Main Line Health®
Orthopaedics & Spine

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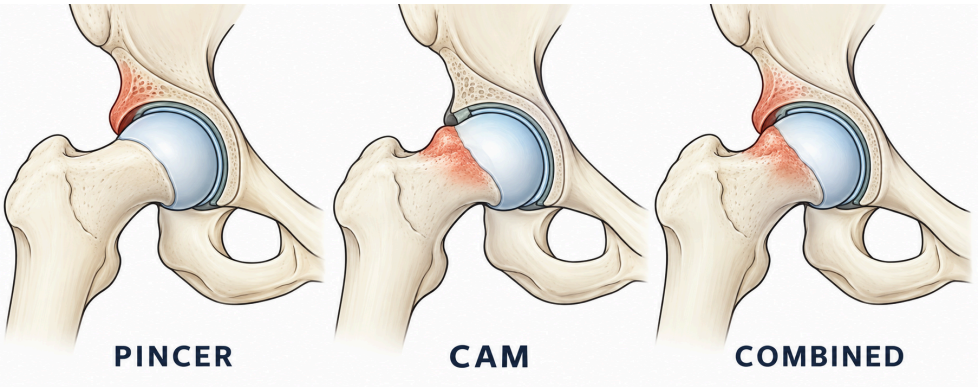
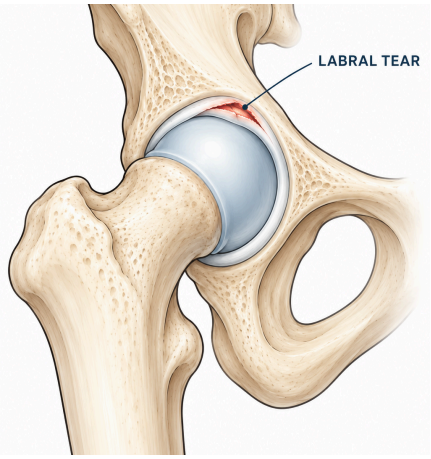
HIP ARTHROSCOPY - LABRAL REPAIR & FAI CORRECTION

Understanding the Injury

Hip arthroscopy is a minimally invasive procedure used to treat femoroacetabular impingement (FAI) and tears of the acetabular labrum, the ring of cartilage that lines the hip socket and helps stabilize the joint. FAI occurs when extra bone forms along the femoral head-neck junction (cam impingement), the acetabular rim (pincer impingement), or both, causing abnormal contact between the femur and socket during hip motion.





Over time, this abnormal contact can damage the labrum and articular cartilage, leading to pain, stiffness, and progressive joint damage. Left untreated, FAI and labral tears can lead to early hip osteoarthritis, particularly in young, active patients. Dr. Fliegel will thoroughly evaluate your condition using physical examination and advanced imaging to determine whether hip arthroscopy is the right option for you.

Who Is a Candidate?

Hip arthroscopy may be recommended for patients with hip pain from femoroacetabular impingement or a labral tear who have failed an adequate trial of conservative treatment, including activity modification, physical therapy, and anti-inflammatory medication or injections. Ideal candidates are relatively young and active, have minimal or no arthritis on imaging, and have symptoms — groin pain, catching, clicking, or limited motion — that correlate with the imaging findings of FAI or labral pathology.

The Surgical Procedure

Hip arthroscopy is performed through several small incisions around the hip using a camera and specialized instruments. Any torn or damaged labral tissue is repaired using suture anchors to restore the labral seal, and any cam or pincer bony impingement is reshaped (osteoplasty) to restore normal hip clearance and prevent further damage to the labrum and cartilage.

