

# A Patient Guide to Combined Hip Arthroscopy and Ganz Periacetabular Osteotomy (PAO)

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Joint Reconstruction and Hip Preservation



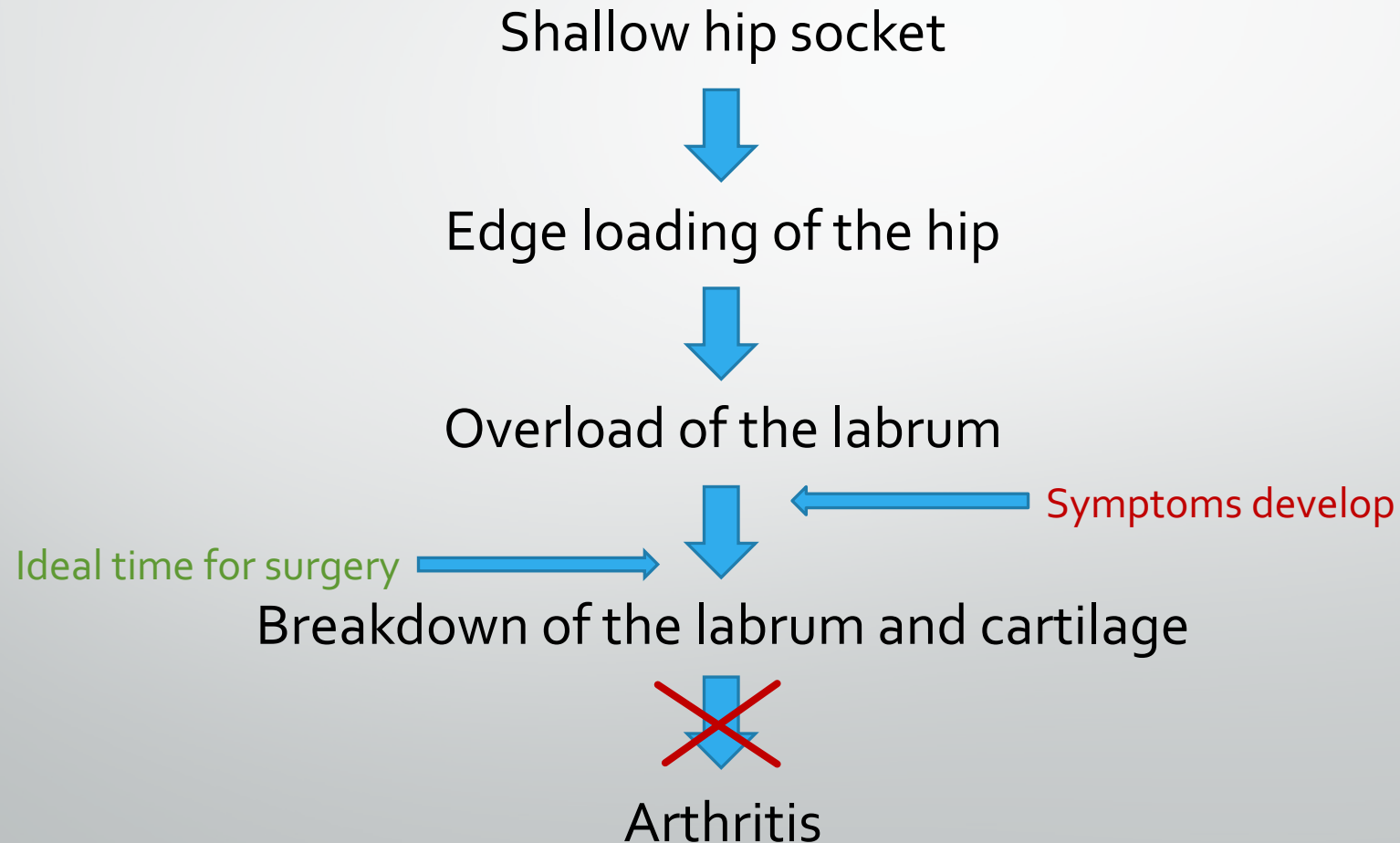
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# What is Hip Dysplasia?

