



Banff Sport Medicine

BANFF SPORT MEDICINE
Orthopaedic Surgeons

P: 403 760 2897 F: 403 760 8234
banffsportmed.ca

Dr. Mark Heard
Dr. Greg Buchko
Dr. Laurie Hiemstra
Dr. Michaela Kopka
Dr. Mireille Marquis

PRE-OPERATIVE INSTRUCTIONS

PREPARING FOR SURGERY

1 Month Before:

If you are taking acne medication: Research has shown that Accutane (Isotretinoin) which is used to treat acne can interfere with healing after orthopaedic surgery and may be a factor in tissue and graft stretching or failure. To ensure that your surgery is not cancelled ***please stop taking Accutane at least 1 month prior to your surgery date.*** You should not restart Accutane medication for at least 3 months after your surgery.

2 Weeks Before:

Stop taking: Advil, Motrin, and Aspirin as well as all Herbal Supplements for ***10-14 days prior to your surgery date.*** This is important because these medications and supplements can increase your risk of bleeding.

1 Week Before (approximately):

A nurse from the hospital will contact you approximately one week prior to your surgery date to give you information regarding your surgery.

Day/Night Before:

CLEAR FLUIDS ONLY (Gatorade, apple or cranberry juice, water - pulp free, clear) ***from Midnight (24:00) to 2hrs prior to arrival to hospital*** (4 hrs before surgery).

Do not shave your surgical site the day before or the day of your surgery.

You may brush your teeth and rinse your mouth but do not swallow any water.

DAY OF SURGERY

- Date and time will be confirmed with you approximately 2 weeks before your surgery.
- Check-in at the Admitting Desk or Emergency Department of the hospital.
- If required for your surgery, please bring your own crutches to the hospital, clearly marked with your name. The hospital has a VERY limited supply of crutches for sale at this time. The hospital does carry braces for purchase if needed after your surgery.
- You **MUST** have someone drive you home from the hospital.

AFTER YOUR SURGERY

- Your first Follow up Appointment details (if required) will be included in an email from our office which you will receive on or shortly after the day of your surgery.
- If you have any problems or complications after your surgery please refer to the Post-Op Concerns section included in your surgery package or refer to our website - <https://banffsportmed.ca/after-your-surgery/>.



Anterior Cruciate Ligament (ACL) Reconstruction

What is an “ACL” tear?

The Anterior Cruciate Ligament (ACL) is a stabilizing ligament in the centre of the knee that is most commonly injured in high speed or pivoting sports such as skiing, soccer and basketball, or in contact sports such as football and rugby. The ACL rarely heals on its own and may require surgical reconstruction.

Diagnosis:

- A history of an acute twisting or pivoting injury, usually with immediate pain and rapid swelling
- Episodes of ‘giving way’ or feelings of knee ‘going out’
- Physical assessment shows looseness in the knee with front/back and rotational movements
- MRI (magnetic resonance imaging) is only used for diagnosis when the extent of the tear is unclear, or to determine the amount of damage to other structures (i.e. meniscus, other ligaments)
- Arthroscopy (knee surgery through small incisions with a camera) can be used to treat meniscal injuries so that knee range of motion and strength can be rehabilitated before an ACL reconstruction. Arthroscopy can also be used to assess the extent of other injuries such as an ACL tear or other ligament injuries

Why fix an “ACL”?

- To prevent further episodes of knee instability
- To prevent further damage to knee structures (i.e. meniscal tears)
- To possibly prevent further damage to the articular (bony) cartilage (i.e. osteoarthritis)

Options other than Surgery

- **Rehabilitation:** some patients can cope with a torn ACL following intensive rehabilitation
- **Knee brace:** some people with a torn ACL can be stable in a brace for sport and work
- **Lifestyle modifications:** some people with a torn ACL will decrease the intensity of their activities, or stop all pivoting and contact sports

About the Surgery Timing

- To prevent stiffness, surgery is not usually performed until at least 6-12 weeks after the ACL injury, when there is no swelling in the knee and full range of motion has returned.
- We recommended all patients stay as active as possible before surgery by following the pre-surgery rehabilitation program that is in your surgery folder. You can gain full range of knee motion, improve your strength and balance, and build your endurance by doing straight-line activities and sports. Regaining the strength and movement in your knee before surgery and maintaining your fitness will prepare you for surgery and also help you to recover faster after surgery.
- If your knee symptoms improve significantly while you are preparing for surgery and you would like to discuss non-surgical management of your ACL injury, please call the office to arrange a follow-up appointment before your surgery date.

