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PATIENT GUIDE TO PATELLA INSTABILITY

What is the patella instability?

The patella is the knee cap, which can be a common source of pain. This is different from instability, which is when the knee cap comes out of joint, usually to the lateral or outside part of the knee. This can happen once or multiple times. Usually the knee cap will come back in on its own by straightening the knee, although sometimes it requires a doctor to reset the patella.

How does this happen?

The patella can dislocate either by trauma, such as a contact injury during sports, or during non-contact injuries, such as twisting, cutting, or pivoting. The patella can also subluxate, which is a type of partial dislocation. This can happen with or without a specific injury, and sometimes, it is a gradual feeling that you cannot trust the knee.

How do I know my patella is injured?

Usually a patella instability results in sudden pain and giving way of the knee. Many patients report having felt or heard a “pop” when they injure their knee. The knee cap may be stuck laterally, giving the knee an obvious deformity. In addition, the knee commonly swells within the first 1 to 3 hours after the injury.

The examination in the office usually can determine when there is a significant injury, by testing the ability of the ligaments to prevent the patella from moving laterally on the femur. If the injury just recently occurred, it can be difficult to tell if the ligament is injured because the patient does not like the knee to be moved around.

Do I need x-rays, MRI's or any other test?

A set of x-rays is usually ordered to evaluate the bones and cartilage around the knee. The x-rays are primarily used to evaluate for a fractures or arthritis about the knee, however there are numerous measurements we can take from x-rays that are critical to developing a treatment plan. An MRI may be ordered to look for damage to the soft tissue, bone bruises, loose bodies, articular cartilage and rule out any other injuries to the knee. Additional alignment measurements are also taken that will help with treatment planning.

Is there other damage to the knee when the patella dislocates?

In some cases, there is also injury to the articular cartilage (the cartilage surface of the knee). The MRI will usually detect this injury, but in some cases it is not seen. This injury will also be addressed at the time of surgery, if necessary. In some cases, a part of the cartilage becomes free floating in the knee which may require surgery.

What are the treatment options for patella instability?

In most cases, non-surgical treatment is recommended for first time instability events. Numerous studies (and consensus of world experts) agree that physical therapy is the best, first option. Sometimes, surgery is recommended if there are other injuries, such as the articular cartilage or loose bodies in the knee.

For recurrent instability, surgery is recommended to stabilize the knee. There are several different options for this, depending on numerous factors, including other injuries, alignment of the knee, and previous treatments.

If I don't have my patella fixed am I likely to injury my knee further or get arthritis?

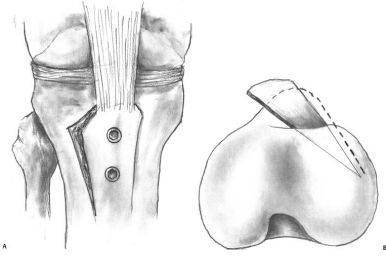
This depends on the number of events. In many cases, a single instability event will heal well and no surgery is required. For multiple events or cartilage injuries, surgery may be recommended to prevent further damage. Your surgeon will discuss this with you.

How is patella instability treated with surgery?

Surgical treatments for patella instability can be broken down into soft tissue or bony surgeries. The recommendation for these are based on numerous individual factors, most of which come from the preoperative xrays and MRI.

Soft tissue surgeries focus on the medial patellofemoral ligament or MPFL. This is a part of the knee that connects the patella to the femur (thigh bone) on the inside part of the leg. This ligament is torn with nearly all patella dislocations, but does have the capacity to heal. When it does not completely heal, an MPFL reconstruction is a reliable surgery to correct this. This involves using a tendon to rebuild the ligament. We drill 3 small sockets in the bones- 2 in the patella, 1 in the femur- and use plastic screws to hold them in place. Arthroscopy and live x-rays are used to ensure the tendon is in the right location.