- A shallow hip socket (acetabulum) that does not fully contain the ball (femoral head)
- This results in overload to the edge of the hip socket
- The overload results in tearing of the labrum
- Ultimately this progresses to premature degenerative arthritis of the hip



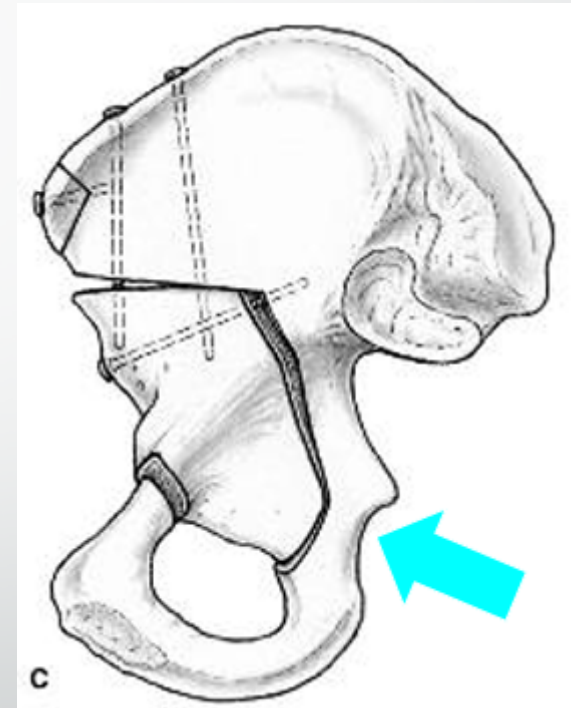
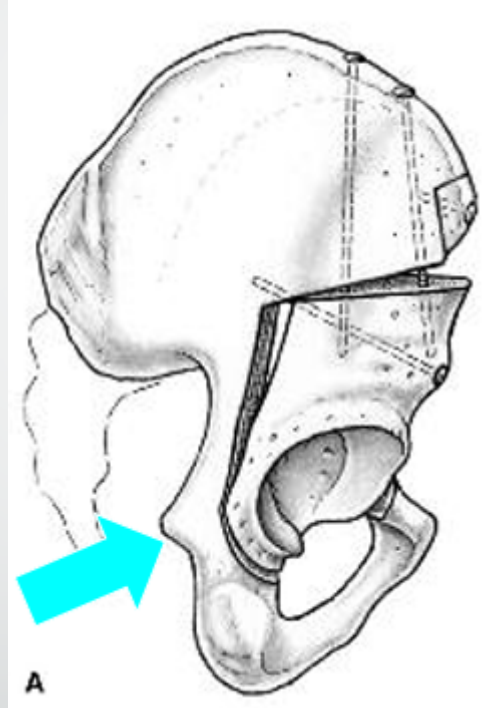
# Natural History of Hip Dysplasia



# What is a PAO?

- PAO stands for PeriAcetabular Osteotomy
  - The hip socket is cut free from the pelvis and rotated to a better position to improve hip mechanics
  - There are many different types
- What is a Ganz Osteotomy?
  - A specific type of PAO
  - The hip socket is cut free without compromising the integrity and structure of the pelvis