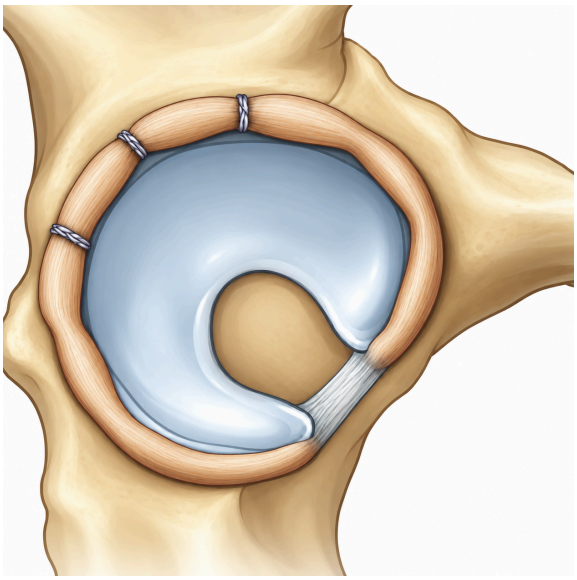
Microfracture and Cartilage Procedures

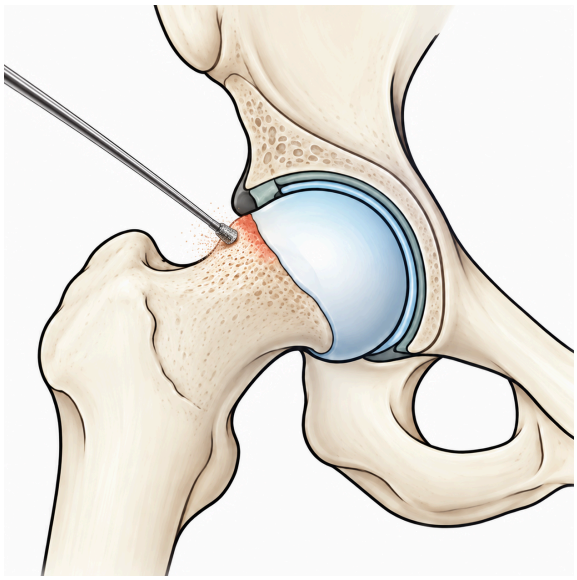
If cartilage damage is found at the time of surgery, Dr. Fliegel may perform a microfracture procedure to stimulate the growth of new cartilage. This adds additional protected weight-bearing and rehabilitation restrictions, generally extending early precautions from 3 to 6 weeks.

Anesthesia and Pain Management

Surgery may be performed under general anesthesia, often combined with a regional nerve block to help manage pain immediately after surgery. We use a multimodal pain management approach, including scheduled pain medication for the first several days, an aspirin to help prevent blood clots, an anti-inflammatory medication to reduce the risk of bony overgrowth, and a short course of low-dose medication that has shown benefit in reducing post-operative scarring.

Expected Outcomes and Surgical Risks





Most patients experience significant improvement in pain and hip function after arthroscopic labral repair and FAI correction, particularly with activities that previously caused pinching or catching in the groin.

Potential risks and complications include:

- Persistent pain, stiffness, or incomplete relief of symptoms

- Failure of the labral repair or progression of arthritis
- Infection, blood clot, or nerve injury
- Numbness around the incision or in the groin from traction during surgery
- Heterotopic ossification (bony overgrowth)

Most patients recover well when the protective rehabilitation protocol below is followed closely. Recovery is gradual and criteria-based — most patients achieve symmetric hip range of motion by 6 to 8 weeks and return to sport in 4 to 6 months, with continued improvement for up to a year.

PRE-OPERATIVE INSTRUCTIONS

Surgery Preparation Guide

Your preparation before surgery plays an important role in a smooth procedure and recovery. Please review the timeline below carefully.

Several Weeks Before Surgery

(As directed by Dr. Fliegel and the surgical team)

- Attend your pre-operative visit for a full history, physical examination, and surgical counseling.
- Complete blood count (CBC), and an electrocardiogram (EKG) if you are over age 40.
- Arrange for crutches, a hip brace, an ice machine, and a continuous passive motion (CPM) machine to be delivered before surgery, and confirm coverage with your insurance.

Dr. Fliegel also recommends a Complete Surgical Nutrition supplement to help support healing before and after surgery. Choose a physical therapy clinic close to your home, since therapy typically begins 1 to 2 days after surgery.

Several Days Before Surgery

- Apply Hibiclens (chlorhexidine) in the shower for 3 days before surgery to decrease infection risk.
- Avoid cuts, scrapes, or any skin irritation near the hip. Do not shave the surgical area.

The Day Before Surgery

- Confirm your arrival time at the Surgical Day Care Unit with our office.
- Nothing to eat or drink after midnight. If surgery is scheduled for the afternoon, clear liquids only are allowed up to six hours before surgery — no milk or food.
- Arrange for a responsible adult to drive you home and stay with you for the first 24 hours.

The Day of Surgery

- Nothing to eat or drink.
- Bring any MRI, CT, or X-ray studies performed outside our system.

- Bring insurance cards, photo identification, a list of your current medications, and loose-fitting clothing that will be comfortable to wear with crutches and a brace after surgery.

HIP ARTHROSCOPY REHABILITATION PROTOCOL

This protocol is both criteria-based and patient-specific; progression from one phase to the next is determined by meeting the stated goals, not calendar time alone. If a microfracture procedure was performed, weight-bearing and motion restrictions are extended and all lower-body strengthening exercises are held until week 6. Exercises are physician-directed and largely patient-led — formal physical therapy is not required for every patient, but please provide your therapist with a copy of this protocol if one is involved in your care.

The primary goals are to:

Protect the labral repair while it heals

Control pain and swelling

Restore hip motion and strength

Safely return to daily activities and sport

PHASE I: PROTECT THE JOINT (0–3 Weeks)

Goals

- Protect the labral repair and avoid joint irritation
- Decrease pain and swelling
- Begin protected passive hip range of motion
- Activate the surrounding hip musculature
- Achieve symmetric range of motion by 6 to 8 weeks

Immobilization

- 20-pound foot-flat weight bearing with crutches for 3 weeks (6 weeks if a microfracture procedure was performed)
- Brace worn when up and about, until off crutches (generally around 4 weeks); not needed while sleeping after the first week, or on the CPM machine, stomach, upright bike, ice machine, or in the shower
- Do not sit longer than 30 minutes at a time; no active lifting of the surgical leg for approximately 4 weeks

Range of Motion (Protected)