Bone surgery involves realigning the pull on the patella a tibial tubercle osteotomy, or TTO, also called AMZ or Fulkerson osteotomy. This involves cutting the tibia bone just below the patella tendon, moving it towards the inside of the leg, and fixing it in place with screws. This is done in cases of bone alignment problems, some cartilage reconstructions, and failed soft tissue surgery.



The surgery usually involves an overnight stay in the hospital. This cannot be performed on patients that smoke, vape, or use any other nicotine containing products. It also involves a longer time of strict non-weight bearing with crutches to ensure the bone heals properly.

What kind of graft is used for the new ligament?

Choices for the type of replacement graft include **autografts** (using your own tissue) or **allografts** (donor tissue from a cadaver).

A hamstring **autograft** is taken from a smaller incision towards the inside of the knee. The graft has excellent results. It has not been shown to lead to any significant weakness of the hamstring muscles. It is my preferred and most commonly used graft.

Allograft tissue is tissue donated from a cadaver. They are also strong grafts with excellent results for MPFL reconstruction. Because the tissue is not taken from your body, the surgical time and operative pain is less. The tissue is rigorously screened for infections, such as bacteria and viruses, including HIV and Hepatitis. The risk of contracting an infectious disease from an allograft is extremely small.

What are some of the possible complications of surgery?

While complications are not common, all surgery has associated risk. Possible complications include stiffness of the knee after surgery or continued pain. The use of arthroscopic techniques attempts to limit these complications. In addition, there is a risk of recurrent instability or rupture of the MPFL graft. The TTO carries some unique risk including non-union, where the osteotomy site does not heal, and compartment syndrome due to excessive swelling. Everyone should expect that their knee has a more prominent bony appearance (a knobby knee look) and may notice discomfort with kneeling after TTO. Other complications of both include infection, pain, bleeding, nerve damage, blood clots, stiffness, broken, painful or prominent hardware, need for additional surgeries, or problems with the anesthesia.

When should my surgery be performed?

Patella instability surgery is not an emergency. In fact, it is extremely important that we delay your surgery until the inflammation in your knee quiets down. The goal of waiting is to allow you to regain **full** motion in your knee prior to surgery. In general, this takes 4 weeks for most patients, but can vary. This time may change if there are cartilage loose bodies. Additionally, we recommend a trial of non-surgical management for most patients before considering surgical interventions.

What kind of anesthesia is used?

MPFL reconstruction and TTO is usually performed with general anesthesia (going to sleep). This will also be supplemented with a nerve block, to help with post-operative pain.

What do I need to do to prepare for surgery?

Our staff will help to set up the surgery through your insurance company and will instruct you on any paperwork that may be necessary.

Prior to your surgery, you may be asked to get several medical tests, done on an outpatient basis. Most patients do not require any testing. Some may need some routine blood tests or a urinalysis. If you are over age 45, you will require a current EKG. Some patients need to see an internist or their family doctor to obtain clearance for surgery.

Closer to the surgery date, a member of the surgery center or hospital staff will contact you about what time to arrive for surgery. You may not eat or drink anything after midnight the night before your surgery.

Can I continue to take my medications?

You should STOP taking any aspirin or anti-inflammatory medication (Motrin, Advil, Relafen, Naprosyn, etc.) at least seven days prior to your surgery. However, you may CONTINUE to take Celebrex or Vioxx if you are on these medications. You may also take Tylenol as needed.

Continue to take any other prescribed medications, such as blood pressure pills, up until the day of surgery. You may also take these medications the morning of surgery with a sip of water. The pre-operative nurses will review your medications prior to surgery and discuss which to continue and which to stop.

How long will I be in the hospital?

For an MPFL reconstruction, almost all patients are able to have surgery and go home the same day. Plan on being there for at least 5 hours. Do not make plans for the day of surgery- you will need to rest and recover. For TTO, plan to stay overnight in the hospital for monitoring. This is specifically to monitor for compartment syndrome, a rare but potentially devastating complication.

What happens the day of surgery?

The morning of surgery you will be admitted and taken to a pre-operative holding area where you are prepared for surgery.

