DR. KAISEN YAO, MD

ORTHOPEDIC SPORTS MEDICINE SURGEON

Informational Packet

PCL Reconstruction Surgery

Northwell Health
Department of Orthopedic Surgery & Sports Medicine

Dr. Kaisen Yao, MD

Welcome

This booklet covers what to expect before, during, and after PCL reconstruction surgery, and outlines the first steps of your recovery. If you have not already, please register for Epic MyChart to view your appointments, message your care team, and access your records online.

Keep this packet somewhere handy in the weeks before and after surgery — it answers most of the questions patients ask us during recovery.

Meet Your Surgeon



Dr. Kaisen Yao, MD
Sports Medicine & Orthopedic Surgery

Dr. Yao specializes in sports medicine and orthopedic surgery of the knee, shoulder, elbow, and hip, with a focus on ligament reconstruction, cartilage restoration and preservation, arthroplasty, and orthopedic trauma and fracture care. He completed his sports medicine fellowship at the prestigious NYU Langone Health and his orthopaedic surgery residency — serving as Chief Resident — at Lenox Hill Hospital. During his fellowship, he also worked with several professional sports teams as a team physician, including the New Jersey Devils, Washington Commanders, and Jacksonville Jaguars. A former collegiate swimmer at Washington University in St. Louis, Dr. Yao brings an athlete's perspective to helping patients return safely to the activities they love. Outside of orthopedics, he enjoys golf, swimming, classical piano, exploring new restaurants, and traveling the world.

He sees patients at the following locations:

Lenox Hill Hospital
130 E 77th Street, 7th Floor
New York, NY

Astor Place
740 Broadway, Suite 604
New York, NY

Downtown Brooklyn
68 Flatbush Avenue
Brooklyn, NY
718-208-1440

Anatomy of the Knee

The knee joint is formed where three bones meet: the thighbone (femur), shinbone (tibia), and kneecap (patella), which sits in front of the joint.

Bones are held together by ligaments. The knee has four primary ligaments: two collateral ligaments (one on each side) and two cruciate ligaments (inside the joint, crossing to form an “X”). The anterior cruciate ligament (ACL) sits toward the front of this X and the posterior cruciate ligament (PCL) toward the back. Together, the cruciate ligaments control front-to-back and rotational movement of the knee.

The PCL's main job is to keep the tibia from sliding backward relative to the femur. It is the strongest ligament in the knee and the primary restraint to that backward motion. PCL tears most often follow a direct blow to the front of a bent knee — a dashboard injury, a fall onto the flexed knee, or a hyperextension or twisting injury in sport — and frequently occur alongside injury to other structures, most often the posterolateral corner, meniscus, or articular cartilage.

PCL Reconstruction Surgery

PCL reconstruction (PCLR) is an outpatient surgery that replaces a torn PCL. During surgery the torn ligament is removed and replaced with a donor tendon, called an allograft. Dr. Yao uses an allograft for every PCL reconstruction, so no tendon is taken from your own knee and there is no second surgical site to recover from. Because gravity and the hamstring muscles constantly pull the shinbone backward — exactly the direction the new graft has to resist — the early recovery after PCL reconstruction is more protective than after ACL surgery. The knee is braced straight, early bending is done face-down, and weight bearing is limited for longer. The sections that follow explain what that looks like week to week.

Preoperative Instructions

1. **No tobacco.** If you use any tobacco or nicotine products, please stop. Tobacco use raises the risk of infection, blood clots, a looser graft, and a lower chance of returning to your prior level of sport. Please stop at least 4 weeks before surgery and continue avoiding it through recovery.
2. You will be notified of your arrival time the day before surgery.
3. Do not shave the surgical leg for the 5 days leading up to surgery.
4. Wear loose-fitting clothing on the day of surgery — you will leave in a knee brace.
5. Skip lotion, makeup, and deodorant on the day of surgery; some skin-prep solutions contain alcohol and can react with these products.
6. Nothing to eat after midnight the night before surgery (this includes gum, mints, and hard candy). A small amount of water is fine up until 4 hours before your check-in time. No dairy, juice, soda, or protein shakes starting at midnight.
7. Your first postoperative visit is usually scheduled 8–14 days after surgery. Starting physical therapy within the first week is important to prevent stiffness.
8. Please schedule your first postoperative physical therapy visit **before** the day of surgery. Many clinics have a 1–3 week wait for new appointments, so book as soon as your surgery date is confirmed. Let our office know if you are having trouble getting scheduled.
9. If you take a GLP-1 medication (for diabetes or weight management), plan to hold it for 2 weeks before surgery due to delayed gastric emptying under anesthesia — please still confirm the exact timing with our office and your anesthesiologist.

Crutch Instructions

Make sure your crutches are fitted properly: standing normally, there should be about two finger-widths between the top of the crutch and your armpit, and your hand grips should sit at wrist level with your elbows slightly bent. Ask us about a crutch-fitting visit before surgery if you'd like one.

