

Patient Guide  
Preparing For Your Surgery:  
**Periacetabular Osteotomy**



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Reconstructive Surgery of the Hip and Knee  
Hinsdale Orthopaedics Associates, a division of Illinois Bone and Joint Institute

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## **Meet Dr. LaReau's Team**



**Justin M. LaReau, MD**

Luke Anliker, PA-C

Eden Gallinero, NP

Vicky Grana, surgery scheduler

Gretchen Nerison, medical assistant

Sabina Chowaniec, medical assistant

Erin Renner, athletic trainer

Amanda Polak, athletic trainer

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**Others involved closely in your care:**

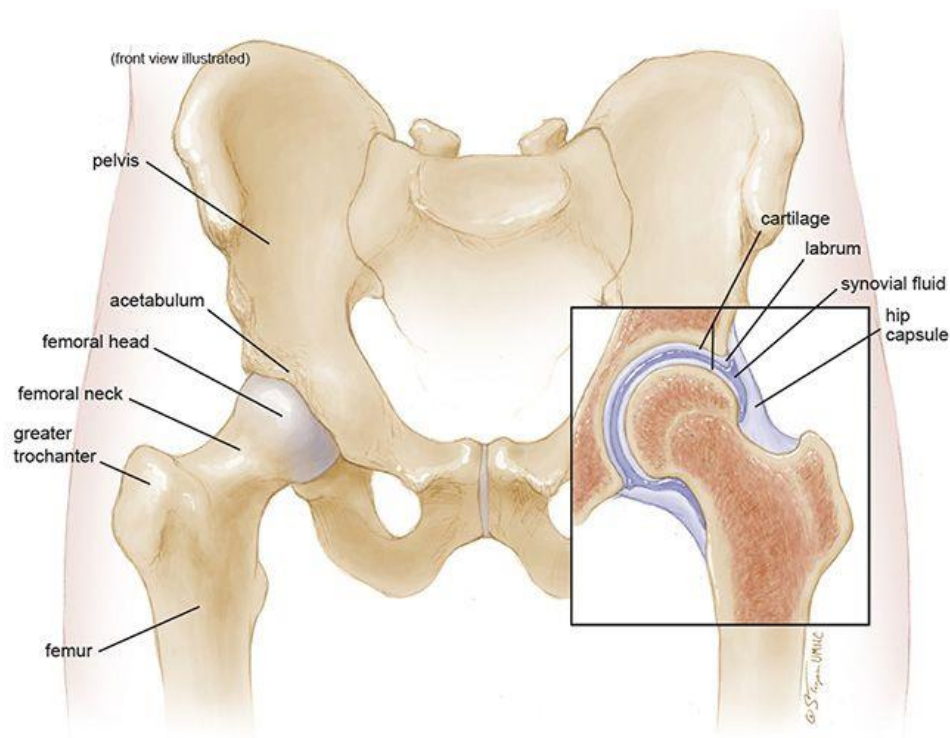
- Physical Therapists
- Occupational Therapists
- Operating Room Staff
- Nurses
- Radiologists
- Anesthesiologists

**Background information:  
The Hip Joint**

The hip is a ball-and-socket joint (Fig. 1). The cup-shaped acetabulum articulates with the round femoral head. The surfaces of the acetabulum and femoral head have a rubbery layer of cartilage, referred to as articular cartilage. The joint is lubricated with synovial fluid, or joint fluid. The combination of articular cartilage and synovial fluid serves to reduce friction during movement of the hip joint. The acetabulum also has a layer of soft tissue or fibrous cartilage along its rim, known as the labrum. The labrum serves as a cushion and stabilizer of the joint. Damage to the hip joint can occur to both types of cartilage—the articular cartilage and the labrum.

Damage to the articular cartilage is considered arthritis. Arthritis usually presents with dull, aching pain. Arthritis may be autoimmune (such as rheumatoid arthritis) or may result from chronic mechanical stress, such as osteoarthritis. To prevent joint destruction from inflammatory conditions, patients may take medications. To prevent joint damage from osteoarthritis, the underlying mechanical defect often must be corrected.

Damage to the labrum can occur from trauma. Also, some developmental and anatomic conditions can predispose patients to labral injury. This can be due to femoral head or neck deformity, acetabular over-coverage (a deep socket) or acetabular under-coverage (a shallow socket). Acetabular “under-coverage” is also referred to as developmental dysplasia of the hip.

