>Driving</th>
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<td>In order to be safe driving a motor vehicle, you must be in control of the pedals effectively. It is recommended that you do not drive a motor vehicle until you have complete control over your leg and are cleared by your consultant to do so.</td>
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<th>Travel</th>
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<td>Prolonged periods of sitting on airlines may predispose to leg swelling and deep venous thrombosis. It is recommended that you avoid this until 6 weeks after your surgery. If you must travel, wear your elasticated stockings and keep your leg elevated as much as possible. Please discuss with your consultant any imminent travel arrangements.</td>
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**Cryo-therapy**

Ice treatment is an important part of your rehabilitation. It is very important to ice your knee regularly daily for 20-30 minute intervals. You may need to elevate your foot and knee at intervals to aid in reducing swelling.

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**Your Rehabilitation Goals**

- Independent getting in and out of bed.
- Independent in walking with crutches.
- Independent walking up and down stairs.
- Achieve targeted joint range of motion.
- Achieve required muscle power and be independent with exercise programme.

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**General Safety Advice for Home:**

Please be aware of the hazards in your home as this will make your recovery easier and safer.

- Move electrical cords, phone lines and ensure clear pathways.
- Store items within easy reach specifically in the kitchen and bathroom areas.
- Remove rugs including bath mats and entrance mats.
- Be careful with pets and young children.
- Be aware of water spills, slipper floors and always think before you move.

**Car Transfers**

When travelling in the car you should sit in the front passenger seat. It is important that you avoid long journeys if possible.

**Discharge Instructions**

You will be discharged from hospital on the same day or day 1 post operatively. When you leave the hospital you will be asked to make an appointment to see your Consultant at 4-6 weeks post discharge.

You will also be offered outpatient physiotherapy in the hospital and encouraged to attend this at between 10 and 14 days post discharge to improve your recovery. It is advisable to attend physiotherapy in this hospital as the physiotherapists will have access to all of your medical notes. The Physiotherapy team also are in direct contact with your surgeon should a problem arise.

On discharge from hospital, your consultant will prescribe you some medications. One of the medications prescribed will be pain medications. Plan to take your pain medication 30 minutes before exercises. Preventing pain is easier than chasing pain. If pain control continues to be a problem, contact the orthopaedic centre or your general practitioner.

**Wound Care**

You will leave the hospital with a simple surgical wound.

Keep your dressing clean and dry, but do not remove it for 24 hours. There may be some bloody spotting on this, however this is normal. Excessive bleeding that soaks the dressing should be reported to Nursing staff.

You may have a compression bandage (Tubigrip) over your knee- this is for swelling management and should only be worn during the day.

Infection may occur despite your very best efforts. If any of the symptoms below occur then you will need to see your GP or liaise with the centre for orthopaedics re advice and possibly antibiotics.

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Signs of Infection

If you develop any of the following signs of infection, it is important to report them to your doctor. The signs of infection include:

- Increased redness around the wound site
- Increased pain in the wound
- Increased swelling around the wound
- Heat at the wound site
- Discharge of fluid from the wound – may be green or yellow
- Odour or smell from the wound
- Feeling of being generally unwell
- Fever or temperature
- Excessive bleeding
- Excessive non bloody wound drainage beyond the first 3-4 days
- Poor Pain control
- Numbness or tingling
- Fever>100.5
- Calf pain or swelling

Conclusion

We hope that you have found this booklet useful and that it has helped to relieve some of your fears and anxieties regarding your surgery. During your hospital stay, your medical team will be available to answer any other queries you may have.

Individual Patient Notes:

Consultant Name: ________________________________

Date of Surgery: __________________________________

Surgery Note: ___________________________________

Weight Bearing Status: ___________________________

Walking Device: _________________________________

Other Recommendations: ___________________________