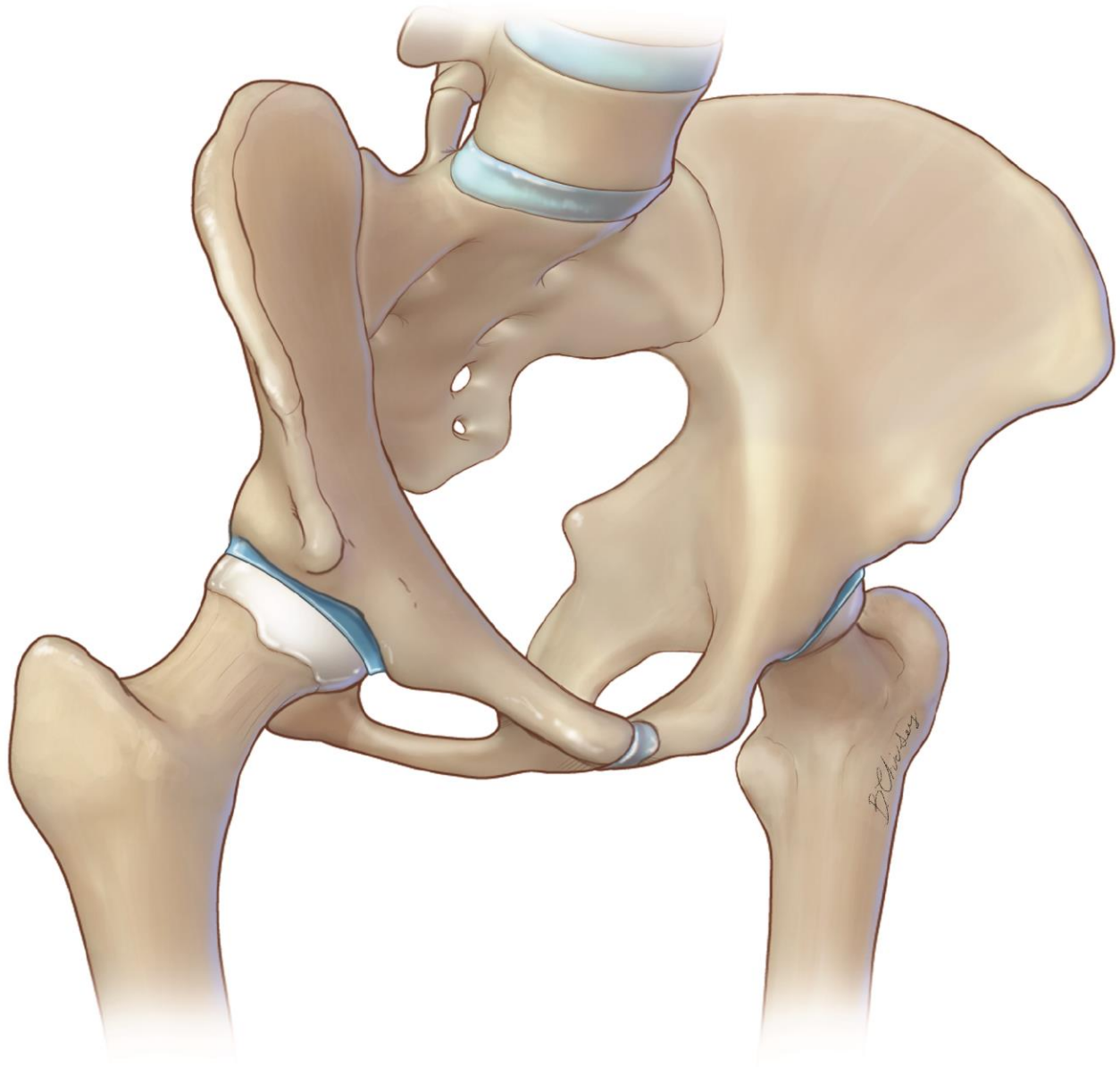


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# Hip Preservation Program Hip Arthroscopy Family Education Information