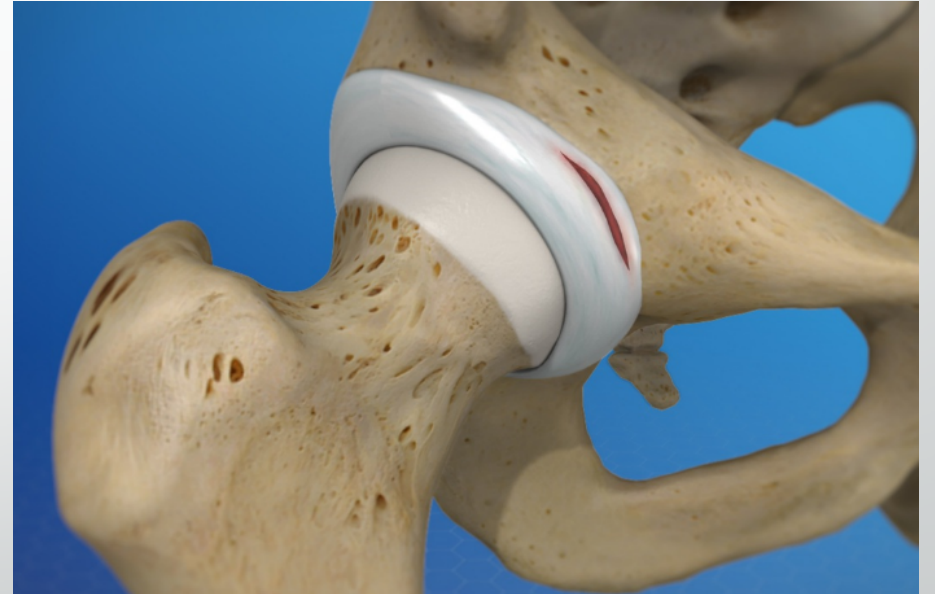
# Ganz Osteotomy



- The hip socket is cut loose from the pelvis and rotated
- The arrows show that the pelvic ring is not cut in this process which keeps the pelvis stable

# Why a Hip Scope with the Ganz Osteotomy?

- The torn labrum is what causes pain
- The labrum and the inside of the joint are best taken care of with a hip scope
- The ball in a dysplastic hip is often oval shaped, instead of round and can be reshaped to fit better in the hip socket



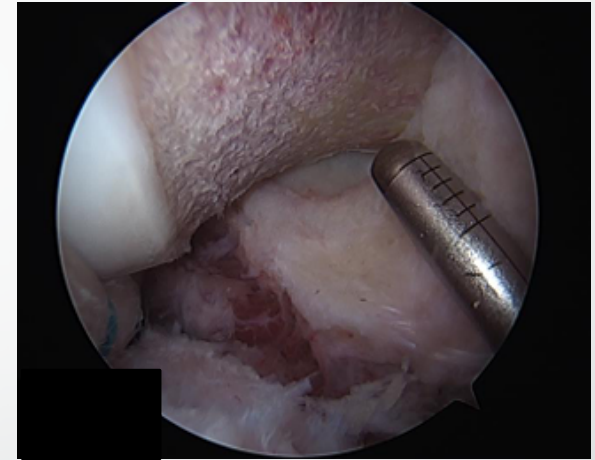
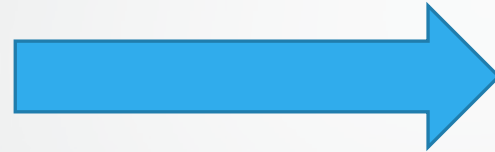
# The Analogy



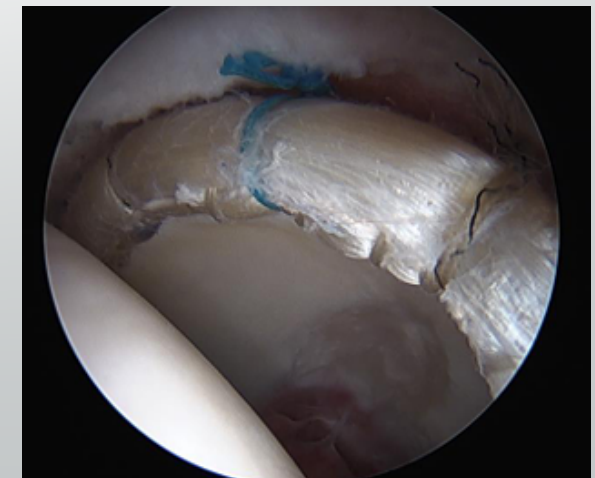
- If you repair the labrum (worn out tire) without correcting the bone anatomy (bad car alignment), the labrum will tear again (another worn out tire)