The Procedure

- Attempting to repair your injured ACL itself is not very successful; therefore, a tendon graft is used to reconstruct this ligament. Graft tunnels (holes) are drilled in your tibia and femur to place the graft. These tunnels are placed so that the graft will run between your tibia and femur in the same direction as your original ACL.
- Two main types of grafts can be used to reconstruct your ACL:
 1. The more common graft is referred to as an autograft, which is a tendon harvested from your own leg, usually from the same side as the surgical knee. Occasionally, a tendon from the other leg can be used depending on the situation. The most common autograft used is a hamstring tendon, primarily the semitendinosus which often requires the addition of the gracilis tendon to make a large enough graft. The next most common autograft used is a portion of the patellar tendon, followed by the use of a portion of the quadriceps tendon.
 2. The second type graft that can be used is an allograft. This is a tendon that is harvested from a donor or cadaver. It is generally only recommended for patients over the age of 40, as many studies show that there is a significantly higher graft re-tear rate when allograft is used in younger, more active patients. However, over the age of 40, most studies do not show any difference in surgical outcomes when comparing allografts to autografts. Allografts can also be used for revision ACL surgery when the desired autograft tendons have already been used.
- Your surgeon will discuss the various graft options with you and recommend which graft is best suited for you.
- The majority of the surgery is done arthroscopically by using a camera to look inside the knee through two small incisions. However, an additional 3-4cm incision is needed to harvest the hamstring graft just below your knee toward the inside of your lower leg. A patellar tendon harvest requires a longer, 8-10cm incision as does a quadriceps tendon harvest. A smaller incision (2cm) is used for an allograft reconstruction.
- The new ACL graft is fixated into a tunnel in the tibia (shin bone) with a bio-absorbable screw. The other end is attached through a tunnel drilled in the femur (thigh bone), with a metal button that sits on the outside of the bone. The graft will grow into the bone in 3-4 months, however full recovery for return to sports can take anywhere from 12-24 months.

RISKS OF SURGERY

Risk of Infection: less than 1 in 100

- Intravenous antibiotics are given before surgery to help prevent infection.
- If an infection occurs, it will usually happen within 5-7 days of your surgery. Some minor wound infections can be treated with a short course of oral antibiotics, whereas more severe wound or skin infections may require a longer course of intravenous antibiotics. In less than 1 in 400 cases, a deep infection can occur in the joint. In these cases, surgery is required to wash out the infection, followed by 2-3 months of intravenous antibiotics.

Risk of Clot in Leg Veins (deep vein thrombosis): less than 1 in 100

- If severe calf, ankle and foot swelling occurs 3 days to 2 weeks after surgery, you could have a clot in a deep vein of your leg (DVT). See a doctor as soon as possible. Treatment for a blood clot is usually blood-thinning medication (anticoagulants) for 3-6 months.

Risk of Clot in Lungs (pulmonary emboli): less than 1 in 500

- It is possible for a blood clot to travel to your lung; this is called a pulmonary embolism. If you suddenly get short of breath or have chest pain, go to the nearest emergency room or call 911. A pulmonary embolism is a medical emergency and can cause death.
- In certain patients with risk factors for a blood clot, preventative blood thinners will be prescribed for a short period of time after surgery.

Risk of Injury to Artery or Nerve: less than 1 in 1,000

- This is a very rare occurrence and the risk is greatest in complex knee reconstructions with multiple ligament tears (e.g. dislocated knee).

Risk of Graft Failure: approximately 5 in 100

- One of the causes of early ACL graft failure is an injury such as a slip or fall after surgery. Another common cause of graft failure is returning to sport too early. Even with excellent rehabilitation there is an increased risk of graft failure if you return to high-speed or pivoting sports sooner than a year after your reconstruction. If necessary, you can have another ACL reconstruction surgery on the same knee.

Risk of Knee Stiffness: less than 1 in 100

- Some patients have problems with knee stiffness after ACL surgery. These patients will need intensive physiotherapy and may need another surgery to mobilize the joint.

Skin Numbness around Incision

- Every patient gets some numbness around their incision because some small surface nerves are cut during surgery. This can be along the incision or can affect a larger area of the leg (up to 20 sq. cms). This may disappear slowly over time, depending on the patient.

Risk of Persistent Swelling and Pain: less than 5 in 100

- Knee swelling and pain are common for up to 3-6 months after surgery. Some patients will have ongoing pain and swelling from damage to knee structures when the ACL injury occurred. Patients with more osteoarthritis or chondral damage in their knee often have more long-term pain and swelling.

Risk of Hematoma: less than 1 in 50

- Some patients will get a hematoma (collection of blood) at the harvest incision. These patients should rest with their leg elevated and may need more intensive physiotherapy. The hematoma usually absorbs after 3-4 weeks. A hematoma rarely needs surgery. Occasionally it will drain or be drained by your surgeon and require packing and wound care for several weeks.

Your Stay in Hospital

- You will be admitted to the hospital on the day of your surgery. Your admission time will be approximately 2-3 hours prior to your surgery time. Your surgery will take approximately 2 hours. You will be called approximately 5 days prior to your surgery date with your arrival time.
- You can have your ACL reconstruction with either a general anaesthetic (go to sleep) or spinal anesthetic (freeze from the waist down). Your anaesthetist will discuss these options with you on the day of surgery.
- Although ACL reconstruction is usually day surgery, in rare instances, your surgeon or the anaesthetist may recommend that you be admitted to the hospital overnight, so be prepared for this.

- Please provide the office any insurance forms you have prior to the day of your surgery, as it can take up to 2 weeks to have them completed and returned to you. Please note we do charge a fee as completion of forms is not covered by Alberta Health Care.