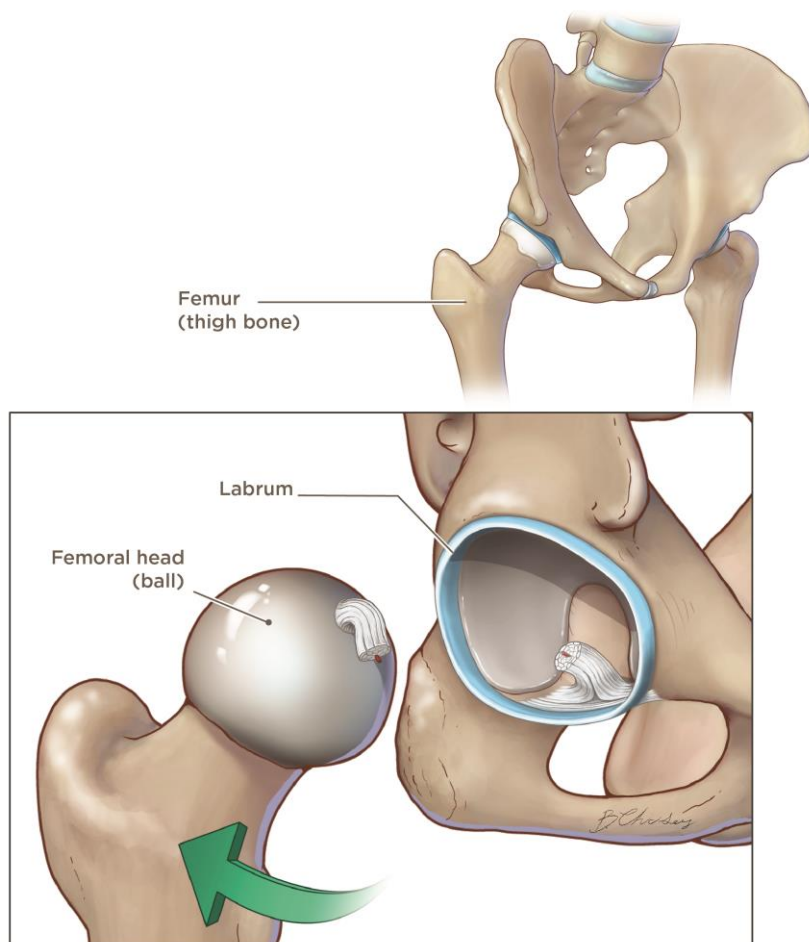
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## Patient Education Information

### Femoroacetabular Impingement (FAI)

#### Hip Anatomy

The hip joint is a ball and socket joint made up of two parts: the femoral head (ball) is the top of the femur (thigh bone) and the acetabulum (socket) is part of the pelvis. Two important soft tissue structures in the joint are the articular cartilage and the labrum. The surface of the femoral head and the acetabulum are covered with specialized articular cartilage that allows for smooth range of motion within the joint. The labrum is a rubbery cartilage, which sits in a ring around the border of the socket. It helps to seal the joint and acts as a shock absorber in the joint.



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## **What is Femoroacetabular Impingement (FAI)?**

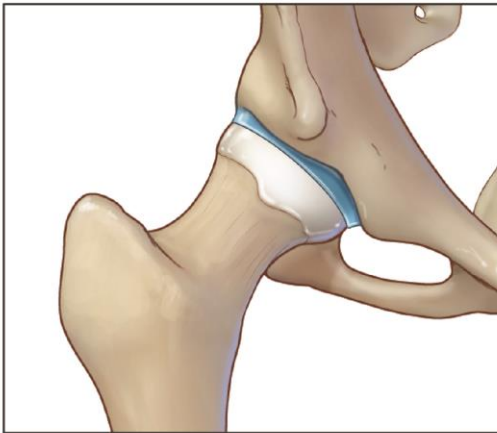
Femoroacetabular Impingement (FAI) is a mechanical disorder of the hip joint and may be a cause of hip pain. FAI occurs when the hip bones grow into an abnormal shape during childhood and adolescence, and leads to increased forces within the hip joint. FAI involves abnormal contact and friction between the femoral head (ball) and the acetabular rim (socket) due to the shape of the bones. FAI may occur from deformities of the femur, acetabulum, or as a result of a combination of the two. Impingement leads to blocked hip rotation and can cause tearing of the labrum and damage to the articular cartilage as these soft tissue structures get pinched between the bones when they impinge. Most commonly, pain occurs when these structures are being damaged by the impingement, and the pain is located in the groin or just lateral to the groin. A sensation of popping or catching may also occur. The pain or catching is usually noticed during sitting for long periods of time, lunges, squatting down, high kicks or jumps, twisting or cutting, or running. Most cases of FAI are idiopathic, meaning we do not know why the bones grow into these abnormal shapes, and it does not seem to be associated with any other bone disorders in these cases. However, impingement of the hip can be caused due to pediatric hip disorders such as Legg-Calve Perthes disease, slipped capital femoral epiphysis (SCFE) or post-traumatic hip deformities.