# Key Components of the Hip Scope

- Femoral osteoplasty
  - Re-shaping the femoral head to make it round

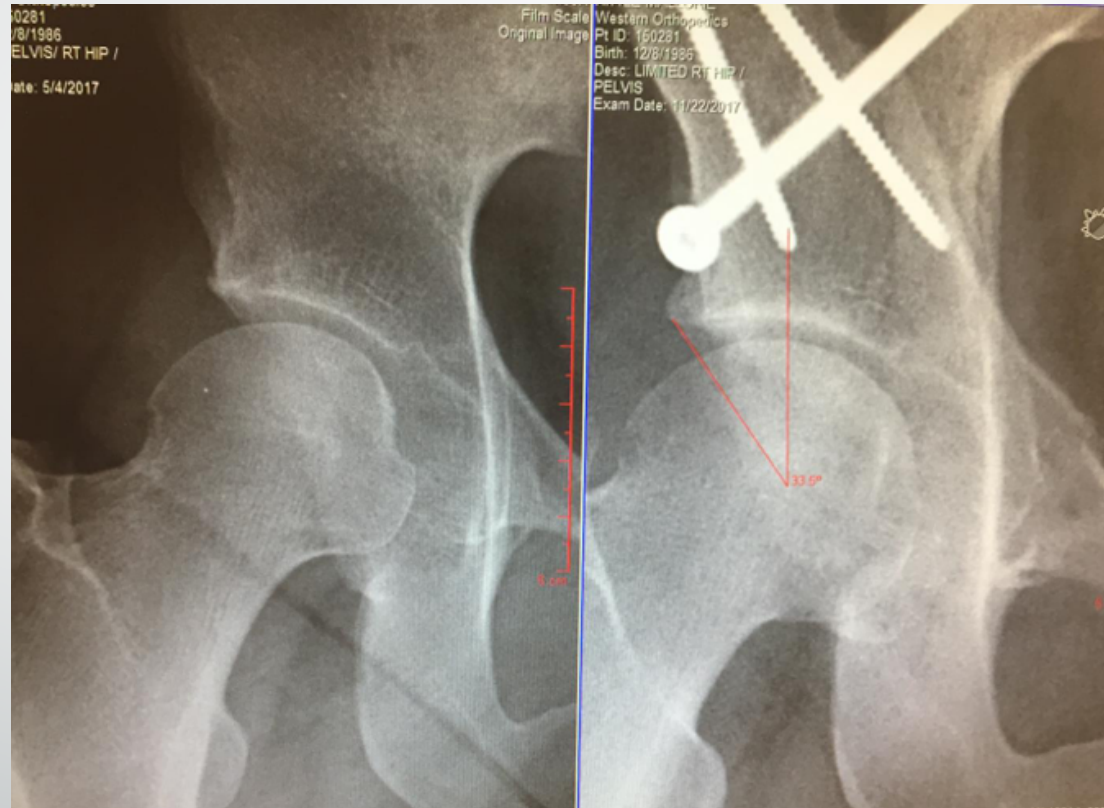


- Labral repair / reconstruction





# Ganz Osteotomy



Before

After

The hip socket covers the ball much more and is now flat and not sloped

# Incision

- The bikini incision allows the scar to be intentionally hidden in the bikini line so that it is not visible in public



Bikini incision



Traditional incision

# General Information for Ganz Osteotomy

- 20 year results were published in 2008
  - 60% of hips did not fail or require another surgery
  - The labrum was NOT addressed in this group of patients
  - CORR (2008) 466: 1633-1644
- Who is a good fit?
  - Age <50 years
  - Minimal to no arthritis
- Women can still have a routine delivery for child birth

# General Information for Ganz Osteotomy

- Baseline level of arthritis predicts joint survival after PAO
  - Tönnis grade 0 → 28 years
  - Tönnis grade 1 → 19 years
  - Tönnis grade 2 → 8 years
  - Tönnis grade 3 → 4 years
- The probability of progression to total hip replacement
  - Tönnis grade 1
    - 2% at 5 years
    - 11% at 10 years
  - Tönnis grade 2
    - 23% at 5 years
    - 53% at 10 years

# Logistics of the Procedures

- Hip scope is performed first by a sports medicine orthopedic surgeon
  - Outpatient surgery vs 1 night hospital stay
- Ganz osteotomy is performed 3-7 days later
  - 1-3 night hospital stay

