Fraser Orthopaedic Institute &
Fraser Orthopaedic Treatment Clinic
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Anterior Cruciate Ligament (ACL) Reconstruction

What is ACL?

The Anterior Cruciate Ligament or ACL is a large ligament deep in the knee joint. The ACL is like a thick rope that helps keep the thighbone "femur" connected to the shinbone "tibia". The ACL can be torn in different ways, most commonly during a sudden change in the direction or awkward landing that puts the ACL under too much stress. Many patients hurt other parts of their knee, like he cartilage or meniscus (cartilage cushion) when they tear their ACL.

Preparing for Surgery

- Getting healthy before surgery, eating a balanced diet, adequate hydration and rest.
- Smoking cessation program - quit smoking, stop using nicotine products. Nicotine use slows healing, increases risk of infection and contributes to an overall poor outcome after surgery.
- Making necessary changes to ones home for arrival post operatively: securing loose cords, removing potential tripping hazards, placing essential items at arms reach.
- Find a physiotherapist for post op therapy.
- Rent/purchase ambulatory aids and helper items: crutches, bath chair, practical shoes etc. These items can be purchased at health stores, pharmacies and/or your local Red Cross.

What you should expect after your surgery?

- When surgery is complete you will be cared for in the recovery room for 1-3 hours.
- After surgery you should expect to be WEIGHT BEARING AS TOLERATED on your affected leg using crutches for 1 - 2 weeks following surgery.
- Anterior cruciate ligament reconstruction is usually a minimally invasive procedure. You will be provided with a prescription for pain medication on discharge from hospital. You should never take more medication (higher dosage or more frequently) than prescribed.
- It is acceptable to take acetaminophen (Tylenol) in combination with medications such as Oxycodone, you should avoid Tylenol medications in combination with Tramacet, Percocet, Tylenol#3 or Emtec as they all contain Tylenol and too much can cause liver damage.
- Rest, elevation and ice can help with decreasing post op pain and swelling.

Things you NEED to have for your Surgery/Recovery

1. Crutches
2. Someone to pick you up at the hospital after surgery (you will not be released on your own) and preferably someone who will stay with you for the first 24 hours after you return home

Things you might find Helpful for your Surgery/Recovery

1. Cryotherapy unit with ice
2. Practical shoes

Medical Equipment Rental

- Red Cross Rentals **www.redcross.ca**
- Orthopaedic Equipment **www.bonefoam.com**
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Community Resources

- Health Link BC – Health Hotline Dial 8-1-1
- Health Link – **www.healthlinkbc.ca**
- Canadian Orthopaedic Association – **www.canorth.org**
- Osteoporosis Canada – **www.osteoporosis.ca**
- Physiotherapist Association of BC – **www.bcphysio.org**
- Physical Activity Line: Community Programs – 604-241-2266
- Physical Activity – **www.physicalactivityline.com**

Things you should avoid after your surgery

1. Non Steroidal Anti-inflammatories (also known as NSAIDS) - these medications are recognized to slow and interfere with bone and soft tissues healing. Some examples include Advil, Motrin, Ibuprofen, and Naproxen.
2. Smoking - has been shown to slow healing up to 30%.
3. Avoid rubbing creams or ointments (Antibiotic or otherwise) on the surgical site unless requested by your surgeon.
4. Avoid pivoting of the knee and similar motions for at least 6-9 months post op or until cleared by Dr. Stone to do so.

