

OSTEOCHONDRAL ALLOGRAFT OF THE KNEECAP OR TROCHLEA

Before Your Surgery

YOUR SURGERY AT A GLANCE

SURGERY	Osteochondral allograft (OCA): a size-matched donor bone-and-cartilage plug replaces the damaged spot on the kneecap or in its groove (trochlea)
HOW LONG	About 1–1.5 hours
ANESTHESIA	General anesthesia, with a nerve block for pain after surgery
WHERE	Proliance Surgery Center at Valley (PSCV) or Valley Medical Center (VMC), both in Renton. We will tell you which. You go home the same day
AFTER SURGERY	Full weight as tolerated in a hinged brace locked straight for 6 weeks . Crutches for comfort for 2–3 weeks . PA visit at 2 weeks
PHYSICAL THERAPY	Starts 5–7 days after surgery, 2 times a week . Schedule it before surgery

Do these now, before surgery

- **Schedule physical therapy** for 5–7 days after surgery.
- **Arrange a driver** and someone to stay with you for the first 24 hours.
- **Get your handicap placard** at a DMV office, using the application from your clinic visit, so you do not have to deal with it while recovering.
- **Get fitted for an ice machine** and stock up on bags of ice.

About Your Injury

Articular cartilage covers the ends of the bones in the knee and lets them glide with almost no friction. It has no blood supply, so it cannot heal itself. A cartilage injury left alone does not get better. It gets larger. Think of the joint surface as a road. A focal cartilage defect is a pothole in an otherwise intact surface. Our goal is to fill that pothole before the road wears down further.

The kneecap (patella) glides through a groove called the **trochlea** on the front of the thigh bone. Together they form the **patellofemoral joint**. Cartilage damage here causes pain with stairs, squatting, kneeling, and sitting for long periods.

Cartilage injuries in this joint come from kneecap dislocations, trauma, overload, or osteochondritis dissecans (OCD). The patellofemoral joint carries the highest loads in the knee: up to **8 times body weight** during a deep squat.

OCA is for patients with meaningful focal damage who want to preserve their natural joint. If your imaging shows kneecap instability or malalignment that contributed to the damage, it may need to be corrected at the same time, for example with an **MPFL reconstruction** (to stabilize the kneecap) or a **lateral retinacular**

lengthening (to take pressure off the damaged area). These procedures do not change your recovery plan or timeline.

Why surgery: because this joint carries such high loads, treating the damage early is important. A cartilage injury left alone gets larger.

About Your Surgery

An **osteochondral allograft (OCA)** replaces the damaged cartilage and the bone underneath with a size-matched, living bone-and-cartilage graft from a tissue bank. The graft is matched to the size and curve of your defect using your imaging before surgery.

The bone part of the graft fuses with your own bone, much like a fracture healing, while the cartilage surface becomes part of your joint. This bone-to-bone healing is strong, and it allows a faster recovery than cell-based procedures. The bone healing is usually complete by **8–12 weeks**, but the graft does not fully mature until **12–18 months**.

If kneecap instability or malalignment contributed to the damage, an MPFL reconstruction or lateral retinacular lengthening will be done at the same time. This does not change your recovery plan or timeline. Donor tissue comes from an accredited tissue bank and goes through rigorous screening and testing for infectious diseases. The risk of disease transmission is extremely low.

Risks of surgery

Stiffness, infection, blood clots, numbness around the incisions, continued pain and swelling, graft failure, and the need for more surgery. We use a nerve block and a pain plan after surgery to keep narcotic use low.

Learn more and watch the videos

My website covers cartilage injuries, the difference between OCA and other cartilage repairs, and recovery in more detail. merrittsurgery.com/surgeries/cartilage-repair-restoration



Scan to learn more
and watch videos

The Day of Surgery

What to expect, step by step.

1 A couple of days before

The nursing staff will call to confirm your check-in time and when to stop eating and drinking.

2 Check in

Check in at the front desk at your assigned time. In the pre-op area, with your family, our nurses will help you change, start an IV, and review your health history.

3 Meet the team

I will meet with you to review the plan, and the anesthesia team will explain their approach.

4 | **Surgery**

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 medicines at the pharmacy (next to the surgery center at PSCV, or near the operating rooms at VMC).

5 | **Recovery room and going home**

You will be monitored until you are awake, have some crackers and juice, and are comfortable. Then you will change into your clothes and be wheeled to your car. **You need someone to drive you home and stay with you for the first 24 hours.**

After Surgery: What to Expect

Pain, swelling, limited motion, and stiffness are normal after surgery and improve over time. You will be in a hinged knee brace and on crutches at first. The brace is **locked straight for standing, walking, and sleep for 6 weeks**, and most people stop it at about **8–10 weeks**. Bending is done sitting or lying down, with a goal of **90° by 2–3 weeks**.