Medical Aid Products

- **Cold Therapy Unit:** is used to help control pain and swelling after surgery. You can order a Cold Therapy Unit, complete with a knee or shoulder pad, through the Shop found on our website. Alternatively, you can purchase a Cold Therapy Unit from your local healthcare provider or from an online health supply store. For portable use you can purchase a battery pack, which allows you to use your Cold Therapy Unit without an electrical outlet. We recommend that you buy your Cold Therapy Unit at least a week before your surgery to make sure that you have it delivered in time.
- **Brace:** in the majority of cases a brace is not used after surgery unless other ligaments or tissues (in addition to the ACL) are repaired. If you need a brace after surgery, you will be able to purchase it from the hospital on the day of surgery.

Postoperative Pain Control and Wound Care

- Rest, ice, compression, and elevation of your surgery leg.
- You will be given a prescription for anti-inflammatory medication (ie Naproxen) and a narcotic analgesic (ie Oxycodone) depending on the surgeon's preference and the patient's history of allergies and drug intolerances, before you leave the hospital.
- Refer to the Post Op Concerns and Opioid Medications sheets included in your surgery package for more information

Discharge from Hospital

- Ensure you have your prescriptions for pain medication, anti-inflammatory medication and physiotherapy before you leave the hospital.
- You must have someone to drive you home.
- Minimum 1 week resting at home with leg elevated and regularly icing your knee.
- In most cases, you are allowed to weight bear as tolerated on your operative leg, but crutches are required for 2-4 weeks to facilitate pain free ambulation. Discuss any travel plans with your surgeon because long trips can increase the risk of blood clots.

Follow-up Visits

- Your surgeon will follow you after surgery at: 2-4 weeks, 3-months, 6-months and 1-year. Our office will provide you the time, date and location of your first post-operative appointment, usually included in your pre-surgery email a week or so prior to your surgery date.

Return to Work Guidelines

- Sedentary work: 2-6 weeks
- Light manual work: 3-4 months
- Heavy manual work: 6-9 months

Physiotherapy

- See your physiotherapist between 1-3 weeks after your surgery. You will be provided with a physiotherapy prescription via email from our office approximately one week after your surgery.
- Please note if you reside in Alberta you may be eligible for physiotherapy funding, please refer to the AHS website for more information:

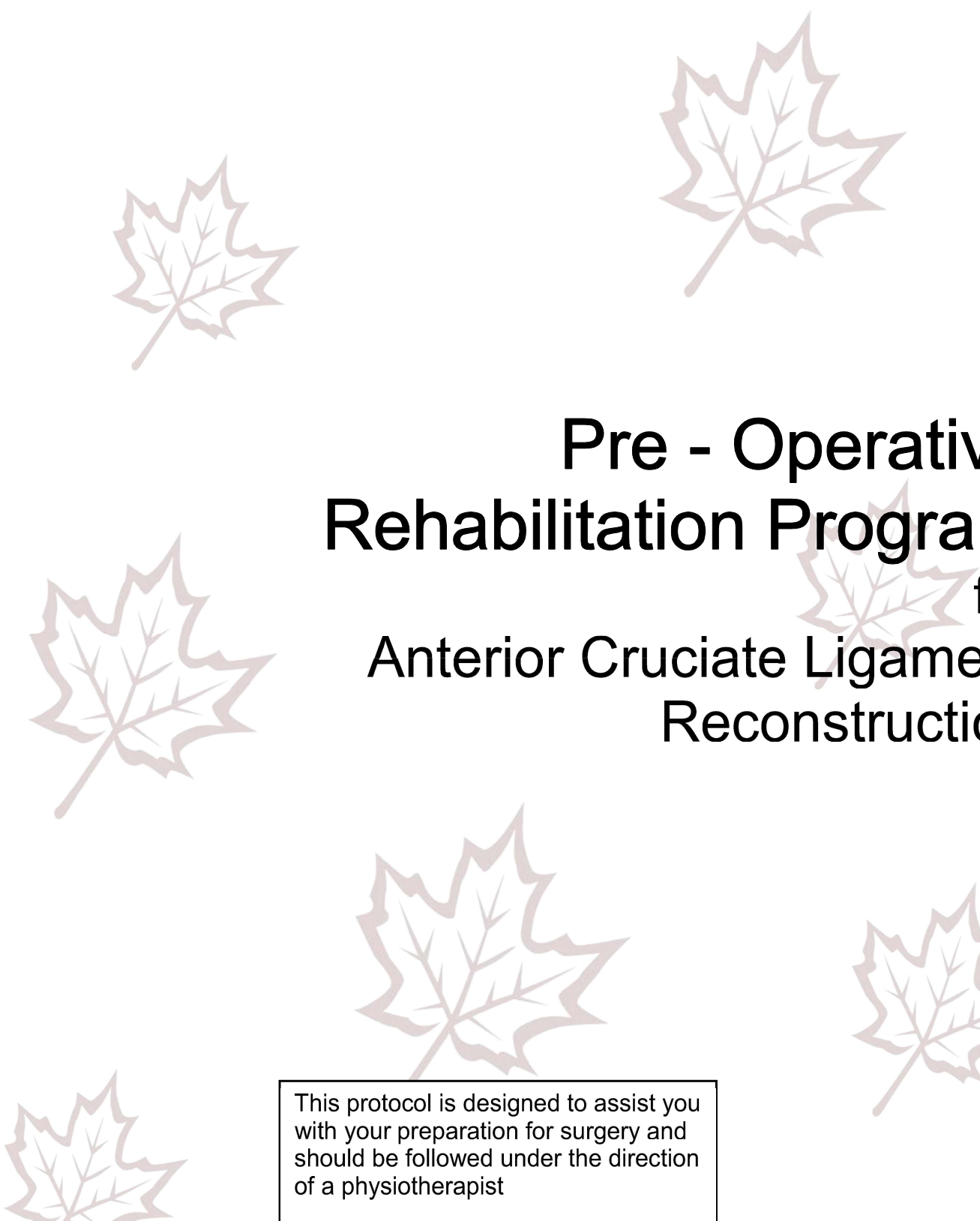
<https://www.albertahealthservices.ca/findhealth/service.aspx?Id=1001414>

