



### Medial Patellofemoral Ligament (MPFL) Reconstruction/Imbrication

#### What is an “MPFL” tear?

The Medial Patellofemoral Ligament (MPFL) is a ligament that prevents your patella (knee cap) from dislocating to the outside of your knee. The MPFL runs from the upper half of the inside edge of the patella to the inner part of the femur (thigh bone). This ligament is commonly injured when you dislocate your patella to the outside of your knee (laterally). Approximately half of the people who dislocate their patella will have ongoing problems with instability. If you have ongoing instability, you may require surgery to tighten (imbricate) or replace (reconstruct) the MPFL. If your anatomy or alignment increases the risk of you dislocating your patella, you may require other surgeries in addition to MPFL imbrication or reconstruction. These other surgeries may be done at the same time as your MPFL surgery.

#### Diagnosis:

- History of a twisting episode where the patella dislocated partially or completely. This injury is often followed by pain and considerable swelling.
- Examination often shows tenderness on the inside of the knee where the torn MPFL is located. Pushing the patella towards the lateral (outside) of the knee may cause pain or nervousness or apprehension for the patient.
- X-rays should always be taken to make sure the patella is not still dislocated, or to determine if any small chips of bone were broken off during the dislocation
- MRI (magnetic resonance imaging) is not usually necessary but may be ordered by your surgeon to determine where the MPFL was torn, to see if there are loose piece(s) of cartilage in your knee, or to determine if there is damage to other structures in your knee (i.e. meniscus, other ligaments).

#### Why fix an “MPFL”?

- To prevent further episodes of patella dislocations, subluxations or feelings of instability.
- To prevent further damage to the articular cartilage (i.e. osteoarthritis).

#### Options other than Surgery

- Rehabilitation - some people can strengthen their muscles and cope after dislocating their patella. This involves intensive rehabilitation to improve core, hip and quadriceps strength, as well as balance and agility.
- Knee brace - some people with an unstable patella can participate in work or sports using a patellar stabilizing brace.

#### Surgery Timing

- We recommend all patients stay as active as possible before surgery. We recommend you follow the pre-surgery rehabilitation program, especially if you have weak quadriceps, hip and core. Your goals are to maintain full range of knee motion, improve your strength and balance, and build your endurance by doing straight-line activities and sports. Regaining your strength 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-operative management of your patellar instability, please call the office (403-760-2897) to arrange a follow-up appointment before your surgery date.

## **The Procedure**

- An MPFL Imbrication uses stitches to tighten the ligament. The stitches can be placed using an arthroscope (small camera) through a small incision, or through a longer incision to tighten the loose area of tissue.
- An MPFL Reconstruction creates a new ligament by replacing the torn MPFL with either a hamstring or quadriceps autograft (patient) tendon or an allograft (donor) tendon.
- All surgeries include a thorough knee arthroscopy to examine all the structures of the knee and to assess for injuries. In most cases this part of the surgery is performed using the two small arthroscopy incisions.
- The new MPFL graft is attached to the knee cap (patella) with 2 small plastic anchors. The thigh bone (femoral) side of the graft is attached with an absorbable screw. The graft will grow into the bone in 3-4 months, however full recovery for return to sport can take anywhere from 4-24 months.

## **RISKS OF SURGERY**

- *Risk of Infection: less than 1 in 100*
  - Intravenous antibiotics are given before and after 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 4-6 weeks 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, preventive blood thinners will be prescribed for a short period of time after surgery.
- *Risk of Skin Numbness around Incision – very common*
  - 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 Knee Stiffness: less than 1 in 100*
  - Some patients have problems with knee stiffness after MPFL surgery. These patients will need intensive physiotherapy and may need another surgery to mobilize the joint.
- *Risk of Persistent Swelling and Pain: less than 5 in 100*
  - Knee Swelling and Pain are common for 3-6 months after surgery. Some patients will have ongoing pain and swelling from damage caused to knee structures when the MPFL injury occurred. Patients with more arthritis in their knee often have more long-term pain and swelling.
- *Risk of Hematoma: rare*
  - 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.

## Your Stay in Hospital

- You are not allowed to have anything to eat or drink after midnight the day of your surgery. This means that you will arrive at the hospital fasting for your surgery, as you will not have had anything to eat or drink since midnight.
- If you have prescribed medications that you take each day, the nurse from the Pre-Operative Assessment Clinic will give you instructions before your surgery about if and when to take them.
- You will be admitted to the hospital on the day of your surgery. Your admission time will be approximately 3-4 hours before your actual surgery time. Please check-in at the Front Desk of the Banff Mineral Springs Hospital, unless you are instructed otherwise. Your surgery will take 1-2 hours.
- You can have an MPFL reconstruction with either a general or spinal anaesthetic. Your anaesthetist will discuss these options with you on the day of surgery.
- Most patients will stay in hospital for 1-night after surgery. You may have the option of going home the same day if your pain is well-controlled and the surgeon and anaesthetist agree you can be discharged.
- If you have insurance forms, please make sure that you sign the authorization section of the form before giving it to the surgeon or medical office assistant. If you can, please bring the forms to our office on the day of, or before, your surgery. The surgeon aims to complete the form in a timely manner but it may take 2-4 weeks. The cost of completing the form is not covered by your provincial health insurance. An invoice will be sent with each form. Payment is due within 30 days of the invoice date.

