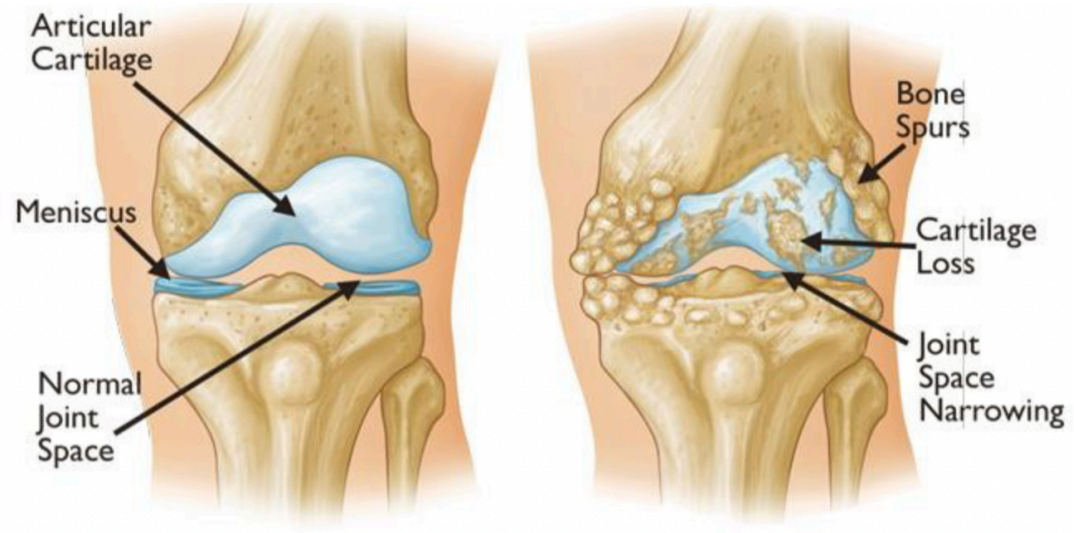
KELOWNA BONE & JOINT HEALTH

Total Knee Replacement

What is Arthritis:

Arthritis is a degeneration of the hard cartilage within the knee, this can come from a previous injury, can be associated with overuse, or could be genetic. Unfortunately, once a joint develops cartilage damage, those changes are irreversible. Early on, if the damage is not severe, symptoms can come and go, be based on activity, and even change with the weather. Unfortunately arthritis seems so be a "one-way street", and as the damage within the joint progresses, so do the symptoms.



I have arthritis in my knee, now what?

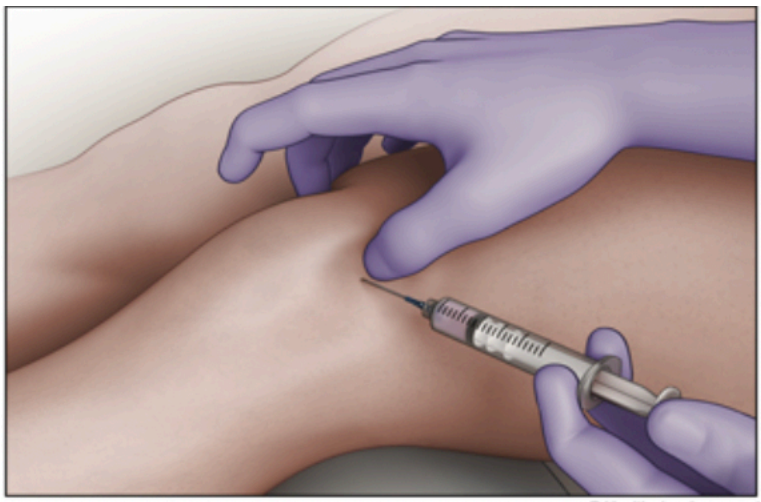
Not every person who has arthritis in their knee requires surgery. Treatment will depend on the stage of arthritis, possible non-operative treatment options, and discussions with your surgeon. The first step to attempting to alleviate pain in the knee, is lifestyle modifications. High impact activity can increase the pain associated with arthritis. Changing from a running/pounding

activity, to a swimming, walking, **low impact activity** can improve symptoms dramatically. In addition, every effort should be made to **keep the knee strong** (with or without physiotherapy, see exercises below). The main goal in these strategies, is to decrease force seen by the knee. One key element to decreasing forces is **weight loss.** The knee sees reactive forces that can equate to 2-3x body weight. If you are even able to lose 5lbs, that could be 10-15lbs less felt by the knee. **Medications** can also help to alleviate pain. Using Tylenol or Anti-inflammatories (ie ibuprofen, naproxen etc) when the pain is bad, or even when you are planning an activity (going on a hike), that you know is going to flare up the pain. **Bracing** can help in some circumstances. Some people can find relief from an over the counter knee sleeve. Formal bracing is reserved for patients who have arthritis isolated to one side of the knee, and not throughout.

What about injections?

When the above treatments are just not enough, and you and your surgeon are not yet ready to go forward with knee replacement, many different injections are available and can help relieve pain.

