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MPFL Reconstruction — Pre-Operative Information

About Your Injury

The medial patellofemoral ligament (MPFL) is the primary stabilizer that keeps your kneecap (patella) from sliding out of its groove on the outer side of the knee. It acts as a check-rein, connecting the inner edge of the kneecap to the thigh bone (femur). When the MPFL is torn or stretched, the kneecap can dislocate or subluxate (partially shift out of place) during activity.

Patellar instability most commonly occurs during twisting or pivoting movements and is especially common in young athletes between the ages of 15 and 25. Most people feel the kneecap shift out of place, followed by significant swelling and difficulty bending the knee. Some patients experience recurrent episodes where the kneecap continues to slip with less and less force each time.

Risk factors for recurrent patellar instability include a shallow groove on the femur (trochlear dysplasia), a kneecap that sits too high (patella alta), loose ligaments throughout the body (ligamentous laxity), and an increased distance between the tibial tubercle and the trochlear groove (elevated TT-TG distance). These factors are evaluated with X-rays and MRI before surgery.

After a first-time dislocation, non-operative treatment with physical therapy and bracing is often tried first. Surgery is recommended when the kneecap continues to dislocate or subluxate despite rehabilitation, or when imaging shows significant structural risk factors that make future dislocations very likely.

Learn more at merrittsurgery.com or youtube.com @merrittsurgery

About Your Surgery

MPFL reconstruction is a surgical procedure that replaces the torn MPFL with a graft — a piece of tissue that is attached to the kneecap and femur in the position of the original ligament. Over time, the graft heals into the bone and functions as a new check-rein to prevent the kneecap from dislocating. Dr Merritt typically uses donor tissue (allograft) for the reconstruction as this provides a strong ligament to replace the native MPFL.

As part of the procedure, a lateral retinacular lengthening is typically performed at the same time. This loosens the tight tissue on the outer side of the kneecap that may be contributing to the tracking problem. The combination of rebuilding the inner restraint (MPFL) and lengthening the outer tightness (lateral retinaculum) helps center the kneecap properly in its groove.

The knee is examined arthroscopically to evaluate the cartilage surfaces, confirm the diagnosis, and assess patellar tracking. The MPFL graft is then placed through small incisions on the inner side of the knee and secured to the bone with anchors or screws.

Surgery typically takes about 1–1.5 hours. This is an outpatient surgery performed at the Proliance Surgery Center at Valley (PSCV). You will go home the same day. You will have general anesthetic and a nerve block to control postoperative pain

Risks of surgery include stiffness, infection, blood clots, numbness around the incisions, continued pain and swelling, graft failure or re-dislocation, and fracture of the kneecap (rare). We will work together to optimize your recovery and minimize these risks.

What happens on the day of surgery: A couple of days before surgery, the nursing staff will call you to confirm your check-in time and when to stop eating and drinking. On the day of surgery, check in at the front desk at your assigned time. You will go to the pre-op area with your family where our nurses will help you get changed, start an IV, and review your health history. You will meet with me to review the plan, and the anesthesia team will explain their approach. When the operating room is ready, you will walk back with a nurse. After anesthesia is given, you will not remember anything until the recovery room.

While you are in surgery, your family can pick up your post-operative medications at the pharmacy next to the surgery center. If you are under 18, one family member must stay at the surgery center during the entire surgery. In the recovery room, you will be monitored until you are awake, have some crackers and juice, and be made comfortable. Once ready, you will change into your clothes and be wheeled to your car. **You will need someone to drive you home and stay with you for the first 24 hours.**

After Surgery — What to Expect

After surgery it is normal to experience pain, swelling, limited motion, and soreness on the inner side of the knee where the graft was placed. These are expected and will improve over time. You will be in a hinged knee brace for walking during the first 6 weeks. The brace provides protection against the kneecap shifting but does not limit your range of motion — you can bend and straighten your knee freely during exercises.