You will be asked several times which extremity I am operating on. I will mark my initials on the surgical leg. You will meet the surgical team, including the anesthesia team, who will also perform the nerve block.

After the operation, you will be taken to the recovery room to be monitored. Once the effects of anesthesia have worn off and your pain is under good control, you can see your family and finish recovering. You will be given all of your post-operative instructions and pain medication before leaving.

Please be aware that the process of getting checked in, prepared for surgery, undergoing the operation, and recovering from anesthesia takes the majority of the day. I would recommend that you and your family members bring along some reading material to make the process easier for all.

How should I care for my knee after surgery?

Prior to your discharge, you will be given specific instructions on how to care for your knee. In general, you can expect the following:

Diet: Resume your regular diet as soon as tolerated. It is best to start with clear liquids before advancing to solid food. A high protein diet is beneficial for healing. Some research suggests that as high as 2 grams of protein per pound is needed to help the body heal.

Medication: You will be given a prescription for pain medication.

Bandage: You will have a thick dressing on the knee. You will be instructed on when it can be removed, usually in 3 days. After your dressing is removed, you should cover your sutures with a Band-Aid to protect the area from irritation.

Showering: You may shower after your dressing is removed, after 3 days. You cannot take a bath until the wounds are completely sealed, usually 2 – 3 weeks after surgery.

Crutches: You will have crutches after surgery, and will be instructed on how to use them. For the first several weeks, you will use crutches for walking.

Brace: You will receive a brace for your knee. When walking, you will keep the brace locked straight. When you are not walking, you will be able to unlock the brace for motion as tolerated. In addition, you will sleep with the brace locked straight for two weeks.

Ice: You may receive an ice machine that continually surrounds your knee with cold ice packs. If not, you may apply ice over the dressings for 30 minutes every hour for several days. Some people use this for weeks after surgery to decrease inflammation. Do not use heat.

Suture removal: Your stitches will be removed at your office visit 7-14 days after surgery. Occasionally, sutures are used which resorb and do not need to be removed.

Follow-up office visit: You will be instructed on when to follow-up in the office. This is usually 7-14 days after surgery. At your preoperative appointment, this should be scheduled for you at check out.

Exercise: You will be instructed on exercises you can do immediately after surgery. You will be given a prescription for physical therapy to begin on post operative day #3.

Return to work or school: You can return to school or work within 7-14 days using the crutches. If your job involves more extended walking or heavy activity, you may be out of work or school for a longer period of time

What will rehabilitation involve?

The rehabilitation is based on several goals: 1) allowing the tissue to heal; 2) regaining motion; 3) regaining strength; and 4) return to sports. The most important part of the rehabilitation program at first is making sure the knee gets complete extension (totally straight). Following this, the emphasis is to regain flexion of the knee. The rehabilitation program is just as important as the surgery in achieving a good result. The protocol for the physical therapist is enclosed, showing the progression of therapy for the first four to six months after surgery.

When can I return to sports?

In general, you will be allowed to return to sports in 5-6 months after surgery. Everyone recovers at different rates, and I use a functional rehab instead of just the calendar. This ensures your recovery will be safe to prevent complications such as reinjury. You must have good motion, strength, and control of your knee- 90% of the other leg. How quickly you return to sports depends on several factors, including: 1) your own rate of healing; 2) the damage found at surgery; 3) if you have any complications; 4) how well you follow the post-operative instructions; 5) how hard you work in rehabilitation. In most cases, it will take six months to return to cutting and pivoting activities with your therapist.

Will I need a brace after surgery for sports?

After a successful surgery, you should be able to return to all activity without using a brace. However, many patients feel more secure for the first year after surgery wearing a brace for sports.

Success

Overall, both MPFL reconstruction and TTO are highly successful operations. The advances in diagnostics, surgical techniques and rehabilitation have led to a low rate of complications and recurrent instability.

Our commitment

The entire NewportCare team is committed to you, the patient. We understand that this is a stressful time, and you may be anxious about your injury and the need for surgery. Please contact me with any questions about your injury or treatment plan.

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