Steroid Injection: Cortisone is actually the "gold-Standard" to which all other injections are compared. It acts as a powerful anti-inflammatory delivered directly into the knee. The cost is the lowest of all injections, and can work well for many patients.For some people with early arthritis, one injection can bring the knee back to a very functional state, and with diet and exercise, the results can be long lasting. For those with more significant arthritis, it is more of a temporary solution that can last anywhere from 3-6 months. Injections can be repeated no more than every 3 months.



Viscosupplementation: (Synvisc, Durolane, Monovisc, Cingal) These injections contain a highly viscous solution (syrup like consistency), containing Hyaluronic Acid, which acts attempting to lubricate the knee. The main downside of this medication is cost, and range between $300-600, is not covered by MSP, but most insurances will cover at least a portion of the medication.

Platelet-Rich Plasma: We do not offer this at Kelowna Bone and Joint currently, as the studies have not yet proven it is any better than the options above. However studies are ongoing, and if in the future there is some proof it is a better alternative, we will re-evaluate.

Stem Cell Therapy: Despite many studies trying to show their effectiveness, there is absolutely no evidence to support the use of stem cells in the arthritic knee**.** The government caught wind of patients being charged $5000-$10,000 dollars for a treatment that has proven inferior to steroid in the studies, and across Canada, they have shut down the use of stem cells. Unfortunately there is one clinic in Kelowna who has managed to side step government regulation by labelling his use as an "ongoing study", at enormous cost to the patient. At Kelowna Bone and Joint Health, we take a united stand against the use of stem cells, as the results simply are not good enough to warrant that cost to the patient. Each of us are happy to talk to you about this more during your appointment.

Am I a surgical candidate?

The decision to go forward with surgery is dependent on the degree of arthritis, the response to the treatments above, and the degree of disability the arthritis is causing. Surgery is not without its potential complications, and therefore the pain should be severe enough that it is adversely affecting your quality of life. If you are still able to walk several kilometres, play golf or tennis, with some mild pain at the end of the day, you may not yet require surgical treatment. Pain at night, and pain at rest are good indicators that you might be a surgical candidate. Unfortunately there are some circumstances, where despite the level of arthritis, surgery is simply too dangerous. All patients must be medically fit to go forward with major surgery. Recent heart attacks or strokes may preclude us from being able to provide surgery. Elevated BMI and obesity increase the risk of all potential complications. Different surgeons will have different "cut-off" points for acceptable BMI, ranging from 35-45, above 40 the surgery becomes more risky, and above 50 unfortunately we cannot safely go forward with surgery. If this is the case, you will be referred to the "Get to surgery" program, which is a combination of diet and nutrition counselling with a goal of getting the BMI low enough to be safe to go forward with surgery.

What are the potential complications?

Patients must carefully consider the potential risks of surgery prior to making the decision to go ahead.

Major Risks: The risk surgeons are often most concerned about is infection, which can happen 1-3% of the time. Risk of infection goes up dramatically in patients with diabetes, BMI over 35, and active smokers. Patients receive antibiotics prior to the procedure, but unfortunately that does not bring the risk back down to zero. If infection were to happen, it can get down onto the metal itself, which our body cannot fight off on its own, and often requires revision surgery to clean out the knee, place some antibiotic coated replacement parts for a while, before going back in once the infection has cleared to do it all again. Other major risks that happen extremely infrequently include heart-attack, strong, blood clots that travel to the lung and can be life

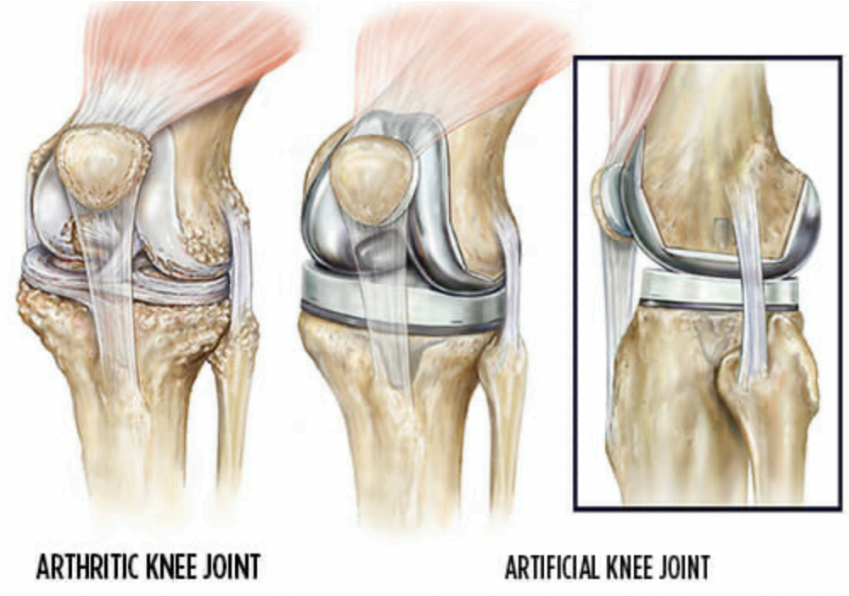
threatening, bleeding requiring a blood transfusion, and damage to surrounding nerves and arteries.