## Other Costs

- Crutches - can be purchased at the Banff Mineral Springs Hospital. If you bring your own crutches with you, please make sure they are clearly labeled.
- Cold Therapy Unit - is used to help control pain and swelling after the surgery. This unit can be purchased from our clinic website ([www.banffsportmed.ca/shop](http://www.banffsportmed.ca/shop)). Please order it at least a week before your surgery so that your unit is delivered in time.
- Brace – after your surgery you will be fitted with a hinged knee brace and it will be locked in the full extension position (straight). This brace is used to protect your knee and assist with pain control for the first 48-72 hours. The brace should be unlocked by the 3<sup>rd</sup> day after surgery and you can start to work on improving your knee flexion (bending).

## Post-Operative Pain Control

- Follow the guidelines of rest, ice, compression, and elevation of your surgery leg.
- You will be given a prescription for pain medication (Tylenol 3 or Percocet) and an anti-inflammatory medication (Naprosyn) before you leave the hospital. You may also take an anti-inflammatory medication along with your pain medication as needed. If you have medication allergies or intolerances, other medications will be substituted. If you have any questions about medications please ask your surgeon.

## Post-Operative Wound Care

- The nurses will check the dressing on your knee before you go home, and replace it if necessary. You should take this dressing off four (4) days after your surgery. If the tensor bandage on your leg rolls-up or causes pressure in one area, you should take it off and have someone reapply it for you.
- You may shower four (4) days after surgery and should dry your incisions gently with a clean towel. You can peel the steri-strips off 2-weeks after your surgery. You may also cut any loose stitches at skin level. Due to the risk of infection, do not fully immerse the incisions in bath water for 2-3 weeks after your surgery, and do not enter a swimming pool or hot tub for at least 3-weeks after surgery.
- Redness and pain along the shin (caused by blood tracking into the area from the surgery) can occur 3-7 days after surgery. This usually goes away 7-10 days after surgery and is not a concern unless your incisions are also red.
- **If you have concerns please call our office at 403-760-2897 during business hours (0800-1600 Monday to Friday). If you reach the answering service during these hours, please leave a detailed message with your surgeon's Medical Office Assistant, including your best contact number. If your concern is during an evening or weekend, please call the Banff Mineral Springs Hospital at 403-762-2222 to speak with the orthopaedic surgeon on call before seeing your family physician or going to an emergency clinic.**

### **Post-Operative Concerns**

- Please refer to our Post-Operative Concerns information sheet included in your surgery folder or on our website (<http://www.banffsportmed.ca/post-operative-concerns>)

### **Discharge from Hospital**

- Usually before 12:00 (noon) the day after your surgery.
- Ensure you have your prescriptions for pain medication, anti-inflammatory medication and physiotherapy.
- You must have someone to drive you home.
- Minimum 1 week resting at home, keeping the surgery leg elevated and using ice regularly to manage swelling and pain.
- 2-6 weeks on crutches, or until you can walk without a limp.
- Discuss any travel plans with your surgeon, because long trips can increase the risk of blood clots.

### **Follow-up Visits with Drs. Hiemstra/Heard/Buchko**

- Your surgeon will follow-up with you at: 2-4 weeks, 6-weeks, 3-months, 6-months, 1-year and 2-years.
- Your first post-operative follow-up appointment will be in the email you received before surgery, with the date, time and location. You will complete hopping and jumping tests starting at the 6-months post-operative appointment to assess your knee function.

### **Return to Work Guidelines**

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

### **Physiotherapy**

- See your physiotherapist between 1-2 weeks after your surgery.
- The hospital physiotherapist will give you the Banff Sport Medicine Post-Operative MPFL Rehabilitation Protocol. Please take the protocol to your physiotherapist for him/her to follow. If you, or your therapist, have any questions, please call our office at 403-760-2897.
- Based on your goals and your insurance coverage, you should discuss an appointment plan with your physiotherapist during your first post-operative visit. If you have limited funding for physiotherapy please make sure you space your visits out over the first year after surgery.

### **Return to Sport**

- Your surgeon will be able to tell you when you can go back to sport. For most patients this is between 6 -12 months after surgery. The type of sport and your level of strength and function (when we test you at your follow-up appointments) 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 use a lot of running, jumping or pivoting. It is important to avoid too much load on damaged joint surfaces, as this may help to reduce the progression of 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.
- MPFL reconstruction is very successful for stabilizing the patella and preventing dislocations, 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.