## Three Types of FAI

### ○ CAM (Femur Deformity)

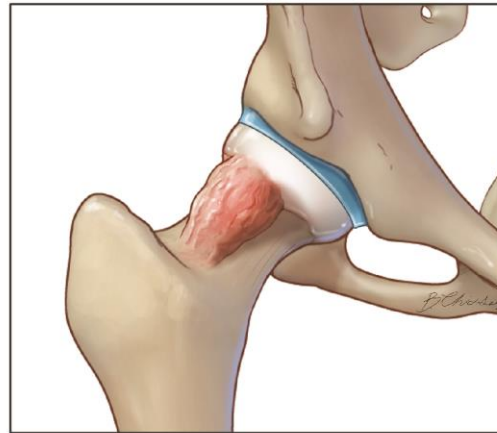
- \\ Normally, the femoral head (ball) is spherical in shape and can roll in and out of the socket smoothly as the hip is rotated.
- \\ Cam impingement occurs when the femoral head (ball) is abnormally shaped due to a build-up of bone, which causes it to be shaped like an oval.
- \\ This bump of bone rubs on the labrum and cartilage as it wedges into the

**Healthy femoral head**



Normal shape of the femur and acetabulum with a spherical femoral head and socket.

**Femoral head with CAM impingement**

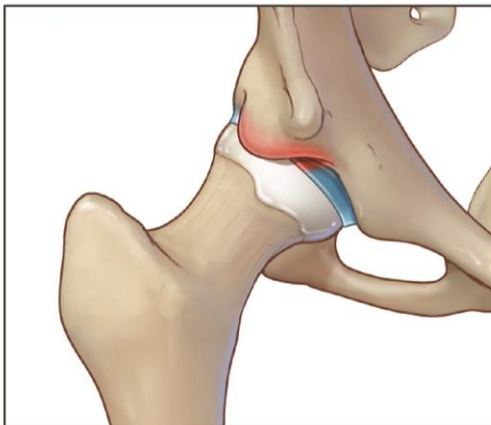


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### ○ PINCER (Acetabulum Deformity)

- \\ A pincer impingement is caused by excessive bone that extends out in front of the normal rim of the hip socket (called acetabular retroversion and protrusion acetabulum).
- \\ This creates a prominent edge on the socket, which causes injury to the labrum when the femoral head (ball) bumps into this prominent edge and pinches the labrum in between.