Minor Risks: Knee stiffness, sometimes requiring a trip back to the operating room to perform a manipulation to get the knee moving. Alternatively the knee could have the sensation of instability, and ongoing pain

Satisfaction: Knee replacement surgery is successful with excellent patient satisfaction in about 80-85% of individuals. There is an overall risk of complication in about 2-5% of patients. However, that leaves about 10-15% of people unsatisfied with their knee replacement. Most people will say they are much better than before the operation, but are left with some lingering pain (likely from structures surrounding the knee, not the knee itself), the sensation of an "artificial" knee, or lingering stiffness.

How is the surgery performed?

Surgery is preformed via a 15-25cm incision directly on the front of the knee. Once we have good exposure around the knee, a series of guides and tools are used to resect the arthritic cartilage down to healthy bone, and shape the bone in a way that will directly match the metal component that will be used to resurface the bottom end of the thigh bone, and top end of the shin bone. Then between the two areas of metal, we use a very hard plastic, that acts as the new joint surface. For more information on how the surgery is performed, please follow the video links on our website, or through the care sense app.



What should I do while awaiting surgery?

It is imperative to keep the knee as strong and mobile as possible while waiting for surgery. Increasing muscle strength in legs and core will not only help improve balance, but can help speed overall recovery. **See pre-habilitation hand-out for exercise guidance.** The YMCA has a great program called "Healthy Hip and Knee", which is focused on people who have hip and knee arthritis. Walking, stationary bike, at home strengthening exercise, can all go a very long way in your pre-habilitation. If you smoke, quit! Or at least try. Smoking dramatically increases the risk of infection in knee replacement. Some surgeons may defer your operation entirely until you have quit smoking. If you are a diabetic, pre-operative and post-operative sugar control is imperative. High Hemoglobin A1Cs (HgA1c) are associated with increase risk of heart attack, stroke, and post operative infection. Any improvement in sugar control will help mitigate this risk. If the HgA1c is too high (often above 6) surgery will be deferred until there is better control, as the risks to you are just too high. Any weight loss will help, weight loss decreases risk of infection, and speeds up post-operative recovery. Throughout the pre-operative journey, the Surgical Optimization Clinic will be checking in on your status, ensuring you remain a candidate for surgery. If you have access to the care sense app, you will be asked to provide data on smoking, weight loss, and HgA1c.

What can I expect post-operatively?

Most patients will spend one night in hospital, but some patients are candidates to go home same day. Same day surgery will be suggested by your surgeon, if they feel you are a candidate. The physiotherapists will work with you, teaching you how to do the early exercises, teaching you how to safely use the walker, and teaching you how to get up and down stairs. Once you are cleared by physiotherapy, you will be discharged home, with scheduled follow up with your surgeon at the 10-14 day mark.

Special Equipment Required

Ice-Compression Device:

The use of a "Cryo-Cuff" or "Game Ready" device combines consistent flow of cold liquid, with compression to help control swelling. Patients who use an ice-compression device often require less pain medication, and have better swelling control. These are highly recommended by the surgeons at Kelowna Bone and Joint Health to improve knee pain and function in the post-operative period.

Home Preparation and Equipment:

You will need to obtain a four-wheeled walker, and prepare your home for your arrival on your operative day. Try to avoid cords, or bulky rugs that you could catch your walker on and have a

risk of fall. If you have a significant amount of stairs, you may want to sleep on the main floor for the first night or two, and should plan accordingly.

Does the Surgery Hurt:

Most patients find knee replacement surgery to be quite painful, especially for the first 2 weeks. Unfortunately this pain in unavoidable, however there are ways we can make the pain more bearable. A deep injection of local anesthetic and an anti-inflammatory are injected into the capsule of the knee at the time of surgery. It is important to be on top of the pain medication from the time you are discharged home. A multi-modal style of therapy will be prescribed including Tylenol, an Anti-inflammatory (Celebrex or ibuprofen), and Tramadol (narcotic). These three medications work synergistically, and it is important to take them all regularly for the first 2 weeks. Obtaining a Game-Ready or cry-cuff device is also key for post operative pain management. If these are too expensive, having a bulky supply of ice on hand can help dramatically, icing 20 minutes on, 20 minutes off.

Post Operative Protocol:

The key to success of a total knee replacement, is early and often exercise working on range of motion. Please refer to our “Knee Stiffness” handout and video, on ways we can combat stiffness after a knee replacement. The four-wheeled walker is used for balance and support. Weight bearing is allowed, unless specifically directed otherwise. Formal physiotherapy is initiated within two weeks of surgery. Plan to take 6-8 weeks off of work for an office job, and 3-6 months off for a physical labour job.