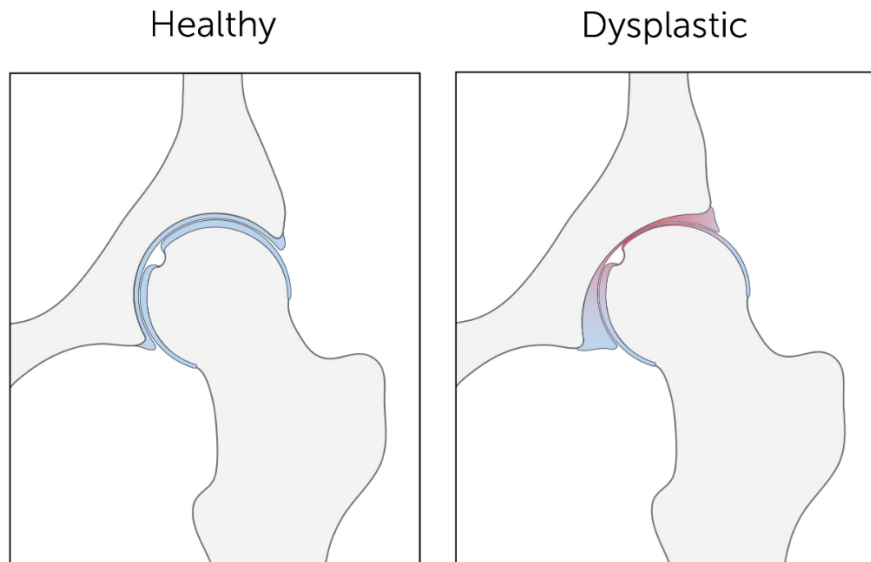


*Figure 1 Normal hip anatomy*

## **Diagnosis: Hip Dysplasia**

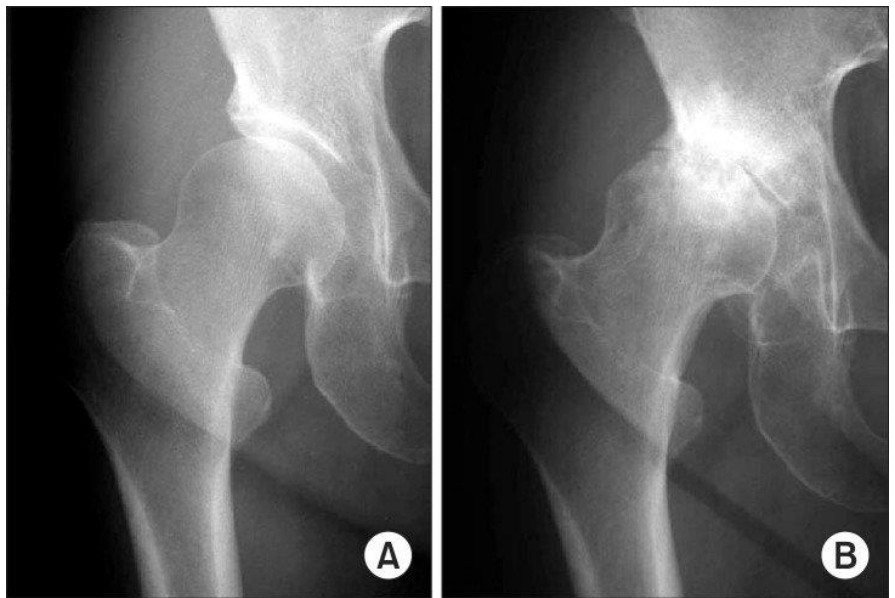
### **What is Developmental Dysplasia of the Hip?**

Developmental dysplasia of the hip is a condition in which a patient is born with a hip socket that is too shallow to maintain adequate coverage of the femoral head. With reduced coverage of the femoral head, a smaller surface area of the acetabulum becomes the sole weight-bearing surface of the femur and lower extremity (Fig. A). This predisposes the patient to injury of the soft tissues and cartilage within the hip joint.



Secondary damage to the labrum or articular cartilage can cause pain and lead to degenerative changes (arthritis). Osteoarthritis is the thinning of articular cartilage, or the rubbery cartilage on the end surfaces of the bones (Fig. B). When this cartilage is worn out, joint movement can often cause severe pain.

Patients with severe hip dysplasia who do not undergo joint preservation surgery will frequently develop early onset secondary osteoarthritis during adulthood.



#### **Dysplasia is a developmental condition**

- Born with condition
- Injury or insult in utero or during early childhood
- Infection in utero or during early childhood
- Position in the uterus

#### **Risk Factors**

- Females
- First-born
- Large birth weight
- Breech position

- Family history of hip dysplasia

**Symptoms**

- Constant, achy pain
- Intermittent, catching or locking pain
- Groin pain
- Buttock pain
- Difficult walking
- Instability
- Extreme flexibility

**Physical Exam Findings**

- Limp
- Difficulty standing on one leg
- Limb length discrepancy
- Pain with range of motion

**Imaging Studies**

- X-rays: assess bony abnormality and severity of dysplasia
- MRI: assess cartilage damage and injury to the joint
- CT scan: provides a detailed picture of bone anatomy

## **Treatment Options**

### **NON-SURGICAL OPTIONS**

- Do nothing and live with your hip the way it is
- Activity modification & restrictions
  - Avoiding sports, high impact exercises, etc.
- Oral pain medications
  - Analgesics, anti-inflammatories, narcotics
- Physical Therapy
- Intra-articular injections
  - Steroid – cortisone
  - Experimental therapies such as stem cells or platelet rich plasma (PRP)

Although sometimes effective at temporarily reducing symptoms, non-operative treatments do not correct hip dysplasia. Conservative measures do not address the underlying mechanical and anatomical joint alignment and orientation.