**Pincer impingement**



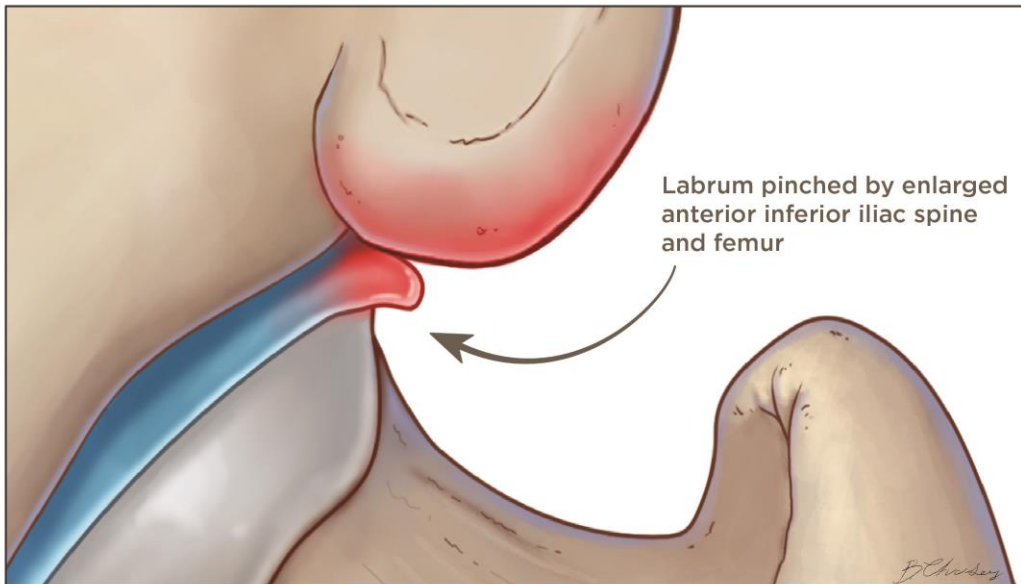
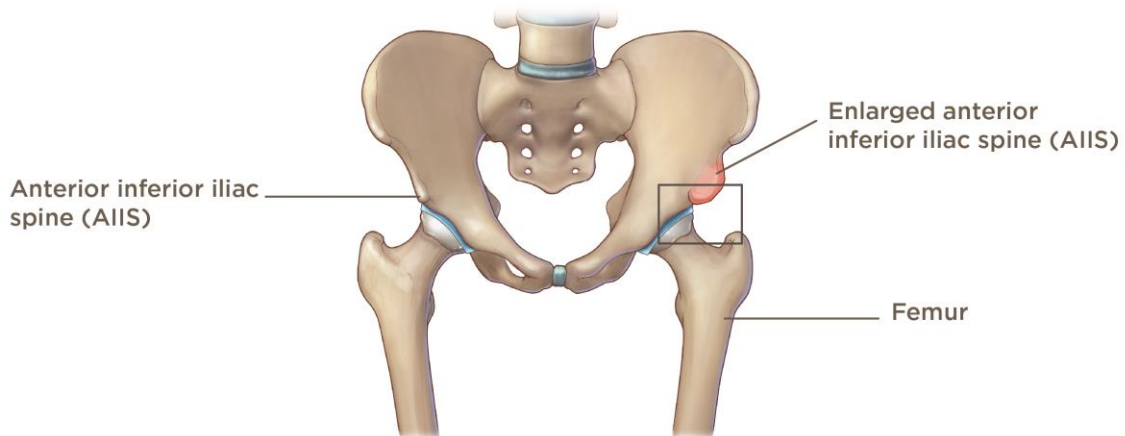
**CAM and Pincer impingement**



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○ **Subspine (Anterior Inferior Iliac Spine Deformity)**

- \\ Subspine impingement is caused by an enlarged anterior inferior iliac spine (AIIS).
- \\ The AIIS is a bony prominence just above the socket, which is the site of the insertion of the rectus femoris muscle (part of the quadriceps).
- \\ If this bone is enlarged, the soft tissues and labrum which sit just under the bone can be injured by impingement between the femur and the AIIS.



## How Will FAI be Diagnosed?

After we discuss your pain and examine your hip in the office and determine that a hip condition may be the source of your pain, x-rays are the starting point to determine if you have FAI. In general, two to four x-ray views will give us the information needed to make measurements of your femur and pelvis to determine if you have FAI or other hip conditions. You may have seen your PCP or another surgeon prior to our visit and had x-rays obtained. If this is the case we will review these and determine if the views they obtained are adequate for your diagnosis. If not, new x-rays may be obtained at your office visit. If there is concern for a labral tear, an MRI of the hip may be ordered. MRI scans give us very good information about soft tissue structures at our main campus facility; we have a very specialized MRI scanner with high resolution which can detect labral and cartilage injury without the use of dye within the joint. We ask that you obtain your MRI at that facility so that we have the best information possible about your hip. A CT scan (CAT scan) may also be ordered to evaluate your hip. This scan creates a 3-D model of the hip to evaluate the way the femur and acetabulum are fitting together and gives a final roadmap for where the bone may need to be shaved down. It also gives an assessment of the rotation of the femur, which helps to plan positioning during surgery. Generally, a CT scan is the final imaging evaluation and is obtained prior to surgery. It may be part of the initial evaluation in cases of significant deformity.