Follow-up

- Your first follow up visit will be approximately two weeks after your surgery in Dr. Stone's office/clinic. At this visit Dr. Stone will assess the healing of the wound and remove any sutures or staples that are present.
- Subsequent follow up visits will be arranged at 6-8 weeks, 12-16 weeks and 26 weeks post operatively. Additional visits will be arranged if required.
- X-rays will be required to assess healing.
- You are expected to enroll in an outpatient physiotherapy program after your surgery. This program should begin between 7-14 days post op.
- Physiotherapy programs should focus on the following
    - 0-2 weeks - swelling reduction
    - 2-6 weeks - knee range of motion, isometric quadriceps firing
    - 6-8 weeks onward - progress strengthening of quadriceps, hamstrings and hip abductors
    - No pivoting or open chain strengthening for 9 months post op

Potential Complications

Infection
Signs of infection include increasing redness, swelling, temperature and pain. All of these symptoms can occur normally in the post op period, the main differentiation between normal post op healing versus infection is that in normal healing these symptoms improve with time. Individuals with diabetes, smokers and those who have had a prior infection in this area are at higher risk of developing an infection. Potential infections should be reported to the surgeon's office. To help prevent infection you should wash your hands regularly, keep your incision site and bandages clean and dry. Do not touch, rub or scratch your incision site.

Blood clots
Signs of a blood clot in the leg include calf pain, swelling of the calf and/or foot. These can be normal post operatively and is particularly concerning if the swelling does not decrease with limb elevation. If one has the symptoms of a blood clot they should report them to the surgeon's office immediately. If it is after hours or your surgeon's office is closed, report to the Emergency Department.

Swelling and numbness
Are very common after an anterior cruciate reconstruction surgery. Swelling may last for prolonged periods following the operation. Limb elevation and ice therapy can help reduce swelling. If one experiences **increasing** numbness it is important to report this to the surgeon's office.

Failure to resolve all symptoms
Some pain, instability or stiffness may still be present even after a successful anterior cruciate reconstruction surgery. It is important to appreciate that there are many different potential sources for symptoms.

Neurovascular injury
Numbness over the incision site is very common and will improve with time. Nerve injuries can affect muscle control, sensory control, numbness and/or burning. **Progressive numbness or weakness** should be reported to your surgeon's office

Graft failure
The "graft" is the surgical tissue that replaces the failed anterior cruciate ligament. The graft may be an autograft – tissues donated from one's own body or an allograft – tissues taken from a cadaver. Autografts are commonly taken from the patellar tendon, hamstrings tendon or the quadriceps tendon. Just like the natural anterior cruciate ligament, both auto/allografts have the potential for failure. The failure rate is approximately 5%. A graft is considered failed if it ruptures or stretches. If the auto/allograft fails a revision surgery may be needed.

Hardware irritation
Anterior cruciate ligament reconstruction surgery requires the use of hardware such as screws or staples to fix the ligament graft to the bone. In some patients this can cause irritation and may potentially require removal after the graft has grown into the bone.

Reflex Sympathetic Dystrophy Syndrome
RSD (also known as Complex Regional Pain Syndrome) is an amplified musculoskeletal chronic pain condition characterized by throbbing in the leg, sensitivity to touch and cold, pain, swelling, temperature/color changes of the skin, shiny skin, muscle spasms and/or decreased mobility of the effected limb. Your surgeon will help create a treatment plan or may defer to your family doctor for ongoing management of these symptoms. This is relatively rare after anterior cruciate ligament reconstruction surgery.

Muscle atrophy
Is when muscles waste away due to disuse. It is common to experience muscle atrophy as a result of an ACL surgery or any other surgery. Specific strengthening exercises should be carried out with the physiotherapist to regain musculature.

Constipation
Difficulty or inability to pass bowel movements. Constipation is a common side effect of the pain medication you are given to help with postoperative pain. Ensuring that you eat a balanced high fiber diet (including bran, prunes, whole grains, fruits and vegetables) will help to prevent constipation. Remaining well hydrated is another great preventative measure for constipation. If constipation is ongoing or recurrent, laxatives may be prescribed. Contact your family physician or pharmacist if you are experiencing constipation for longer than 3 days.

Driving Protocol

The American Academy of Orthopaedic Surgeons recommends no driving for a minimum of 6 weeks post operatively, regardless of which side was operated on and whether your car is an automatic or manual - no driving is advised.