### **SURGICAL OPTIONS**

- Arthroscopy
  - Treats secondary problems within the hip joint such as a torn labrum
  - Smaller incisions
  - Cannot correct misalignment and orientation of the hip socket
  - May be performed concurrently with PAO
- Arthrotomy
  - Capsule surrounding hip joint is opened to address cartilage damage and femoral head pathology
  - Cannot correct articular misalignment and orientation
  - May be performed concurrently with PAO
- Osteoplasty
  - Realignment of femoral head and proximal (upper-end) of femur
  - May be performed concurrently and in addition to PAO
- Hip Resurfacing
  - Form of hip replacement
  - Femoral head and neck bone preserved
  - Cartilage of femoral head & acetabulum replaced with metal bearing surfaces
- Total Hip Arthroplasty
  - Joint replacement surgery
  - Replacement of arthritic joint with artificial joint
- Periacetabular osteotomy



## PAO Specifics

Procedure:	Periacetabular Osteotomy
Type of surgery:	Hip preserving
Anesthetic:	General Anesthesia
Pain Management:	Epidural for 24 hours after surgery or IV and oral pain medications
Hospital Stay:	3-5 days
Dressing:	Sterile bandage Drain for 24 hours after surgery
Weight Bearing:	1/6 body weight for 6-8 weeks, followed by gradual progression
Assisted Devices:	Walker, crutches, or wheelchair x 3 months
Activity Restrictions:	No active flexion of the hip joint x 6 weeks
Bathing:	2 days after surgery
Time off Work/School:	Approximately 4-6 weeks (labor-intensive job - 3 months)
Driving:	6-8 weeks Until stopped taking narcotics

### **Goal of Surgery: Decrease Pain and Maximize Hip Functionality!**

**But remember: While surgery is most often successful, there is no problem that surgery cannot make worse. There is always risk with any intervention.**

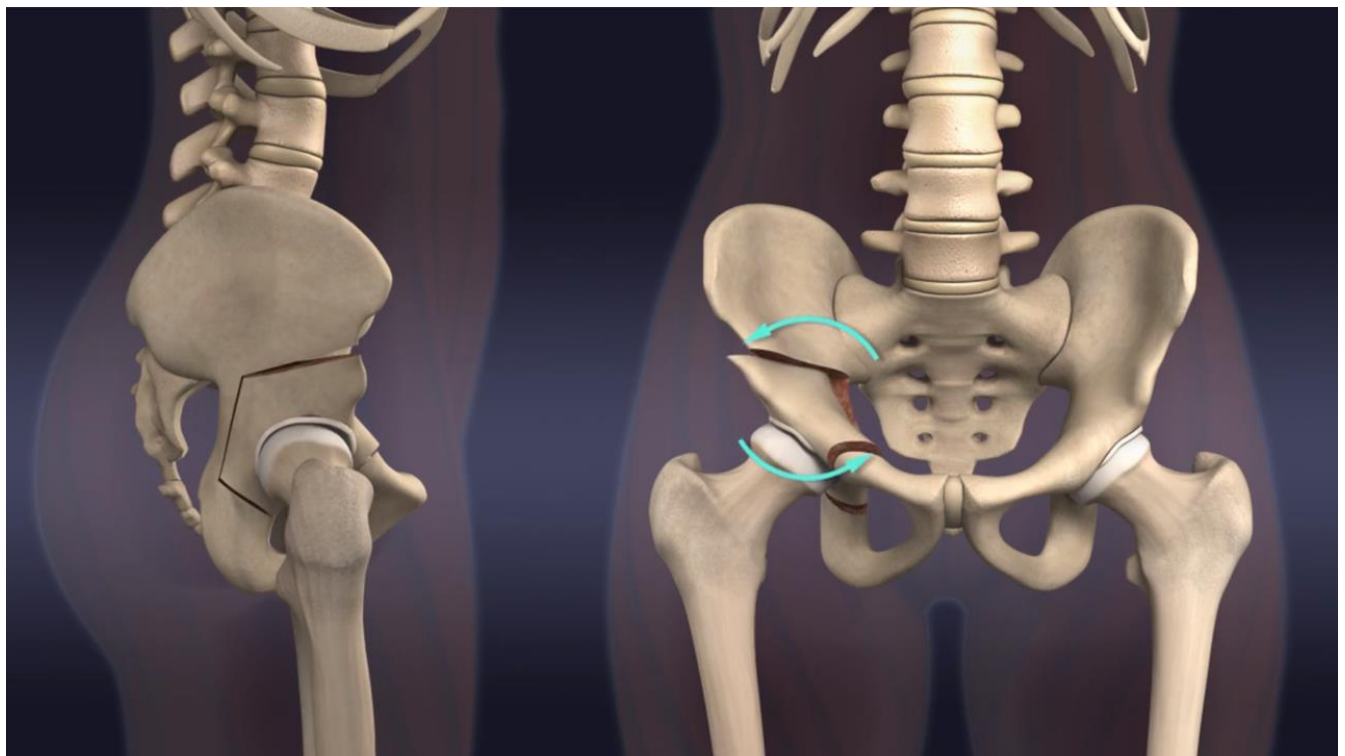
## Risks and Complications

- Nonunion (failure of bone cuts to heal)
- Infection
- Bleeding
- Blood clots
- Damage to nerves and muscles
- Numbness on the outside of the operative thigh and on incision
- Heterotopic bone formation (extra bone formation around the hip joint)
- Failure of the hardware
- Fracture
- Instability
- Stiffness
- Scar
- Difference in limb lengths
- Discomfort from the implants
- Development of arthritis and cartilage damage in the future

## Periacetabular Osteotomy (PAO)

The periacetabular osteotomy was designed to treat developmental hip dysplasia. The procedure is designed to maintain the hip's original structures while altering alignment to preserve proper function. PAO corrects the major mechanical problems involved in a shallow hip socket (acetabulum), without introducing artificial components into a hip joint.