## Treatment Options

In most cases, there are several non-operative treatment options, which will be prescribed initially.

- Anti-inflammatory medications (NSAIDs) such as Ibuprofen (Motrin) or Naproxen (Naprosyn or Aleve) can be helpful to treat the inflammation in the labrum, joint capsule, muscles, tendonitis, and bursitis associated with FAI.
  - ∥ We recommend taking NSAIDs initially (for the first 1-2 months) to help with the inflammation.
  - ∥ Long-term daily use is not recommended without lab work being monitored by your PCP.
- Physical therapy (PT) is an important part of the non-operative treatment.
  - ∥ When your hip is painful, the small stabilizing muscles around the joint start to dysfunction. As this happens, some of the larger muscles around the hip try to take over the load. As they work harder than usual, they can become sore and painful due to tendonitis. This in turn causes more muscle dysfunction and a compensatory gait.



- \\ This tendonitis may be part of the pain you feel in addition to your hip joint pain. The joint pain may also be worsened by the abnormal gait. It becomes a cycle that is hard to break without re-training with PT.
- \\ Although PT cannot heal a labral tear or cartilage injury, it can significantly improve your muscle function and strength and reduce tendonitis. By allowing the muscles to work properly again, it may reduce the stresses across the joint and labrum and in many cases can make the labral tear non-painful and therefore not require surgery.
- \\ If you do still end up requiring surgery, the improved muscle function through PT will put you at an advantage going into surgery.
- As part of the diagnostic work up and to help with pain relief, an injection will often be ordered.
  - \\ Utilizing ultrasound guidance, this injection is routinely performed in the clinic.
  - \\ The medication is placed into the hip joint after an anesthetic is placed in the skin.
  - \\ The injection is made of two parts: 1) an anesthetic (such as ropivacaine) to numb the joint 2) a steroid (such as Kenalog) to provide more long lasting relief.
  - \\ We will perform a clinical examination just before and just after the injection to see how much pain relief occurs while the anesthetic is still working. This will give us diagnostic information about the source of your pain.
  - \\ The steroid generally begins to work in about 2-3 days, and you may feel soreness or fullness in the joint in the first 2-3 days before the steroid begins to work.
  - \\ Because of this, we recommend that you limit your sporting activities and take NSAIDs during that time. The amount of time you will get relief from the steroid is somewhat variable between patients, with some getting relief for several months.
  - \\ If the main source of your pain is determined to be from tendonitis in the surrounding muscles and not the joint itself, an injection can also be performed into these areas.

# Hip Arthroscopy

## About the Surgery

If your pain persists despite our non-operative therapies, we will discuss the possibility of hip arthroscopy to treat your FAI.

### How is this procedure done?

- This surgery is done under general anesthesia. The arthroscopy is performed through two or three small portals (incisions) on the upper part of the thigh, which measure about 1-2cm each. A camera (scope) is placed through one of the portals to view the inside of the hip joint, and instruments are placed through the other two portals to perform the surgery.
- If you have a labral tear, the tear will be evaluated in surgery, and addressed depending on the type of tear and the quality of the tissue. More commonly, the labral tissue is torn but healthy enough to heal, and so it is repaired by placing sutures through the labrum and anchoring it back down to the edge of the socket with a device called a suture anchor so that it can heal. If the torn labral tissue is irreparable, as can be the case in more chronic tears, we will perform a labral reconstruction using labral tissue donated from a cadaver (allograft).
- If you have pincer type impingement, the extra bone on the edge of the socket will be shaved down to a more normal contour. If you have subspine impingement, the extra bone in the region just above the socket will be shaved down to create the space needed for the tissues and relieve impingement. If you have cam type impingement, the extra bone on the femur will be shaved down to a more normal contour. The goal with any type of impingement is to restore normal joint anatomy to reduce stressing the labral tissue.
- If you have damage to the cartilage on the femur or acetabulum, loose flaps of damaged cartilage may need to be debrided so that the contour is smooth. This is called a chondroplasty. If there is a large area of damage to the cartilage, new cartilage may need to be stimulated to grow by making small holes into the underlying bone to allow the marrow cells to be released into the area of missing cartilage. This is called a micro fracture. Occasionally, there may be a loose fragment of cartilage, which needs to be removed from the joint.