You can put full weight on your leg from Day 1. Unlike osteotomy procedures that involve bone cuts, the MPFL graft does not require weight-bearing restrictions. You will use crutches with the brace for the first several weeks and wean off them as your strength and confidence improve.

Physical therapy should start within the first week after surgery, typically 2 times per week. You will receive a PT referral at your pre-operative clinic visit. Please schedule your first PT appointment before your surgery date.

VMO (inner quadriceps) strengthening is a critical focus throughout your recovery. The VMO helps stabilize the kneecap and works together with the new MPFL graft to prevent future instability.

The timeline below answers the most common questions about recovery. Your recovery may be faster or slower depending on your overall fitness and any additional injuries. The key message is that we need to protect the reconstruction — even though you will be very active and working hard during every phase of recovery.

Timeframe	What to Expect
1–2 weeks	First clinic visit to check incisions and early recovery. Pain, swelling, and limited motion are normal. Weight bearing as tolerated with crutches and brace for walking. Quad and VMO activation exercises begin. PT starts within the first week (2x/week).
2–6 weeks	Continue in brace for walking. Wean off crutches as strength returns. Range of motion should progress to 120° or more. Second clinic visit around 6 weeks with X-rays. Most people can return to desk work or school.
6–12 weeks	Brace comes off at 6 weeks. Begin functional strengthening — mini-squats, step-ups, leg press. Pain and swelling decrease significantly. No open-chain knee extension exercises.

12–20 weeks	Single-leg strengthening, jogging can begin around 12–16 weeks. Bilateral plyometric exercises with PT guidance.
5–6 months	Return to sport with PT clearance. A formal return-to-sport evaluation is often done to confirm readiness. Full cutting and pivoting activities resume.

Driving: If surgery was on your right leg, typically 4–6 weeks (while in the brace). If your left leg, typically 2–4 weeks. You must be off narcotic pain medications before driving.

Preparing for Surgery

Pre-surgical physical therapy (prehab): Physical therapy before surgery is recommended to strengthen the VMO (inner quadriceps), improve range of motion, decrease swelling, and restore normal walking mechanics. This typically takes 4–8 weeks after your most recent dislocation episode. Working on these things before surgery leads to a faster and better recovery afterward.

Nutrition: A good diet with increased protein and collagen supplementation helps speed your recovery and prevent muscle weakness after surgery. Vitamin C can help with inflammation and stiffness. Start these before surgery and continue through your recovery.

Ice Machine — My #1 Recovery Recommendation

I highly recommend purchasing an ice machine to help your recovery. An ice machine is the single best investment you can make — it allows for continuous icing without the risk of frostbite and is far easier than using ice bags or gel pads. Our clinic staff can fit you for one before surgery and show you how to get the most out of it. Stock up on bags of ice — the machine can go through a bag a day when used regularly.

Prepare your home: Remove throw rugs or obstacles that might catch a crutch and cause a fall. Make sure you have clean sheets and comfortable clothes ready. Stock the refrigerator with healthy food and buy bags of ice for the ice machine.

Handicap placard: You will be given a handicap parking pass application at your clinic visit. Get this at a DMV office before your surgery so you do not have to deal with it while recovering.

Day-of-Surgery Checklist

- ☐ Verify your check-in time and follow instructions on when to stop eating and drinking
- ☐ Schedule Physical Therapy for 5–7 days after surgery (do this before surgery)
- ☐ Bring your brace — you will be fitted at your pre-operative visit
- ☐ Wear comfortable clothes that fit over a brace (sweatpants work well)
- ☐ No perfume or lotion on your skin
- ☐ Remove or leave jewelry at home
- ☐ Have the ice machine and bags of ice ready at home for when you return

Contact Information

Questions about your surgery:	(425) 656-5060
PSCV Surgery Center:	(425) 226-2041
Surgery Scheduling:	(425) 528-7155
Pre-op Nurse:	(425) 291-1465

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