OCA recovery means respecting the biology of bone healing. The graft needs time to heal in, and loading it too early risks failure. The plan below is designed to protect healing while gradually restoring function.

When	What to expect
Weeks 0–6	Weight bearing as tolerated with the brace locked straight, including for sleep. Crutches for comfort for 2–3 weeks, then wean. For 4 weeks: no ankle weights and no exercises that push against resistance to straighten the knee. Bending goal 90° by weeks 2–3 , with no set limit when there is no weight on the leg. Quad sets, straight-leg raises, heel slides, ankle pumps, and kneecap mobilization. NMES (electrical muscle stimulation) starts at your first PT visit.
Weeks 7–10	Brace opened gradually in weeks 7–8 and stopped in weeks 8–10 . Progressive quad strengthening: mini-squats, step-ups, recumbent bike. Light resisted straightening (bands) progresses; no leg-extension machine until about week 14 . Avoid loaded bending past 60° through weeks 10–12.
Weeks 10–14	Full weight bearing without the brace. Progressive strengthening in deeper ranges. Low-impact conditioning: cycling, swimming, elliptical. Loaded bending past 60° allowed after week 12.
Weeks 14–16	Running program begins (flat surface) once you pass the 8-inch step-down test. Plyometric exercises begin.
Months 4–6	Sport-specific training with increasing intensity. Cutting, pivoting, and agility drills begin. Formal return-to-sport testing.
Month 6+	Return to full sport after meeting all strength and functional criteria and surgeon clearance. MRI and clinical assessment as needed.

Protecting the graft

- **For the first 4 weeks:** no ankle weights and no exercises that push against resistance to straighten the knee. This protects the graft surface. Light band exercises can start after week 4; **no leg-extension machine until about week 14.**
- **Loaded bending past 60°** puts the highest pressure on the kneecap joint. Limit it through week 12.
- **Weight bearing as tolerated** means you can put weight on the leg, but use crutches for comfort and to protect the graft early on.

Driving

- **Right leg:** not while your brace is locked straight (at least 6 weeks), and only once you are off crutches, the brace is unlocked or off, you are off narcotic pain medicine, and you can brake hard.
- **Left leg:** typically 2–4 weeks, once you are off narcotic pain medicine.

Preparing for Surgery

Medicines and supplements before surgery

- The pre-op nurse will tell you when to stop eating and drinking.
- **Stop fish oil, vitamin E, and herbal supplements 5 days before surgery.**
- **Tell us** if you take a blood thinner (such as Eliquis, Xarelto, warfarin, or Plavix) or a weekly diabetes or weight-loss injection (such as Ozempic, Wegovy, or Mounjaro). These may need to be stopped earlier.
- **No anti-inflammatory medicines.** Stop ibuprofen (Advil, Motrin), naproxen (Aleve), meloxicam, celecoxib (Celebrex), diclofenac, and anti-inflammatory creams and gels such as Voltaren **7 days before surgery**, and do not take them for **6 weeks after surgery**. They can slow bone and cartilage healing. The low-dose (81 mg) aspirin we prescribe after surgery is different: take it as directed.

Physical therapy before surgery (prehab)

Physical therapy before surgery is recommended to strengthen the VMO (inner quadriceps), improve motion, decrease swelling, and restore normal walking. This usually takes **4–8 weeks** after your most recent injury episode, and it leads to a faster and better recovery.

Nutrition

What you eat has a direct effect on how well you heal. Start good nutrition before surgery and continue through your recovery. Our nutrition guide explains what to take and how much: merrittsurgery.com/surgeries/nutritional-optimization



Scan for the nutrition
guide

Ice machine: my #1 recovery recommendation

An ice machine is the single best investment you can make for your recovery. It makes icing **20 minutes on, 20 minutes off** easy, without the risk of frostbite, and is far easier than 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 use a bag a day. **Scan the code to learn more or buy one.**



Scan for recovery tools

Get your home ready

- Remove throw rugs or obstacles that might catch a crutch and cause a fall.
- Have clean sheets and comfortable clothes ready. Stock the refrigerator with healthy food, and buy bags of ice.

Day-of-Surgery Checklist

- ☐ Verify your check-in time and follow the instructions on when to stop eating and drinking
- ☐ Physical therapy scheduled for 5–7 days after 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, and leave jewelry at home
- ☐ Ice machine and bags of ice ready at home for when you return
- ☐ A driver, and someone to stay with you for the first 24 hours
- ☐ If you are under 18: one family member must stay at the surgery center or hospital during the entire surgery

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
Billing	(425) 291-1414
PSCV address	4009 Talbot Rd S, Ste 200, Renton, WA 98055
VMC address	400 S. 43rd Street, Renton, WA 98055