- Look ahead, not down at your feet.
- Clear rugs, cords, and clutter from your walking path at home.
- Check that the rubber crutch tips are clean and in good condition.
- Bear weight through your hands, not your armpits — underarm pressure can cause numbness.
- Move the crutches about a foot in front of you with each step.
- Practice before surgery if possible; it makes the first days home much easier.

Day of Surgery

What to expect: This is an outpatient procedure — you'll go home the same day. Plan to arrive about 2 hours before your scheduled surgery time and to be discharged 1–2 hours after the procedure ends.

Anesthesia & nerve block: Most patients receive general anesthesia (you'll be asleep) along with a regional nerve block for pain control. The anesthesiologist uses ultrasound guidance to inject numbing medication around the nerves in the front of the leg. The block typically numbs the front of the leg for 8–24 hours, though this varies by patient. Your anesthesiologist will review the details with you the morning of surgery.

Benefits of a nerve block include:

- Better pain control in the first day after surgery
- Lower risk of nausea, vomiting, and grogginess from general anesthesia
- Earlier ability to eat and drink after surgery
- Faster, smoother discharge from the surgery center

Postoperative Instructions: Weight Bearing & Walking

You'll wake up in a hinged knee brace locked straight (in extension). After PCL reconstruction you will be partial weight bearing with crutches, putting roughly half your body weight through the operated leg, and the brace stays locked straight whenever you are walking. Dr. Yao and the care team will confirm your exact weight-bearing status before you leave the surgery center.

Walking with the brace locked straight will not damage your graft. Plan on crutches for about 6 to 8 weeks — noticeably longer than after ACL surgery — because the graft needs protection from the backward pull on the shinbone while it heals. The brace stays locked in full extension for walking through roughly week 4. For the first week it stays on at all times except during therapy and exercise; from week 1 you may also take it off for sleeping. Your physical therapist will guide each transition.

Resting & Sleeping

Sleep with the brace locked straight for the first week after surgery. After that you may sleep without it unless Dr. Yao tells you otherwise. Place a pillow under your heel — not under the knee — to help the knee rest in a fully straight position overnight.

Bandages, Dressing & Bathing

A light compressive dressing is placed under your brace in the operating room — this is the cleanest dressing you'll have, so please leave it in place and dry until your follow-up visit. You may shower with the brace on, keeping the dressing dry using a plastic covering (a clean garbage bag taped above the dressing works well). Use a shower chair or other stable seat, and consider a non-slip sandal for traction. Sponge bathing is a good alternative if you'd rather not get the leg wet at all.

If the dressing loosens, becomes soaked, or falls down, re-wrap it with clean gauze and an elastic bandage and contact our office so we can see you sooner if needed.

Pain Management

Some pain, swelling, and stiffness after surgery is normal and expected - the goal of our pain protocol is to keep you comfortable, not pain-free. Your specific prescriptions will be reviewed with you at discharge. Your standard medication plan is:

- **Celecoxib 200 mg** - take by mouth twice daily for 30 days.
- **Oxycodone (Roxicodone) 5 mg** - take by mouth as needed for pain, up to 4 times a day, for the first 5 days after surgery.
- **Acetaminophen (Tylenol) 500 mg** - take by mouth as needed for pain, every 6 hours.
- **Aspirin (chewable) 81 mg** - take by mouth twice a day for 30 days to help prevent blood clots.
- **Senokot-S (sennosides-docusate)** - take 1 tablet by mouth daily, starting the day of surgery, for 14 days, to help prevent constipation from the pain medication.

If you received a nerve block, remember it will wear off over the following 8-24 hours. Start your pain medication on schedule rather than waiting for the block to wear off, since pain is easier to prevent than to catch up on. Taking medication with food can reduce nausea.

Using a cold therapy unit for roughly an hour on, an hour off while awake can meaningfully reduce pain and swelling. If you don't have a cold therapy unit, regular ice packs work well too - use them as needed, with a thin towel between the ice and your skin.

Do not drive, operate machinery, or drink alcohol while taking narcotic pain medication. If prescribed antibiotics, complete the full course.

What's Normal During Recovery

Constipation. Pain medication and anesthesia commonly slow the bowels. Stay ahead of it by walking short distances every hour, drinking plenty of water, eating fiber, and using a stool softener as directed.

Swelling. Some swelling of the leg, ankle, and foot is expected. Keep the leg elevated above heart level as much as possible in the first week, avoid letting the ankle hang below knee level for long stretches, and use cold therapy over the knee.

Bruising. Bruising can appear anywhere from the thigh down into the foot, typically 3–7 days after surgery, and will fade over time.

Low-grade fever. A mild fever (under 101°F) in the first couple of days is common. A higher or persistent fever, or worsening pain at the incision, should be reported to our office.

Blood clot precautions. Moving frequently — walking, or pumping the ankle if you're not weight-bearing — helps prevent blood clots. Seek urgent care or an ER evaluation for calf pain, worsening leg swelling, shortness of breath, chest pain, or a racing heartbeat.