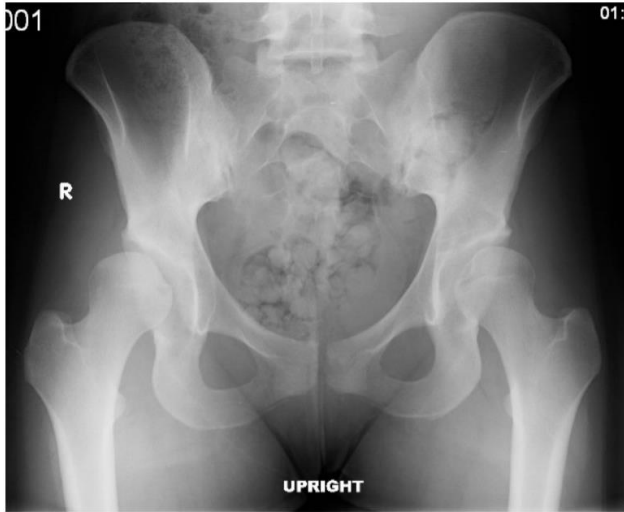
An ideal patient for a PAO has minimal or no damage to the cartilage on the femoral head or acetabulum. A patient with damage to the labrum will likely remain a candidate to the surgery, assuming their articular cartilage is still substantially intact. The damage to the labrum may be addressed with hip arthroscopy at the time of PAO. A special test, called a dGEMRIC MRI, will be ordered to estimate the damage to the articular cartilage prior to surgery. This helps determine if a patient has a good prognosis for a PAO. If the patient does not have enough articular cartilage, the patient is considered to be at a high failure rate for a PAO and may need to consider other treatment options, ranging from conservative treatments to hip arthroscopy, or even total hip replacement.



## Surgery Step-by-Step

1. Ischial Osteotomy
2. Pubic Osteotomy
3. Supraacetabular & Retroacetabular Osteotomy
4. Fragment mobilization and Correction
5. Screw placement and Correction Stabilization

BEFORE PAO



AFTER PAO



After a PAO has healed, and motion and strength have returned to a steady state, we encourage the highest level of “reasonable” activity the hip joint will allow.

Data shows that 10 years or more after undergoing a PAO, approximately 90% of patients have a well-functioning hip joint.

In most cases, dislocation is not a significant risk after undergoing a PAO. Therefore, there are no motion restrictions after this procedure, as there may be after a total hip replacement.

However, a corrected acetabulum is still at risk for injuries, including intra-articular cartilage and soft tissue damage. This type of damage may require additional hip surgery in the future, including a total hip replacement. The risk of osteoarthritis may be reduced but cannot be eliminated by a PAO.

Failure of a periacetabular osteotomy may include lack of improvement in pain, increase in hip stiffness and worsening range of motion, further debilitation, or restricted lifestyle. In such cases, total joint replacement may be the solution.

We believe your operation will prove to be a success and improve your condition, however there are no guarantees in surgery. Our team will do everything in our power to make this operation and experience a success for you.

It is important that the patient, surgeon, and all team members communicate with each other clearly, honestly, and openly during the decision-making process to yield the best possible outcome!

**We encourage you to be an advocate for your care during your PAO experience!**

<b>PAO: Making the decision for surgery</b>	
<b>Personal PROS</b>	<b>Personal CONS</b>

## Periacetabular Osteotomy and You

### Preparing for Surgery

- **Preoperative visit with Dr. LaReau**
  - Discuss all medical history
    - Medical conditions
    - Surgeries
    - Birth and Pediatric History
      - Premature? Breech?
      - Hip click? Hip laxity?
      - Hip harness? Leg/Hip braces? Triple diapers?
      - SCFE (Slipped Capital Femoral Epiphysis) or Perthe's Disease
      - Hip or Lower Extremity Trauma
  - Review all medications
    - Prescription medications
    - Vitamins
    - Herbal supplements
    - OTC medications
    - Birth Control
    - Steroid use
  - Review any allergies to medications
  - Physical Examination
  - Imaging Studies: x-rays and MRIs
  - Other
    - FMLA papers
    - Educational Tutor forms
    - Handicap sticker application
- **Preoperative Clearance**
  - Primary Care Physician
  - Any specialists you may see
- **Preoperative Testing**
  - Good Samaritan
  - Hospital closer to home

### Before Your Surgery

- **Discontinue Birth Control**
  - Why: increased risk of blood clots
  - Oral contraceptives, Nuva ring, IUD, etc.
- **Discontinue Anti-inflammatories (NSAIDs)**
  - Why: increased risk of bleeding during surgery
  - Advil, Aleve, Aspirin, Ibuprofen, Motrin, Naprosyn, Celebrex, Meloxicam
- **Discontinue Narcotics**
  - Why: diminishes post-operative pain control
  - Tramadol, Norco, Percocet, Vicodin
- **Iron and Multivitamin Supplementation**

- Start one month before surgery and continue two months after surgery
- Over the counter iron (ferrous sulfate)
  - Iron 65 mg, Ferrous Sulfate 325 mg daily
- Over the counter Vitamin D
  - 2000 IU daily
- Over the counter calcium
  - 1000 mg daily
- **Lifestyle Modifications**
  - Tobacco/Nicotine/Marijuana cessation (includes cigarettes, cigars, vaping, edibles and any drug-containing product)
    - Why: may delay wound healing and increases risk of infection
  - Alcohol cessation
- **Donation of blood pre-operatively is not necessary**