## Length of Surgery

- The length of time you will be in surgery depends on the procedure(s) being performed.
- Typically, the whole procedure including the anesthesia and set up time is about 3-4 hours. The surgery itself takes about 2 hours.

## Your Hospital Stay

- We will order you a CPM machine prior to surgery, which is a device that assists in gently moving your hip to prevent the formation of scar tissue. You will be set up and properly fit with this device the day of surgery.
- Once the surgery is finished, you will be moved to the recovery room. In the recovery room you will start to become more awake, your nurses will begin to give you pain medication to keep your pain under control. You and your nurse will communicate to determine the right amount of medication for you.
- The CPM machine that was provided will be first used at this time.
- You will be discharged to your home when your pain is controlled, you can get up with your crutches, and you are tolerating liquids and food.

## Post-Operative Equipment and Activity

- You will be on crutches for 2-4 weeks following surgery. You will be allowed to put your foot on the ground with the weight of your leg, but not put any body weight through the leg. This is called touch-down weight bearing.
- After 2-4 weeks, your therapist will begin to wean you off of your crutches. This process takes anywhere from 1 to 3 weeks for most people. No brace is needed after your surgery.
- For the first two weeks after surgery you should avoid extending your hip behind your body and avoid rotating the hip externally (away from your body) more than 30 degrees. This is to keep pressure off of the capsule as it heals.
- We will send you home with the foam boots used during surgery and a strap, which can be attached to the boots. Wearing the boots and the strap any time you may fall asleep will prevent your foot from rotating externally while you sleep.
- The CPM machine will be used for a total of 4 hours per day for 2 weeks. It will start at 30-70 degrees of motion and will be increased to 0-100 as you can tolerate. This will help you with increasing your range of motion and prevents scar tissue from forming between the layers of muscle around the hip.
- If you have chosen to have an ice machine, you will come out of the operating room with this is to be used 4-6 times a day for the first month.

## Wound Care

- Your incisions may drain for 2-3 days due to the arthroscopy fluid in the tissues. This is normal.
- We will provide you with instructions on dressing changes on the day of your surgery. You will also be provided with dressing kits to take home so that you can do your own dressing changes.
- The stitches in the portal incisions are not dissolvable and will be removed on your first post-operative visit, which is typically 2 weeks from your surgery date.

## Follow Up Visits after Surgery

- 2-3 weeks for suture removal
- 8 weeks (x rays will be obtained)
- 4 months
- 6 months
- 1 year (x rays will be obtained)
- 2 years (x rays will be obtained)

## My doctor has ordered Physical Therapy

1. **Choose physical therapy facility.** Select a physical therapy facility that is convenient to your home, work, or school. Be sure to choose a facility that is **IN YOUR INSURANCE NETWORK**. The site can be through Inverness network or outside of it, depending on your preference. Please contact our office if you are having difficulty with finding a physical therapist.

**\*\*Please note: most physical therapy locations do not accept Medicaid insurance.\*\***

2. **Call the facility** to tell them you have been given a prescription by your doctor, and you have chosen their facility.
3. The therapy office should contact your insurance company to verify your insurance benefits for therapy.
4. Your doctor will decide when to start physical therapy. Both the doctor and the physical therapist will determine how many visits are needed, and how often. We want you to start physical therapy within the first 2 days of surgery.