- The hospital will provide you with the Banff Sport Medicine Post-operative ACL Rehabilitation Protocol, it may also be found on our website:

<https://www.albertahealthservices.ca/info/Page15329.aspx>

Return to Sport

- The surgeon will be able to tell you when you can go back to sport. For most patients this is between 12 and 18 months after surgery. The type of sport, and your level of strength and function, will help to guide the surgeon's recommendations.
- Some patients who have more damage inside their knee may be told to protect their knee by doing fewer sports and activities that require a lot of running, jumping or pivoting. Doing this will help you avoid too much load on damaged joint surfaces and may help to delay arthritis. Your surgeon will give you advice about return to sport based on the amount of damage seen inside your knee at the time of surgery.
- ACL reconstruction is very successful for stabilizing the knee and most patients can return to running, jumping and pivoting sports after surgery. However, the end result for each patient depends on the amount of time spent doing rehabilitation including strength, balance and agility exercises.



Pre - Operative Rehabilitation Program

for
Anterior Cruciate Ligament
Reconstruction

This protocol is designed to assist you with your preparation for surgery and should be followed under the direction of a physiotherapist



Covenant Health
Banff Mineral Springs

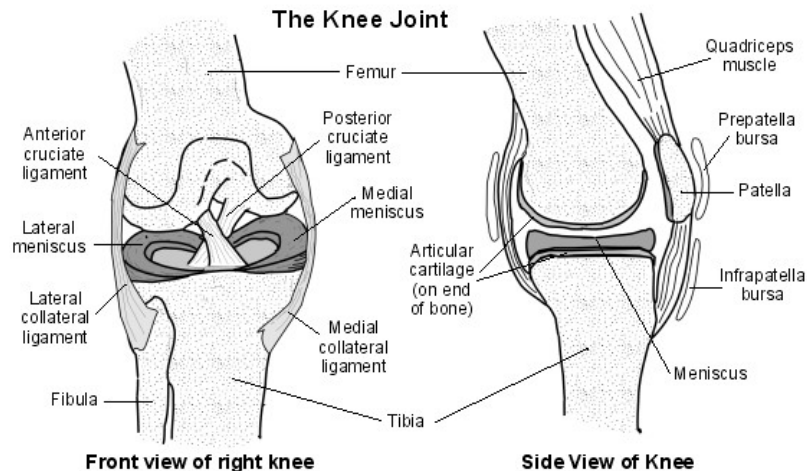
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OVERVIEW OF THE KNEE:

The ACL is one of the four major ligaments of the knee that connect the tibia (shin bone) to the femur (thigh bone). Ligaments are “cords” which join one bone to another, helping to form a joint. They guide, control and limit the motion of the bones. The other bone involved with the knee joint is the patella (kneecap), which glides on the front of the knee as it bends. The ACL forms an X in conjunction with the Posterior Cruciate Ligament (PCL) in the middle of the knee joint. The other two main ligaments of the knee are the Medial Collateral Ligament (MCL) and the Lateral Collateral Ligament (LCL).



ACL INJURY:

The role of the Anterior Cruciate Ligament (ACL) is to prevent forward movement and rotation of the tibia (shin bone) on the femur (thigh bone). A torn ACL has serious implications for the stability and function of the knee joint, causing the knee to buckle and give way. Most ACL injuries occur through a twisting force being applied to the knee while the foot is firmly planted on the ground, (for example with landing on one leg or a sudden change in direction). In many cases contact with another athlete is not necessary to cause an ACL injury.

The menisci, commonly known as ‘knee cartilage’, are a pair of crescent-shaped discs of white fibrous tissue that act as shock absorbers inside the knee. The menisci increase the contact area between the bones, contributing to stability. Articular cartilage is the other type of cartilage that covers the ends of the bones. After you tear your ACL, if you have further episodes of giving way, you risk damaging your menisci and/or articular cartilage. Damage to the menisci and articular cartilage is associated with degenerative arthritis.

Muscles also play a very important role in knee stabilization. They react to the amount of stress placed on them. With a decreased amount of stress (e.g. immobilization, protection, non-weight bearing), the muscles weaken and atrophy (waste away). For this reason, the exercises in this program are extremely important to help you recover from the initial injury and to prepare you for surgery.

MANAGING AN ACL INJURY:

After an ACL tear the knee will usually be swollen, painful, weak and have limited movement. All inflamed joints benefit from RICE: rest, ice, compression and elevation. Apply an ice pack (wrapped in a towel to protect your skin), for 20 minutes every 2 hours until your swelling has reduced. If you have a tensor bandage, use it for compression during the day. Rest with your leg elevated so that gravity can help to reduce the swelling.