Preparing for Your Hospital Stay
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- **Day Before Surgery**
  - No eating or drinking after midnight
    - Stick to small meals, as large meals may cause post-operative nausea
    - No chewing gum or candy
    - No milk, juice or carbonated beverages
    - Clear liquids may be consumed up to 3 hours prior to your operation
    - Do not drink ANYTHING 3 hours prior to your surgery
- **What to bring**
  - Loose fitting athletic shorts
  - Underwear
  - Tennis shoes or easy to put on shoes
  - Comb or Brush
  - Conditioner
- **Optional Items to Bring**
  - Your own pillow
  - Cell phone
  - Entertainment: Laptop, iPad, movies, books, puzzles

The Day of Surgery
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- **Admission**
  - The hospital will notify you the evening prior to your surgery regarding arrival time
  - Nurse will check your vitals upon arrival
  - Change into hospital gown
  - Transferred to Pre-operative holding area
- **Pre-op**
  - Transferred to pre-operative holding area
  - Assigned pre-operative nurse

- Visited by Dr. LaReau
- Surgical marking of operative hip
- Visited by Anesthesia, insertion of epidural
- Visited by the Circulating Nurse (your nurse in the operating room)
- IV insertion
- **Operating Room**
  - Oxygen mask and anesthesia delivery through your IV
  - Bladder catheter insertion – after you are asleep
  - Cell-saver technology: recycling & reinfusion of blood loss
  - Estimated time in OR
    - 60 minutes of preparation before surgery begins
    - 60-90 minutes of arthroscopy, if indicated
    - 3-4 hours estimated time for PAO
    - 30 minutes of suturing the incision, applying bandages, and waking up
  - “WIGGLE YOUR TOES!!!!”
    - Ensures your nerves are functioning
  - Post-operative x-rays
- **Recovery**
  - Finish waking up
  - Pain medication
  - Blood tests
- **Family**
  - Family can remain in the room with you during pre-op
  - Family will be transferred to the family waiting area during the procedure
    - If family needs to leave the hospital, they may leave a cell phone number with the nurse liaison for intra-operative and post-operative updates
  - Family will be given intra-operative updates by a nurse liaison that communicates directly with the operating room
  - Family will be seen after the surgery by Dr. LaReau
  - Family will either be able to see the patient in recovery or once the patient has been transferred to the medical/surgical floor
  - It may be 6-8 hours from the time you leave your family to the time you see them again

Your Hospital Course
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- **Pain Management**
  - Epidural
    - Continuous pain management through a catheter near your spine
    - Removed after 24 hours after surgery
    - Bed rest until epidural removed
  - IV pain medications
    - Dilaudid
  - Oral pain medications

- Norco, OxyContin, Valium, Gabapentin
- **Other Medicines**
  - Anticoagulation (blood thinners) – prevents formation of blood clots
    - Injectable lovenox
  - Post-operative heterotopic bone formation prevention
    - Celebrex or Naproxen
- **Eating and Drinking**
  - Go slow! – It takes your bowels time to wake up after the stress of surgery
  - You'll begin with ice chips & progress to soft foods and then a regular diet
- **Showering**
  - Daily sponge bath
  - Shower with a covered bandage and nursing assistance on post-op day 3
  - Dry shampoo (bring your own)
- **Bladder Catheter Removal**
  - Removed by your nurse on post-op day 2
- **Surgical Site Drain Removal**
  - Purpose: prevents blood from building up in the thigh
  - Removed at bedside by Dr. LaReau on post-op day 1
- **Repositioning**
  - Your nurse will help you reposition in bed to make sure you do not put prolonged pressure on certain areas of your body
- **CPM Machine**
  - Machine that passively flexes and extends your operative lower extremity to prevent stiffness after your operation. Typically 2 hours, 3 times per day.
  - IMPORTANT: Keep the settings at 0-60 degrees, do not increase!
- **Weight Bearing**
  - 1/6 your body weight
- **Physical Therapy**
  - Crutch Training
  - Isometric exercises: gentle ROM
    - Focus on buttock and thigh muscles
  - In and out of bed
  - Up to chair
  - Walk with assisted devices
    - You will be given a walker or crutches from the hospital to take home with you upon discharge. PT & Social Work will accommodate this.
  - Stairs
- **Social Work**
  - Set up home health care
  - Set up home PT
- **Visitors**
  - Be sure to ask about Good Samaritan's visitor policies prior to surgery. This may change secondary to COVID-19 or other issues



## Going Home

- **Criteria**
  - Walk appropriately with crutches
  - Navigate stairs
  - Use restroom comfortably (must have a bowel movement prior to discharge home)
  - Pain controlled with oral medications
  - Tolerating a regular diet
- **Prescriptions**
  - Pain Control
    - Take oral medication as needed
    - Do not exceed prescribed dosing
  - Anti-inflammatory: prevent heterotopic bone formation, reduce swelling
    - Oral
    - 2 weeks
  - Anti-coagulation: prevent blood clot formation
    - Injectable lovenox (you will be trained prior to leaving the hospital) or aspirin
    - 4 weeks
- **Transportation**
  - You may travel by car or plane. Many patients travel without difficulty.
  - Long car rides
    - Blood clot prevention: Take breaks and get out of the car and move around frequently
    - Hip protection: you should not flex your hip above 90°. Plan ahead.
  - Plane Rides
    - Blood clot prevention: Move your feet and calf muscles frequently