## Surgery Checklist

### The Weeks before Surgery:

- Review this packet
- Attend your pre-operative visit in clinic
- Call our pre-operative staff about any specific medications you are taking: 303.694.3333
- Talk to your family and friends and let them know you are having surgery
- Get your COVID test. This needs to be done within 3-5 days before your surgery date. We will not accept a COVID test outside of this 3-5-day window.
- Familiarize yourself with the dressing kits
- Contact your school/work and arrange to take at least 2 weeks off for recovery. Most people need between one and two weeks off of school or work. Please contact Jordan Teboda, our team's clinical athletic trainer, at 720-872-4822 if you need FMLA or other paperwork completed, or if you have any other questions.
- Practice using your crutches

### The Night before Surgery:

- Take a shower and **do not** use any lotions after

### The Morning of Surgery:

- Nothing to eat 8 hours before surgery. You may have clear liquids (water, 7-up, or apple juice) up until 4 hours prior to surgery.
- Be sure to spit out all water when brushing your teeth
- Bring your crutches with you to the hospital
- Arrive at Admissions to check-in at least two hours before surgery
- Do not wear make-up, jewelry or nail polish
- Review medications with pre-operative staff prior to surgery



**For URGENT matters or EMERGENCIES ONLY:**

- UCH (University of Colorado Hospital) operator at 720-848-0000 and ask for the on-call Orthopedic doctor.
- If life threatening, call 911.

## **Pain Control after Hip Surgery**

### **Pain Management in the Recovery Room**

- From the time that you wake up from surgery to the time that you are discharged, you will be asked to rate your pain. Communicating your pain level is very important so that your health care providers can adequately manage your pain. You will be asked to rate your pain on a scale of 0-10. 0-being NO PAIN at all and 10-being the WORST PAIN imaginable. Our post-operative staff will assist you in pain management.
- After having surgery, some pain is to be expected. It is up to you to let your care providers know what number is a tolerable goal for you.

### **Managing Your Pain at Home**

Please refer to the **Medications section on page 15** for information on pain medication management at home. The goal is to stop taking narcotic pain medications within 2-5 days from surgery.

#### **Tips to Help with Pain Management:**

- ∥ Make sure you are effectively communicating with your team of care providers or family members. Let them know when you are in pain.
- ∥ Do not wait to take medication until the pain is unbearable. It is much easier to keep pain away than to stop it once it becomes severe.
- ∥ Keep the ice machine on your incision site. This will help keep inflammation down and control the pain. Please keep a layer in between your skin and the ice machine/ice pack. This can be a cloth, an ACE Wrap provided after surgery, or a thin layer of clothing. This is important to prevent injury to the skin. Please apply ice for 20 minutes every hour, allowing 40-50 minutes in between ice applications to allow skin temperature to return to normal. You should be icing throughout the day.

## Discharge Instructions

### Activities after Surgery

After hip surgery, it is normal to feel tired or tire easily for several weeks. You will likely need to take 1-2 weeks off of school and/or work to recover. Please follow the precautions below to allow your hip to heal without too much stress on the tissues for the first few weeks.

- For the first 2 weeks, avoid extending your hip behind your body and externally rotating the hip more than 30 degrees. This helps to keep pressure off of the joint capsule which was repaired during surgery.
- For the first 2-4 weeks, use your crutches at all times. You may put the weight of your leg on the ground, but no body weight through the leg. Work on putting your entire foot flat on the ground. Please avoid placing the ball of your foot on the floor as this will cause you to flex your hip, which can cause discomfort.
- It is important for your lungs and your blood circulation for you to get up and take short walks using your crutches several times a day. Make sure you have someone present, as you might be light headed and dizzy when standing up the first few times after surgery.
- We prefer that you try to sleep on your back for the first 2 weeks from surgery. If you choose to sleep on your side, put a couple of pillows between your knees and feet to support your leg. Wearing the foam boots with the strap is also encouraged for the first two weeks to prevent your leg from externally rotating or extending when sleeping.
- You may not drive until you are completely off your narcotic pain medication and are cleared by your physical therapist. This usually occurs around 3 weeks from surgery date.
- Use your CPM machine for 4 hours per day for 2 weeks. This can be done in increments to equal 4 hours total per day. We **do not** recommend sleeping in your CPM at night.

### Dressing

- Due to the fluid irrigation during surgery, oozing from the incision may occur and the dressing will get soaked with blood tinged clear fluid. Please change the dressing as needed with the supplies sent home with you.
- This should resolve within 24-48 hours
- Please do not use bacitracin or other ointments under the bandage.