As the pain and swelling decrease, gentle exercise and stretching will encourage a return to normal movement. It is **very important** to regain full range of motion, particularly full extension (straightening) prior to ACL reconstruction surgery.

The pain and swelling from an ACL injury causes decreased strength in the muscles close to the injured joint. Research also shows strength decreases in both legs following an ACL injury so it is important to exercise both legs. The stronger your muscles are before surgery, the faster you will recover post operatively.

THE IMPORTANCE OF PRE-SURGERY EXERCISES:

The surgeons at Banff Sport Medicine recommend an exercise program or 'pre-habilitation' before surgery. Regaining the strength and movement in your knee before surgery will improve your recovery after ACL reconstruction surgery. This exercise program has several important benefits:

- Return range of motion to normal and decrease the risk of post-operative stiffness
- Increase muscle strength in your legs and core
- Improve balance
- Maintain fitness in preparation for surgery

Ideally, these exercises should be performed **daily**, as recommended below.

EXERCISES:

- 20-30 minutes of cardio exercises **at least** 3x/week (all low-impact, straight-line activities, e.g. elliptical trainer, skating, cross-country skiing, biking or hiking)
- 15-20 minutes of strength training, as presented below.
- An Electric Muscle Stimulator (EMS) is recommended on the injured leg for most of the exercises.

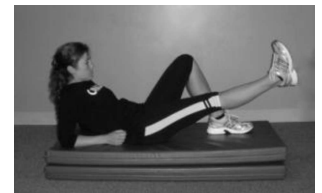
IMPORTANT: If you have increased knee pain or swelling after these exercises please use rest, ice, compression and elevation, and see your physiotherapist

1. Strength Exercises:

☐ **Quadriceps Contraction** - In sitting with your knee straight and leg supported, tighten the thigh muscle to hold the knee straight. Avoid lifting your leg from the hip. Perform 5 -10 times holding each contraction for 5 secs. Progress to 30 times holding each contraction for 10 secs, resting for 5 secs in between reps. The use of EMS is recommended for this exercise.



☐ **Straight Leg Raises** – In the position shown, tighten your thigh muscle while keeping your knee straight and lift your leg 3-5 cm. Perform exercise 5 -10 times holding each contraction for 5 secs. Progress to 30 times holding each contraction for 5-10 secs. The use of EMS is recommended for this exercise.



☐ **Hip Adduction** In lying with your knees bent as shown, squeeze a soft ball or a pillow between your knees. Perform exercise 5 -10 times holding each contraction for 5 seconds. Progress to 30 times holding each contraction for 10-15 secs, resting for 5 secs between reps.



☐ **Calf Raises** - Both legs: Start with feet shoulder width apart and toes pointed straight ahead, and raise up onto your toes. Start with one set of 10, holding each raise for 5 secs. Increase the number of reps up to 30 with 5 sec hold. Start by using support at a wall or table and progress to no support as able.



Single leg: Start on one leg with toes pointed straight ahead, and raise up onto your toes. Start with one set of 10, holding each raise for 5 secs. Increase the number of reps up to 30 with 5 sec hold. Start by using support at a wall or table and progress to no support as able.

□ **Gluteals** – In lying with your knees bent and your arms by your sides, squeeze your buttocks and lift up to create a bridge. Keep equal weight on each leg and straight alignment from your shoulders to your knees. Be careful not to push down on your neck or shoulders – use your buttocks to do the work. Start with one set of 10, holding each lift for 5 secs. Increase the number of reps as your strength increases. Once you can complete 20 reps holding for 10 sec each, change to single leg bridges.



□ **Hamstrings** - In sitting place a resistance band around your ankle and also have it attached to a chair or table leg in front of you. Bend your knee backwards slowly against the resistance of the band using the muscles under your thigh. Start with 1 set of 10 reps and increase to 3 sets of 15 reps.



□ **Squats (Quadriceps)** - Slowly squat with equal weight on each leg. Bend your knees from 0° to a maximum of 90° of flexion, making sure your knees do not move beyond your toes. Start with one set of 10, holding each squat for 5 secs and increase the number of reps as your strength increases, up to 30 reps x 15 secs hold. EMS can be used with this exercise with the 'contraction' time at least double the 'rest' time.



□ **Single leg squats** - Standing on one leg, slowly squat bending your knee from 0° to a maximum of 90°, making sure your knee does not move beyond your toes. Start with one set of 10, holding each squat for 5 secs and increase the number of reps as your strength increases, up to 30 reps x 15 secs hold.

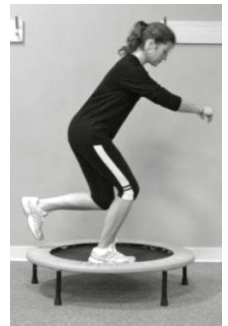


2. Balance and Proprioception exercises

- ☐ **Single leg stance** (eyes open, eyes closed)
- ☐ **Double leg squats on an unstable surface** (thick carpet, foam block, camping mattress)
- ☐ **Single leg stance on an unstable surface** (thick carpet, foam block, camping mattress)



- ☐ **Single leg squats on trampoline** - Standing on one leg, slowly squat bending your knee from 0° to a maximum of 90°, making sure your knee does not move beyond your toes. Start with one set of 10, holding each squat for 5 secs and increase the number of reps as your strength increases, up to 30 reps x 15 secs hold.