## At Home Recovery

- **Set up**
  - Bedroom and Bathroom on same floor – reduces the need stair climbing
  - Clear house of obstacles prior to surgery
  - May be helpful to position your bed in a way which your non-operative hip is the first side you place on the bed, so that you can use your non-operative leg to assist your operative leg into the bed.
- **Caring for your incision**
  - Dressing changes every 3-5 days
  - Daily incision and skin checks
  - **What to look for:**
    - Redness
    - Rash
    - Swelling
    - Drainage
    - Opening of the incision

- Fever >101°F
- **Home Physical Therapy**
  - PT at home may begin immediately or approximately 2 weeks after your surgery. We will have you proceed with activities of daily living during this time, learning how to get in-and-out of bed, shower and simply get around.
  - Home physical therapy will come and see you 2-4 times per week during your home therapy course, progressing with your strength, ROM and activities as tolerated, and appropriately allowing the bone cuts and muscled to heal.
  - You will be released from home PT to outpatient PT when Dr. LaReau and you feel confident you are ready for the next step.
- **Visiting Nurse**
  - A visiting nurse will periodically stop in to monitor your incision, vital signs, and medical progression after your surgery. They will report any issues to Dr. LaReau's team.

#### Follow up

- **Visit #1: 2 weeks after surgery**
  - Wound check & possible suture removal
  - X-rays
- **Visit #2: 6-8 weeks after surgery**
  - Incision check
  - X-rays
- **Visit #3: 10-12 weeks after surgery**
  - PT progression
  - X-rays
- **Visit #4: 4-5 months after surgery**
  - X-rays
  - Discuss screw removal if healing appropriately

#### Surgery Success

- **Your Contribution**
  - Participating in follow up care
  - Being compliant with weight bearing
  - Taking care of your incision
  - Being compliant with progression with Physical Therapy
  - Medication compliance

**We encourage you to be an advocate in your care throughout your PAO experience!!!**

## PHYSICAL THERAPY GUIDELINES FOR PERIACETABULAR OSTEOTOMY

With special thanks to  
Jaime Stewart, PT—Children's Hospital Boston

- Patients will be seen pre-operatively for a physical therapy evaluation to include strength and range of motion. Patients will also be measured for axillary crutches and instructed on the use of crutches with 1/6 body weight through the operative leg. Patients receive education on the role of PT post-operatively, and are advised to obtain a shower chair if able. A rental wheelchair with elevated leg rests is ordered while the patient is inpatient. 3-in-1 commode can also be ordered while inpatient. (To be used both as a shower chair and as a raised toilet seat.)
- Post-op Guidelines:
  - POD #1: evaluation of strength and ROM, begin AAROM of the involved hip within the restrictions indicated by Dr. LaReau. (ROM is usually flexion 30-80, abd/adduction 10/10, IR/ER 10/10.) ROM restrictions are not absolute contraindications. Although the patient should try to stay within the stated precautions, he/she can sit at 90 degrees, and won't "ruin" the surgery by moving hip outside of specified ROM. Active exercises also include quad sets, glut sets, and ankle pumps. Patient's ability to participate with therapy will vary depending on epidural and pain. Parent or caregiver is instructed on how to assist with the exercises. PT will see patient 1X per day for therapy/ROM until ready for OOB.
  - Once epidural is discontinued (usually POD #1), initiate OOB to cardiac chair, 1/6 body weight. Strength should be reassessed before OOB to ensure that effects from epidural are no longer present. Transfer bed to chair only on first day. Patients typically complain of pain and of dizziness.
  - Gait is begun when cleared by MD. (POD #4) Initiate in parallel bars and progress to appropriate assistive device (1/6 BW). Pt "clears" PT when he/she is safe and independent with mobility.
  - Not all patients require home physical therapy.
  - Patients will utilize crutches for an average of 3 months. They should not wean unless cleared by MD.
  - Avoid hip flexion beyond 90 degrees until first post-op visit (4-6 weeks), no antigavity exercises should be started until about 2 months post-op or until cleared by MD. This includes straight leg raises or any exercise which potentially uses a long lever arm at the hip. The below exercises are based on the typical progression; however patients will differ from case to case.
    - **First post-op visit 4wks:** Patient usually given gravity-eliminated exercises (heel slides, isometric abd/adduction, supine abd/adduction, bridges, LAQ) Patient can begin prone-lying to increase hip extension. (try lying over a pillow first).
      - Pool: If patient has access to a pool, he/she can begin walking in chest-deep water (1/6 BW) or waist deep water (50% BW). Standing ROM exercises, side-stepping.

- Bike: Pt can begin riding stationary bike, with seat elevated and without resistance.
  - Second post-op visit 8-10wks: anti-gravity exercises to include standing hip flexion, abd/add, extension. Resistance with theraband if appropriate. Education re: weaning to one crutch if appropriate.
  - Third post-op visit 12-14wks: progressive resisted exercises, depending on patient strength. Sidelying hip abduction, adduction.
- 
- Local patients will be reassessed in hip clinic. There will be an ongoing assessment with recommendations to progress the program at the discretion of the surgeon.
  - Patients that are not local are encouraged to contact the physical therapy department if questions arise.
  - Patients will typically have the hardware removed at approximately 6 months post-op. Typically hardware removal is done as a day surgery procedure. Crutches are recommended for the first few days, and activities can resume 3-4 weeks after the screws are removed.