When and How to Contact Us

Call our office if you experience:

- Pain that isn't improving with rest, medication, ice, and elevation
- No bowel movement for more than 72 hours despite laxatives/stool softeners
- A dressing that is soaked through with blood or fluid
- Shaking, chills, or a fever over 101°F

Practice number	718-208-1440
After hours / weekends	718-208-1440
Patient portal	Epic MyChart
Emergencies	Dial 911 or go to the emergency room at either Greenwich Village Hospital or Lenox Hill Hospital

Greenwich Village Hospital (Lenox Health Greenwich Village) — 30 Seventh Avenue, New York, NY 10011
Lenox Hill Hospital — 100 East 77th Street, New York, NY 10075

Exercises — Starting Day 1 After Surgery

Perform these gentle exercises as directed until your first physical therapy visit, which should typically be within the first week. Keep the brace on and locked while you are walking. Do not do hamstring curls or any exercise that bends the knee against resistance — that pulls the shinbone backward against the healing graft. Your physical therapist will build on this program from there.

Knee extension stretch. While seated, prop your heel on another chair and let gravity gently straighten the knee.

Quad sets. Sit with the leg straight and supported. Tighten the thigh muscle by pressing the back of the knee down toward the floor. Hold 3–6 seconds, rest up to 10 seconds. 8–12 reps, 2 sets.

Prone knee bending. Lie face-down with your thighs supported on the bed and let the lower leg hang so the knee bends slowly with gravity. Use your other leg under the shin to help straighten back up. Bending is done face-down so gravity does not pull the shinbone backward. Start gently and stop where your therapist tells you.

Straight-leg raises. With the brace on and locked straight, tighten your thigh and core, keep the knee straight, and lift the heel about 12 inches off the floor. Hold 3–6 seconds, lower slowly. 8–12 reps, 2 sets.

Ankle pumps. Sitting or lying down, pump the ankle up and down. 20 reps, 3 sets, several times a day to help circulation and swelling.

Gluteal sets. Lying down with knees straight, squeeze the buttocks for 3–6 seconds, then release. 8–12 reps, 2 sets. Avoid arching the low back.

Frequently Asked Questions

What if my dressing gets wet?

Call our office if it becomes saturated so we can bring you in for a change. A small damp spot can often be dried carefully with a hair dryer on the cool setting.

Do I sleep in the brace?

Yes, for the first week. After that you may sleep without it unless Dr. Yao tells you otherwise.

How much can I bend my knee?

Bending is done face-down (prone) for the first 4 weeks so gravity does not pull the shinbone backward, and is generally limited to 90 degrees through week 4. Do not bend the knee on your own outside the positions you are shown, and do not use a towel or strap to pull the heel toward you.

How much pain should I expect?

PCL reconstruction is not pain-free. Expect meaningful discomfort for the first 1–2 weeks, improving steadily with elevation, ice, medication, and gentle movement.

Can I remove the brace?

For the first week it stays on and locked at all times except during therapy and exercise. From week 1 through week 4 you may also remove it for sleeping, but it stays on and locked for all walking.

How long will I need crutches?

Longer than after ACL surgery. Plan on partial weight bearing with crutches for about 6 to 8 weeks, and longer if you had an additional procedure.

When can I drive?

Generally once you are off narcotic pain medication, are walking without the brace locked, and feel confident you could brake quickly in an emergency (for a right knee). Practice in a safe, empty area first.

When can I return to work?

Desk jobs: often within 1–2 weeks, once off narcotics. Physical or labor-intensive jobs: typically several months, depending on demands. We'll tailor this to your role.

When can I return to sport?

Most patients need a minimum of 9–12 months. Returning earlier carries a meaningfully higher risk of stretching out the graft. You will also need to pass strength and movement testing with physical therapy before clearance.

How long will I need physical therapy?

Typically 9–12 months, tapering in frequency as strength and confidence return.

Can I get a disability/FMLA note?

Yes — ask at any pre- or post-operative visit, or call our office: 718-208-1440.

Rehabilitation Overview

0–4 weeks	Partial weight bearing with crutches; brace locked straight for walking. Prone passive bending to 90° by week 4. Quad sets, straight-leg raises, ankle pumps.
4–6 weeks	Weight bearing as tolerated; brace unlocked for gait training and exercise. Progress bending toward 110° by week 6.
6–12 weeks	Crutches usually discontinued at 6–8 weeks and a PCL brace may be used. Wall slides, mini-squats and leg press, then bike and stair climber.
3–6 months	Full weight bearing with a normal gait. Advance closed-chain strengthening, balance work, and treadmill walking.
6–9 months	Jogging progression as strength and mechanics allow. Continued quadriceps, glute, and core strengthening.
9+ months	Plyometrics, cutting, and sport-specific drills, then return to sport once strength and movement testing are passed.

This is a general framework — your pace may differ based on graft type, any combined procedures, and how your knee responds. Your physical therapist and Dr. Yao will adjust this timeline together with you.

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