- ☐ **Squats on a BOSU** - Slowly squat with equal weight on each leg. Bend your knees from 0° to a maximum of 90° of flexion, making sure your knees do not move beyond your toes. Start with one set of 10, holding each squat for 5 secs and increase the number of reps as your strength increases, up to 30 reps x 15 secs hold.



- ☐ **Lunges on a BOSU** – Step forward/back and lunge as shown. Control the descent ensuring your knee that is forward does not move beyond your toes. Start with 1 set of 10, holding each lunge for 5 secs. Increase the number of reps as your strength increases up to 3 sets of 10.





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Cold Therapy Information

What is Cold Therapy?

Cold therapy is the use of ice or cold to reduce pain, inflammation, swelling and spasm from an injury or after surgery. Cold therapy can be applied with a bag of ice, an ice pack, gel pack, cold compress or by using a specialized Cold Therapy Unit.

Cold therapy is used as part of rehabilitation after knee, shoulder and ankle surgeries, such as arthroscopy, anterior cruciate ligament (ACL) reconstruction, shoulder reconstruction or rotator cuff repair.¹

What does it do?

Cold therapy slows down the blood flow to an injured area. Research has shown that cold therapy decreases pain, inflammation, swelling, blood loss, and medication use after surgery.²

What do we recommend?

After your surgery we recommend that you use cold therapy to decrease pain and to improve your recovery. We also recommend that you use cold therapy after therapy and exercise sessions for the first 3 months after surgery.

To reduce swelling and inflammation, patients get the best results using a Cold Therapy Unit.³ This type of cold therapy is the safest and most convenient to apply. Some names of these Cold Therapy Units are Aircast Cryo/Cuff™, DonJoy Iceman®, Ossur Cold Rush™ and Polarcare Kodiak®.

How often should I use cold therapy?

You should use cold therapy a **minimum** of 5 times per day for 20 minutes each time for the first 5-7 days after surgery. It is essential that you protect your skin from the cold therapy by using a cloth or towel to prevent skin injury.

If you are using a Cold Therapy Unit it is possible to safely keep the cold pad on for much longer periods of time (up to 5 hours). To get the best results and prevent skin injury, you should always carefully follow the specific Cold Therapy Unit instructions.

Where can I buy a cold therapy unit?

You can order a Cold Therapy Unit, complete with a knee or shoulder pad, through our website (<https://banffsportmed.ca/shop/>). Alternatively, you can purchase a Cold Therapy Unit from your local healthcare provider or from an online health supply store. For portable use you can purchase a battery pack, which allows you to use your Cold Therapy Unit without an electrical outlet. We recommend that you buy your Cold Therapy Unit at least a week before your surgery to make sure that you have it delivered in time.

¹ Raynor MC, Pietrobon R, Guller U, Higgins LD. Cryotherapy after ACL reconstruction: a meta-analysis. J Knee Surg. 2005 Apr;18(2):123-9.

² Wilke B, Weiner RD. Postoperative cryotherapy: risks versus benefits of continuous-flow cryotherapy units. Clin Podiatr Med Surg. 2003 Apr;20(2):307-22.

³ Barber FA. A comparison of crushed ice and continuous flow cold therapy. Am J Knee Surg. 2000 Spring;13(2):97-101;



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Patient Services

Questionnaires

We aim to provide excellent post-operative care, as such we ask you to come back for appointments for up to 2-years after your surgery.

In addition to these visits, you may be asked to complete questionnaires, these provide the Surgeon with information regarding your overall function, your ability to participate in recreational or sporting activities, and your social and emotional well-being, both before and after surgery. From each questionnaire a score is generated reflecting your current level of function. Using these scores, the Surgeon can assess your recovery progress.

These questionnaires will be provided to you via an email with a link to a secure site to complete the questionnaire electronically before your appointment.

Online Shop

Our Online Shop (<https://banffsportmed.ca/shop/>) offers medical aids for purchase to help with your recovery and rehabilitation. You may order cold therapy unit, range of motion (ROM) and off-the-shelf braces, electric muscle stimulator (EMS) units, and exercise kits from our site. Purchases are made through PayPal or via a secure credit/debit transaction.

The electronic receipt received through the website may be used to submit for insurance claims.

Prescriptions required for Cold Therapy Units will be provided to you by our office.

Frequently Asked Questions (FAQ)

You can consult our Frequently Asked Questions page on our website (<https://banffsportmed.ca/faq/>) to find answers to questions that are common to many patients in your situation. Answers include what your surgery will involve, how to manage your pain, when you can drive after surgery, how long you should avoid contact with water at the site of your surgical incision, common physical effects after surgery, and what to do if you require medical attention. If your question is not answered on the FAQ page, please contact your surgeon's medical office assistant with your question by phone or email for more information.



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Opioid Medication: Pain Control after Surgery

What are my options for safe and effective pain control?