**\*\*\* Keep in mind that these are only guidelines, and each patient should be evaluated as an individual. If there are questions regarding orders, the attending physician should be contacted.**

## Frequently Asked Questions

*Q: Why must I discontinue birth control prior to surgery? And when?*

A: Birth control has hormones that increase a patient's risk for developing blood clots. You must discontinue your birth control 1 month prior to your operation and remain off of the medication for one month after your operation.

*Q: Why must I discontinue anti-inflammatories? And when?*

A: Anti-inflammatories can increase your risk of bleeding and increase surgical blood loss. You must discontinue anti-inflammatories at least seven days prior to your operation.

*Q: Why must I discontinue narcotic pain medication? And when?*

A: Discontinuing narcotic pain medication is necessary to achieve appropriate pain management in your postoperative and rehabilitation phase. The body's dependence on these medications can increase your tolerance of these medications, making postoperative pain control more difficult. You must discontinue narcotics and heavy pain medication 7 days prior to your surgery. It is a good idea to begin weaning yourself from this pain medication slowly ahead of this time. You can take Tylenol for preoperative pain relief.

*Q: What can I take for pain prior to my surgery?*

A: Tylenol

*Q: How long will I be in the hospital?*

A: Approximate stay in the hospital after a PAO is 3-5 days.

*Q: What type of physical therapy will I need?*

A: You will be visited by a home physical therapist. Your PT will consist of ROM, stretching and isometric exercises approved by Dr. LaReau. Your therapist will progress only after clearance from Dr. LaReau's team, which requires serial x-rays to address the progression of your healing. You will learn daily functional skills and how to walk with assisted devices.

*Q: Can I do isometric exercises?*

A: Some isometric exercises are acceptable. Physical therapists in the hospital will go over permitted exercises with you prior to discharge. Do NOT advance your exercises until you have spoken with or seen Dr. LaReau at your first post-op visit. If you are seen locally, you should be in close contact with Dr. LaReau's team so they can provide you and your physical therapist direction. At approximately 4-6 weeks after surgery pool exercises are permitted. Do NOT begin these until you have been cleared by Dr. LaReau.

*Q: How will I get home from the hospital?*

A: You may travel home by car. If you are traveling long distance, we encourage stopping frequently and getting out of the car to reduce risk of blood clot formation. Plan ahead for pain control and positioning in traveling. You should not flex your hip past 90°.

*Q: What should I do to prepare at home?*

A: Before you leave for surgery, try to eliminate obstacles in the home. Try to have a bathroom on the same floor as the bedroom you will be sleeping in. A hospital bed is not necessary, as you will be able to go up and down stairs prior to discharge.

*Q: If I am from out of town, can I use an orthopaedic surgeon near my home to take care of my post-operative follow up?*

A: You may see your local orthopaedic surgeon for your initial post-operative visit and wound check. Xrays that are needed are as follows: AP pelvis, false profile, and obturator oblique view of the operative side. For your 6 week check, we prefer you see Dr. LaReau. At each visit, x-rays will be taken to assess your healing and advance your rehabilitation.

*Q: Will I be in a cast?*

A: No, you will only have a surgical dressing over your incision.

*Q: What will my scar look like?*

A: Your scar will be approximately 15 cm (6 inches) along the front aspect of your hip and thigh, beginning at the top of your pelvis bone. There is an area prone to skin breakdown where the abdomen meets the groin. This area should receive special care to remain dry. Your sutures will under the skin and will dissolve with time. Steri-strips will fall off on their own. Scar healing and cosmetic appearance will be improved if SPF lotion is used at all times the scar is exposed to sunlight. Vitamin E twice daily and massage with lotion over the scar can be helpful in reducing the scar appearance, but should only be used after the incision is completely healed.

*Q: Why is there blood loss?*

A: All patients lose some blood during surgery due to rich blood supply to the bones and soft tissues within and around the hip joint. Intra-operative cell-saver technology is used to give the patient back their own blood. However, there is a chance the patient may need additional blood transfusions from the hospital blood bank. Optimal blood levels will aide in the patient's postoperative healing and recovery.

*Q: When can I drive?*

A: Typically 6-8 weeks after surgery, however you must have discontinued all narcotic pain medications and have appropriate strength. Begin practicing driving in an empty parking lot. Make sure you are confident you could react appropriately in an emergency prior to beginning driving on busy roads.

*Q: When can I lie on my operative side?*

A: Approximately 3 weeks after surgery or when comfortable. Use a pillow between your knees. Do not sleep on your stomach for at least 4 weeks.

*Q: How long will I be out of school/work?*

A: With office and sedentary work, expect 4-6 weeks. With physical work involving extended standing, walking, kneeling, climbing it may be 4 months.

*Q: How long will I be out of sports?*

A: At least 5 months, however this is sport dependent and may be longer for certain activities.

*Q: Will my children have this problem?*

A: There is evidence to suggest a hereditary component involved in hip dysplasia. We recommend that your children be screened for developmental hip dysplasia.