- Passive range of motion only, within a pain-free range; initiate gentle circumduction right away

- Flexion limited to 90° for 2 weeks (may go higher in the CPM); extension limited to 0° for 3 weeks
- Rotation and abduction limited per Dr. Fliegel's protocol for 2 to 3 weeks
- CPM machine up to 4 hours a day for the first 2 weeks; upright stationary bike, no resistance, 20 minutes daily

Exercises

- Isometrics: quad, glute, and transverse abdominis activation, held 5 seconds, 20 times each, twice a day
- Diaphragmatic breathing, quadruped rocking and pelvic tilts, clams and reverse clams
- Soft tissue mobilization to the adductors, hip flexors, and low back, 20 to 30 minutes per session
- Prone lying 2 to 3 hours a day; ice as directed and use of the CPM and stationary bike as above

Advancement Criteria

- Pain and swelling controlled
- Tolerating protected passive range of motion without difficulty
- Good proximal muscle activation and control

PHASE II: NON-COMPENSATORY GAIT AND PROGRESSION (3–8 Weeks)

Goals

- Progress off crutches with a non-compensatory gait
- Eliminate compensatory walking patterns
- Advance hip range of motion and proximal control

Immobilization

- Begin weaning off crutches around week 3 (week 6 if a microfracture procedure was performed), as directed by Dr. Fliegel
- Discontinue the brace once off crutches, generally around week 4, and progress to full weight bearing gradually as pain allows

Range of Motion

- Continue soft tissue mobilization to treat specific restrictions
- Joint mobilizations (posterior, inferior, and anterior glides) as directed by your therapist
- Prone hip extension, tall and half-kneeling with core and postural strengthening

Strengthening

- Standing weight shifts, backward and lateral walking without resistance
- Standing double-leg mini squats, progressing to double-leg squats
- Forward step-ups, modified planks and side planks
- Elliptical, beginning at 3 minutes and increasing as tolerated

Precautions

- If a microfracture procedure was performed, hold all weight-bearing strengthening exercises until week 6
- Avoid any compensatory gait pattern — advance exercises only with good proximal and distal control

Advancement Criteria

- Walking without crutches or a brace with a pain-free, non-compensatory gait
- Good tolerance of double-leg strengthening and elliptical training

PHASE III: RETURN TO PRE-INJURY LEVEL (8–16 Weeks)

Goals

- Continue restoring strength, balance, and neuromuscular control
- Progress toward functional, sport-specific movement patterns
- Achieve symmetric hip range of motion

Range of Motion

- Continue soft tissue and joint mobilizations as needed

Strengthening

- Lunges: forward, lateral, and split squats
- Side steps and retro walks with resistance, beginning proximally
- Single-leg balance activities: balance, squat, and trunk rotation
- Planks and side planks, advancing as tolerated
- Single-leg bridges, slide board exercises, agility drills, and hip rotational activities as pain allows

Precautions

- Advance exercises only as you demonstrate good proximal and distal control with previous exercises; higher-demand patients may need a longer rehabilitation course

Advancement Criteria

- Good single-leg control and balance
- Pain-free with agility and hip rotational activities
- Cleared by Dr. Fliegel to begin sport-specific training

PHASE IV: RETURN TO SPORT (16–32 Weeks)

Goals

- Return to running, cutting, and sport-specific activity
- Maximize strength, power, and neuromuscular control

- Safely return to competitive or recreational sport

Strengthening

- Running progression, often beginning on an anti-gravity (Alter-G) treadmill
- Agility drills, cutting, and plyometrics as cleared
- Sport-specific return-to-play training

Return to Activity

- A running analysis is recommended before beginning running, cutting, or agility work
- Return to sport typically takes 4 to 6 months, with continued improvement for up to a year
- Assess functional strength and proximal control before advancing through this phase

Discharge Criteria

- Symmetric strength and range of motion
- Pain-free with sport-specific movements
- Cleared by Dr. Fliegel to return to full, unrestricted activity

Key Rehabilitation Principles

- Protecting the labral repair takes priority throughout early rehabilitation — following your weight-bearing limits, brace instructions, and range-of-motion restrictions protects the repair while it heals; do not push through pain.
- Many patients continue to improve as the hip recovers over the following year. Long-term, Dr. Fliegel does not place formal restrictions on activity; continuing your home exercise program supports long-term hip health.
- For the first 48 hours, leave the surgical dressing in place and do not shower; after that you may shower but should keep the incisions covered and pat them dry — avoid soaking in a bath or pool until 4 weeks after surgery. Change positions often and avoid sitting longer than 30 minutes at a time for the first several weeks to prevent stiffness.
- Most patients are discharged home the same day as surgery, without the need for a rehab facility. It is never safe to drive while taking narcotic pain medication; Dr. Fliegel will discuss this with you at your postoperative visits.
- Contact our office for a fever over 100.4°F, chills or sweats, pus, significant pain or redness at the incision sites, or an inability to urinate more than 1 to 2 days after surgery.
- Please arrange to follow up with our office 2 to 3 weeks after surgery to review your recovery and assess the incision sites.