Managing your pain after surgery is important. Combination therapy (using different medications together) along with education can offer the best pain relief. Some of these medications work via different pathways and can be used together. After surgery a moderate amount of pain is a normal and expected part of the process. Pain medications help you function better and cope with the amount of pain you are experiencing, but **these medications will not eliminate your pain entirely.**

Talk to your surgeon about medication options, which can include both prescription strength and over the counter drugs. These medications include:

- **Non-steroidal Anti-inflammatory Drugs (NSAIDs)** can be used to decrease swelling and fever, and to treat mild to moderate pain. (These can be prescription or over-the-counter medications, such as Naprosyn, naproxen: *Aleve*, ibuprofen: *Advil*, *Motrin*).
- **Acetaminophen** is used to decrease mild to moderate pain and fever. (These are over-the-counter medications such as Tylenol or Paracetamol).
- **Local anesthetics** which can be injected near a set of nerves (nerve block) or the surgery wound site. (This option is performed immediately after your surgery at the hospital).
- **Opioids** are used to decrease severe pain. (These are prescription medications such as Morphine, Tramacet, Percocet, OxyContin, Vicodin or Tylenol #3 which contains codeine).
- **Nerve pain medication** used to prevent nerve pain and irritation. (These are prescription medications such as Lyrica and Neurontin).

When should I take pain medication?

The goal is to keep you moving and control your pain. In general, the most painful time is the first 72 hours (3 days) after surgery. The amount of pain usually decreases after these first few days. If your pain increases or does not decrease with medication you should contact your surgeon. Call our office at 403-760-2897 (during regular business hours 8am-4pm Monday to Friday), or the Banff Mineral Springs Hospital at 403-762-2222 (outside of business hours).

Some medication is taken on a schedule (for example, every 4-6 hours) and other medications can be taken when you feel pain. Here is a useful guide:

- I am moving slowly and either have no pain or only a little pain = I don't need any medication.
- I am feeling some pain and having trouble moving around = I could use some over-the-counter medication. (For example ibuprofen: *Advil/Motrin* or acetaminophen: *Tylenol*).
- I am thinking about my pain all the time and it is painful for me to move = I should take some stronger medication. (For example a prescription medication such as Morphine, Percocet or Tramacet).

It usually takes 25-40 minutes for the medications to start working effectively so you should take your medication before your pain becomes severe or you are unable to move because of the pain.

Are there ways to reduce my pain besides medication?

Yes! You can do a number of things to help decrease your pain (*continued on next page*)

- Use ice packs or cold therapy to decrease swelling and pain.
- Rest for the majority of time for the first few days after surgery.

- Elevate and support your surgical limb as shown on your rehabilitation exercise protocol.
- Keep moving after the first few days, without over doing it.
- Distraction such as watching movies, listening to music, playing games, or talking to friends and family, has been shown to help reduce pain after surgery.

Why are opioids used?

Opioids are strong medications and when used properly, they can help to relieve short-term pain like the pain experienced after surgery. When opioids are used improperly, they can cause dependence or addiction, overdose and death.

How to use your prescribed opioid medication.

If you have been prescribed an opioid medication, such as Percocet or Tramacet, it should:

- **Only** be taken as prescribed
- **Never** be used by someone for whom it was not prescribed
- **Never** be taken with alcohol or other medications (except as prescribed).
- **Never** to be used while driving or operating machinery

Keep your medication safe to help prevent use by others by:

- **Never** sharing your medication with anyone else. (Sharing opioid medication is illegal and may also cause serious harm or death to the other person).
- **Keeping track** of the number of pills remaining in the package
- **Storing** opioids in a safe and secure place, out of the reach of children and teenagers

Unused portions of opioid medicine should always be:

- Kept out of sight of children and pets
- Stored in a safe place to prevent theft, problematic use or accidental exposure
- **Returned to the pharmacy** for safe disposal when no longer needed or expired. Medications should never be thrown in the trash or flushed down the toilet.
- This will prevent the possibility of illegal use and protect the environment from contamination.

Opioid Side Effects

| Short-term side effects | Long-term side effects |
|--|---|
| Drowsiness | Increased tolerance |
| Decreased reaction time, which can impair driving and decision-making | Substance use disorder or dependence (addiction) |
| Constipation | Liver damage |
| Impotence in men | Infertility in women |
| Nausea and vomiting | Worsening pain |
| Difficulty breathing, which can lead to or worsen sleep apnea | Life-threatening withdrawal symptoms in babies born to mothers taking opioids |
| Euphoria (feeling high) | Overdose |
| Headaches, dizziness and confusion, which can lead to falls or fractures | |

Anyone who takes prescription opioids can become addicted.

If you take opioid medications for more than a few weeks, your body becomes used to that dose. This physical dependence means you may experience withdrawal symptoms if you stop taking the drug.

Withdrawal symptoms include: insomnia, anxiety, racing heartbeat, and headaches. Withdrawal symptoms can be managed by gradually decreasing your medication dose with advice from a health care provider.