*Q: Will I be able to give birth naturally?*

A: There is no evidence that PAO surgery disturbs the birth canal and a women's ability to deliver naturally. Therefore, c-sections are not considered mandatory. If there are no other indications for c-section, a PAO patient should be able to deliver naturally.

*Q: Will I set off metal detectors at the airport?*

A: The hardware used in PAO surgeries usually does not set off airport metal detectors. You do not need a special card to show the TSA.

*Q: Will I get my screws out?*

A: We recommend removal of the screws for multiple reasons: 1) Pain and discomfort improvement 2) ability to obtain MRI's if needed in the future 3) Less complicated future hip surgeries, if necessary. This procedure is a short, outpatient procedure. We recommend this at 6 months - 1 year after your initial operation.

*Q: What activities should I avoid after a PAO?*

A: You have no long term restrictions. Higher-impact activities, such as distance running and jogging, and high impact exercises are allowed in moderation once you have completely healed.

## Glossary

**Abduction:** movement of the limb or body part away from the midline of the body

**Acetabulum:** the cup-shaped hip socket

**Adduction:** movement of the limb or body part toward the midline of the body

**Anticoagulation:** medication to prevent blood clot formation

**Arthrotomy:** surgical procedure involving opening of the joint capsule

**Articular Cartilage:** connective tissue on bony surfaces, serving to reduce friction in a joint. Found on the inner surface of the acetabulum and femoral head

**Avascular Necrosis:** disease caused by temporary or permanent loss of blood supply to the femoral head, leading to death of the bone and possible bony collapse

**Cartilage:** flexible connective tissue found between bones and rubbery covering over the ends of bones, which make up a joint. Allows smooth joint mobility; provides support and cushion to the skeletal structure.

**Catheter:** thin flexible tube placed in a space within the body for fluid extraction (urine) or medicine introduction (epidural)

**Developmental dysplasia:** condition in which the hip socket is shallow, lacking stability of the hip joint

**Epidural:** catheter introduced into the back near the spinal cord to provide pain medication to pain sensing nerves within the spinal column

**Femoral Acetabular Impingement (FAI):** condition of excessive friction in the hip joint due to the ball (femoral head) and socket (acetabulum) articulating abnormally, which can cause damage to the hip joint. The damage can occur to the articular cartilage (smooth surface of the ball or socket) or the labral cartilage (soft tissue around the socket)

**Femur:** Thigh bone. Largest bone in the body. Direct articulation in the hip joint. The head of the femur serves as the ball of the hip joint

**Fibrous Cartilage:** connective tissue which lines the rim of the acetabulum; prevents bone-to-bone contact; stabilizes and cushions joint

**Heterotopic bone formation:** Natural osseous (bony) reaction when bones experience trauma; causes an increase in bone production, but may form bone in areas not associated with healing, or away from the original trauma or bone cuts

**Impingement:** condition where the femoral head does not have full range of motion within the acetabulum; caused by excessive amount of bone around the head (over-coverage) or the socket angled more backwards (retroversion). Can cause pain and secondary intraarticular damage such as labral tears and cartilage damage

**Labrum:** horseshoe shaped fibrous cartilage on the rim of the acetabulum; serves to stabilize the top of the femur in the hip joint; also seals off fluid that lubricates cartilage within the hip socket and joint

**Magnetic Resonance Imaging (MRI):** a radiology technique that uses magnetism, radio waves and a computer to take pictures of the body

**Osteoarthritis:** type of arthritis caused by inflammation, breakdown and eventual loss of cartilage in joints



**Osteolysis:** destruction of bone caused by disease, infection, or loss of blood supply

**Osteotomy:** surgical procedure which involves cutting through bone or removal of part or all of the bone

**Pavlik Harness:** a type of brace used on infants to improve position of femoral head within the acetabulum

**Perthe's Disease:** condition in which the bone of the femoral head dies due to temporary loss of blood supply; most commonly seen in males 4-8 years of age

**Physical Therapy (PT):** physical rehabilitation to help patients regain function in injured or weak muscles, joints, limbs; focuses on improving gross motor function; used by patients postoperatively to resume normal daily activities and return to full function. Involves crutch training, walking, stair and exercises specific to recovery from your operation.

**Patient Controlled Analgesia (PCA):** method of pain management in which patient controls amount of pain medication they receive via a pain button causing a release of medication through an IV

**Range of Motion (ROM):** ability and measurement of how a joint moves in space

**Sclerosis:** hardening of tissue, often occurs in late stages of arthritis

**Slipped Capital Femoral Epiphysis (SCFE):** condition in which the growing end (growth plate) of the femur slips off from the rest of the bone; seen most commonly in males 11-16 years of age

**Synovial fluid:** slippery fluid which serves to lubricate the joint and nourish cartilage

**Total Joint Replacement:** surgical procedure in which an arthritic joint is replaced with a new artificial joint made of metal and plastic

## Contact

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Good Samaritan Hospital  
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Downers Grove, IL 60515  
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**If there are ever any urgent or emergent questions or concerns regarding your medical condition including:**

- Fever > 100.6°
- Uncontrollable pain
- Drainage, opening, or redness of the incision
- Notable calf tenderness or swelling

Please contact Dr. LaReau's team or go to the nearest Emergency Room!

Questions for Dr. LaReau	
Question	Answer