### Showering

- You may shower on post-op day #3 if the incisions are dry. It is ok to let the water run over your incisions.
- **SHOWER ONLY, no submerging in water.**
- Gently pat the area dry after showering and apply dressings from the kit.
- Do not soak the hip in any water such as swimming in the pool, getting in hot tubs, or swimming in oceans or lakes until the incisions are completely healed. This can take up to 6 weeks.
- Pool therapy may begin once incisions have completely healed.

### Pain Medication

You will be given the following medications:

#### Pain

- Oxycodone 5mg tabs; take 1-2 tabs orally every 4-6 hours as needed for pain
- Tylenol 500mg orally every 6 hours for pain, **ONLY** if taking oxycodone
- Norco 5/325 1-2 every 6 hours; **NOTE: DO NOT take Tylenol with Norco as it already contains acetaminophen.**

#### Nausea/Constipation

- Zofran 4 mg oral dissolving tabs; take one tab and dissolve under tongue every 6 hours as needed for nausea
- Colace 50-100 mg orally twice daily as needed for constipation. Please take until you have your first normal bowel movement and continue to take as long as you are taking the Oxycodone.
- Miralax 1 capful- mix in 8-12 ounces of liquid like juice/milk to help with constipation. This is over the counter.

#### Other

- Aspirin 325mg will be given for 14 days to prevent DVT (Deep Vein Thrombosis).
- Valium, 5 mg every 8 hours for muscles spasms
- Prilosec 20mg while on Indocin and Naproxen; this medication is to prevent stomach ache while taking NSAID's



- Indocin 75mg orally daily for the first 4 days; please take with food; this medication is to prevent abnormal bone formation within the musculature
- Naproxen 500mg orally twice daily for one month; **DO NOT START THIS MEDICATION UNTIL AFTER FIRST FOUR DAYS AND NO LONGER TAKING INDOCIN**; this medication is to prevent abnormal bone formation within the musculature

### Returning to School/ Work

- Most patients are able to return to school/ work 1-2 weeks after surgery. You should not go to work or school while taking narcotic pain medication during the day.
- You must use your crutches while at work or school during the first 2-4 weeks.
- You will be given a doctor's note to give to your school to allow you to use elevators and to leave class a few minutes early to be able to get to your next class.

### When to Contact Your Physician

- If you notice signs of infection: tenderness, redness, swelling or drainage at the incision.
- If you develop a fever of 101 degrees F (38.5 degrees C) or higher.
- If your pain is not relieved by the pain medication, or if there is a sudden increase in your pain.
- If you experience redness, pain, or swelling in your thigh or calf
- If you experience shortness of breath

### Please feel free to call our office if you have any questions.

- During normal business hours please call: (720)-872-4822.
- Evenings and weekends please call: (720) 848-0000, and ask for the orthopedic surgery resident on call.
- Please also feel free to contact Jordan Teboda, ATC who is my point person and can assist you.
  - Direct line: (720) 872-4822
  - Email: [jordan.teboda@cuanschutz.edu](mailto:jordan.teboda@cuanschutz.edu)

## You and Your Crutches

### Correct Fit

- Stand up straight and is measured from the armpit to the floor. To establish the required length for the crutches, deduct 5cm from this measurement.
- Adjust the handgrips so there is a slight bend at the elbow when standing in a relaxed manner.

### Walking with Crutches

- The top of each crutch should be 2-3 finger widths below your armpit. Lean on your hands not your armpits; your elbows should be slightly bent.
- You need to be standing up straight and balanced before trying to walk with your crutches. Your feet should be slightly apart. Your crutches need to be out to the side (10-15cm) and slightly in front of your feet.
- Grip the crutches firmly to your side by pressing your upper arms against your trunk.
- Move both crutches out in front of your body.
- Balance your weight on your hands and push down onto the crutch handle.
- Bring your good leg up to or just past the crutches, this will move you forward.
- Do not lean your armpits on the crutches.
- If you are not allowed to bear weight on your sore leg, keep it off the ground.
- If you are able to take partial weight, put your sore leg on the ground and take some weight through it and the rest on your hands.

### Safety

- Ensure wing nuts are tight.
- Ensure crutch tips (rubber stoppers) are securely attached and not worn.

**You are now ready to walk with your crutches as you have been shown.  
You will have been told how much weight you can put on your sore leg.**