**Signs of opioid overdose include small pupils, trouble breathing and unconsciousness.
Call 911 immediately if you think you or a family member took too much pain medication.**



Banff Sport Medicine

BANFF SPORT MEDICINE
Orthopaedic Surgeons

banffsportmed.ca

Dr. Mark Heard
Dr. Greg Buchko
Dr. Laurie Hiemstra
Dr. Michaela Kopka
Dr. Mireille Marquis

Post-Operative Concerns

Contact us if you have any concerns after your surgery

For Surgery performed at Banff Mineral Springs Hospital (Banff)

- ✓ During regular business hours - 8 am to 4 pm, Monday to Friday (closed Statutory Holidays):

403-760-2897 Ext 1

*Note: Call our office and **not** the hospital. If you get a voice mail response, please leave a detailed message, our office staff will call you back as soon as they are able.*

- ✓ Weekends and after regular hours:

If you have any urgent concerns **after** regular business hours that cannot wait please call the Mineral Springs Hospital at 403-762-2222 and ask for Acute Care.

- ✓ Anytime:

Health Link (811) will connect you to a nurse 24hrs a day who is able to give advice.

For surgery performed at other locations:

- ✓ Golden and District General Hospital (Golden): 250-344-5271
- ✓ Hinton Healthcare Centre (Hinton): 780-817-5019
- ✓ Elk Valley Hospital (Ferne): 250-423-4453

Common Concerns

1. **Uncontrolled pain**, if the prescribed painkiller (Tylenol #3, Tramacet or Percocet) is not controlling your pain, you may also take ibuprofen (Advil or Motrin) up to 600 mg every 6 hours in addition to the prescribed medication. Try not to take ibuprofen on an empty stomach. However, if you have already been prescribed Naproxen (Naprosyn), do not take ibuprofen at the same time. Other actions such as loosening the tensor bandage, elevating the leg and ice packs can also help.
2. **Calf, foot and ankle pain and swelling** within the first 2 weeks after knee surgery is common. If you have calf pain and swelling you should loosen the tensor bandage around your knee and also elevate your leg so that your knee and ankle are above your heart. (Please see the Cold Therapy and Elevation picture on the first page of your rehabilitation protocol). If this does not improve the pain and swelling, please contact us. *If the pain and swelling is associated with sudden chest pain and/or shortness of breath immediately go to the nearest emergency department.*
3. **Swelling and redness of the shin** after ACL or other knee ligament surgery is not uncommon. Contact us only if the redness extends into the surgical incision sites or if there is persistent drainage of fluid (yellowish or cloudy fluid) after removing your bandage at the recommended time.

4. **Skin redness above or below the bandages**, when you get home from the hospital, you may notice that the skin is red above or below the bandage. The most likely cause of this is the surgical preparation solution that was used to clean your skin before the operation. This solution has a red dye in it so if you are concerned that the redness may be caused by an infection, try washing that area with soap and water to see if it comes off. If your leg is still red and/or hot to touch after you have washed the area, then you should go to your local doctor or hospital to be assessed.
5. A **fever** is not uncommon within the first 48 hours after surgery. Call us only if the fever continues more than 2 days after surgery and is associated with a feeling of general unwellness. Fevers occurring within the first 48 hours post-operatively can be managed with Tylenol and deep breathing exercises.
6. A small amount of **bleeding** through the bandage can occur within the first 48 hours after surgery. Call the office or hospital if the bandage becomes saturated with blood, or if bleeding continues after removing the bandage at the recommended time.
7. **Swelling of the hand** is common after shoulder and elbow surgery. This swelling can be prevented or reduced by frequent pumping of the fingers (or squeezing a rubber or foam ball) and by taking your arm out of the sling and fully straightening your elbow (as when doing a pendulum exercise).
8. For post-operative **nausea and vomiting** if you can tolerate the pain, try stopping your prescribed painkiller, or take gravol (can be purchased over the counter in pill and suppository form). Sometimes taking the painkiller with food will help. Call us if you have uncontrolled vomiting.
9. Occasionally, an itchy, red, blotchy **skin rash** can occur with the use of ice packs or a cold therapy unit. This is not an infection but is a skin reaction to the cold. This can happen when cold is used for long periods of time, even when a cloth is used to protect the skin. If this happens, stop using the cold therapy until the rash settles down (this may take hours or even a day or two). When you start using cold therapy again, apply it intermittently (20 minutes on, then 20 minutes off).
10. After ACL surgery using your **hamstring tendons**, it is not uncommon to strain or pull the hamstring muscle in the first 6-weeks after surgery. This may occur while pulling on your socks or shoes, or bending over to pick something up. You may feel a sudden painful “pop” in the back of your knee or lower thigh. This does not mean that you have torn your ACL graft and the pain will settle down within a few days. You may also notice some bruising or swelling at the back of your thigh. However, if the pain is not improving after a few days, or is associated with a significant increase in knee swelling, please call our office and not the hospital, as this concern can wait until regular office hours.
11. When you remove your bandage for the first time, you may notice a clear string that looks like fishing line sticking out of the skin near the incision(s). This is a **biodegradable stitch or suture** that is used to close the skin incision. It will eventually fall off. However, you may snip these clear strings off at the level of the skin as early as 2 weeks after surgery, or you can wait to have this done by your surgeon at your first follow-up appointment. After removing your bandage, avoid the temptation to touch your healing incisions as your own hands are the most common source of bacteria which can cause wound infections.
12. **Steri-strips** are white strips of tape that are used to reinforce the stitching of the skin incisions. You may peel these strips of tape off by yourself 2-weeks after surgery, by which time the incision should be healed.