

Total Knee Replacement

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.
- Make 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: cane, walker, raised toilette seat, reacher/grabber, 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?

- You will be admitted to hospital the day of your surgery. Please ensure that you have nothing to eat or drink for at least 8 hours before surgery.
- Take your regular medications (except blood thinners and insulin) the morning of your surgery with a sip of water.
- After surgery is complete you will be cared for in the recovery room for 1-3 hours before being transferred to the orthopaedic ward for your overnight stay. Typically patients will stay in hospital for 2-3 days post surgery.
- It is safe to be full weight bearing on the operated limb following the procedure.
- Physiotherapy will begin on postoperative day 1, you will be shown strengthening exercises and will have assistance walking.
- Rest, elevation and ice can help with decreasing post op pain and swelling.
- Upon discharge you will be given a post operative package that will include a physiotherapy requisition, post operative appointment information, a prescription for pain medication and a prescription for blood thinners (to prevent deep vein thrombosis/blood clot).
- A formal physiotherapy program should be started the first week after being discharged from the hospital.

Things you NEED to have for your Surgery/Recovery

1. Cane, walker or crutches – whichever aid is most manageable for you.
2. Bring all regular/required medication for the duration of hospital stay.
3. CPAP or BiPAP respiratory unit for hospital stay if you currently use one.
4. 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. Bath chair
3. Reacher/grabber assistance aid
4. Raised toilette seat
5. Practical shoes

Medical Equipment Resources

- Red Cross Rentals <http://www.redcross.ca>
- Orthopaedic Equipment www.bonefoam.com

Community Resources

- Seniors Health Care Support Line – 1-877-952-3181
- 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
- Orthopaedic Information – <http://orthoinfo.aaos.org/topic.cfm?topic=a00377>

Things you should avoid after your surgery

1. Smoking - has been shown to slow bone healing by 30-50%.
2. Avoid rubbing creams or ointments (Antibiotic or otherwise) on the surgical site unless requested by your surgeon.
3. Low crouching, kneeling or pivoting.

Fall Risk & Prevention

Getting dressed, navigating stairs, maneuvering in the shower, walking on uneven or wet ground are all potential fall risks. The best way to prevent a fall is to always use your walking aid/keeping your walking aid at arms reach until the surgeon and/or physiotherapist has discharged you from them. Wearing practical nonslip closed toe/closed heel shoes will help give you extra stability. While getting dressed do not stand, you should use a sturdy high backed chair with armrests to sit and get dressed. For the shower you should be using at minimum a nonslip bath mat. You may find a sturdy plastic shower chair or bath chair helpful. Do not take baths or sit in the bottom of the bathtub/shower to wash, as it is unsafe to get up. Climbing stairs can be challenging and should be discussed with your care team before being discharged from the hospital. If you suddenly feel faint or dizzy, slowly take a seat or use your walking aid for support if a chair is not available.

Follow-up

- Your first follow up visit will be approximately two weeks after your surgery in your orthopaedic surgeon's office/clinic. At this visit your surgeon 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, 26 weeks and 52 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, quadriceps strengthening and weaning from ambulatory aids
 - 6-8 weeks - continued strengthening/ range of motion
 - 6-8 weeks onward - progress strengthening of quadriceps, hamstrings and hip abductors
 - The goal for range of motion of the knee is a minimum of 110 degrees with a preferable range of 120+ degrees of motion.
- In most cases ambulatory aids can be discontinued 4-6 weeks post operatively at the discretion of Dr. Stone.
- Ice is useful for swelling/pain reduction 4-8 weeks post operatively.
- Aim to taper off narcotic pain medication 4-6 weeks post operatively.

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 partial knee replacement 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 total knee replacement. It is important to appreciate that there are many different potential sources for symptoms. Up to 20% of patients following a total knee replacement have incomplete resolution of their symptoms.

Clunking

Following a total knee replacement some individuals may experience or hear clunking/clicking from the operated knee. Typically sounds coming from the replaced knee joint originate from the replacement of soft cartilage in the knee with hard metal/plastic of the component and bones making noise upon contact. Clunking/clicking typically resolves as the muscles are strengthened. However, if pain, deformity or extreme swelling occurs accompanied with clunking, you should contact your surgeon.

Neurovascular injury

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

Loss of Range of Motion

There are many causes for loss of range of motion following a total knee replacement. Some of these include; non-compliance with strengthening or physiotherapy, extensor mechanism contracture (shortening/hardening of the complex structure within the knee responsible for stabilizing the patella and quadriceps), posterior impingement due to subcutaneous fat inflammation, use of tobacco products, diabetes etc. If a loss of range of motion occurs and is persistent your surgeon may advise aggressive physiotherapy, home exercises, and potentially the use of a continuous passive motion machine. In some cases additional surgery to manipulate the knee joint may be required. This usually occurs between 6-12 weeks if indicated.

Muscle atrophy

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

Asymmetric gait

While recovering from total knee replacement surgery there is the chance that disproportional loading of other parts of the body may take place (ankle, hip, back). This can lead to irritation of tendons, muscles and ligaments, which can be painful. This pain typically resolves without treatment once the normal gait pattern is restored.

Complex Regional Pain Syndrome

is an amplified musculoskeletal chronic pain condition, which occurs in very few individuals after surgery. Symptoms include but are not limited to continuous burning or throbbing in the leg, sensitivity to touch, sensitivity to cold, pain, swelling, temperature/color changes of the skin, changes in skin texture, muscle spasms and/or decreased mobility of effected limb. Dr. Stone will help create a treatment plan or may defer to your family doctor for ongoing management of these symptoms.

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.

Image: Stages of osteoarthritis to total knee replacement.