# Why Two Separate Surgeries?

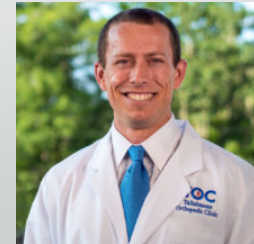
- A hip scope relies on pulling traction on the leg to access the joint and labrum
- This places tension on the nerves and blood vessels
- Allowing the nerves and blood vessels to rest before performing the PAO decreases the risk of injury
  - Injury to a nerve could result in weakness and/or numbness to the affected extremity

# Why Two Surgeons?

- This truly is a unique collaboration between two surgeons who can each focus on their area of expertise and specialization



- Dr. Almaguer – fellowship trained and an expert on the Ganz periacetabular ostomy



- Sports medicine surgeon – fellowship trained and experts on arthroscopic labral repair/reconstruction

# Pain Control After Ganz

- Your anesthesiologist will place a catheter/pump to continuously block the nerves going to the hip
  - This drastically improves pain control for the first 4-6 days
- This allows you to walk and move your hip immediately after surgery and significantly reduces pain so that you can be more comfortable





# Expectations

- The day of surgery

[PAO day of surgery video](#)

- Eight weeks after surgery

[PAO 7 week recheck video](#)

[PAO 8 week recheck video](#)

# Weight Bearing After the Ganz

- 25% weight bearing immediately after surgery
- Weeks 1-2 → 25% weight bearing with crutches
- Weeks 3-4 → 50% weight bearing with crutches
- Weeks 5-6 → 75% weight bearing with crutches
- Weeks 7-8 → 100% weight bearing with crutches
- After 8 weeks → Full weight bearing unassisted

# Travel

- Patients can travel as soon as 2 days after surgery
- When booking flights it is recommended to get travel insurance in case flight plans change
- Patient feedback is that 1<sup>st</sup> class tickets are worth it for comfort in seating
- At the very least, be sure to choose an isle seat that will allow you to stretch you leg
- Whether driving or flying it is recommended to stand up and move around every 1 hour to keep the hip from getting stiff and uncomfortable

# Return to Work and School

- This varies depending on the individual, but in general:
  - Sedentary work and school: 2-4 weeks
  - Moderate work and walking across campus: 8-12 weeks
  - Heavy manual labor and exercise: 6 months
- Full recovery is expected anywhere from 6 months to 1 year

# Physical Therapy After Surgery

- A skilled physical therapist is essential after surgery to achieve the optimal result
- You will be provided a detailed outline of how therapy should progress on a weekly basis



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## Periacetabular Osteotomy (PAO)

Time Period	Weight Bearing	Goals	Exercises/Treatment	Other
Phase 1 (weeks 0-2)	25% with crutches	Hip flexion PROM and AROM = 0-90° <3/10 pain Ankle and Knee normal ROM Pain free exercises	AAROM, PROM pain free Ankle Pumps Ankle ABCs Gluteal Sets Seated SL knee extension Standing Ham Curts Isometric TrA Nerve Glides Grade I and II for pain management	Provide ADL training No IR/ER of hip No extension past 0°
Phase 2 (weeks 2-4)	50% with crutches	Hip Flexion PROM and AROM = 0-90° <2/10 pain ALL exercises should be pain free especially with the hip flexors ROM performed below 90° of flexion	Everything in phase 1 plus Seated SL knee extension Quad Set Heel Slides Standing ham curls Side-lying HAB Side-lying HAD Standing B Calf Raise Standing 4-way hip Bridge Isometric TrA Hip ROM	May start stationary biking no resistance
Phase 3 (weeks 4-6)	75% with crutches	Hip flexion to 90° Normalize gait w/ crutches 0/10 pain	4-way hip pain free range Supine, Prone PROM hip all directions pain free Mini squats Bilateral proprioception Progress core stabilization Scar mobilization	Stationary biking okay If incision is healed, may start pool walking water and leg exercises ROM of hip below 90°
Phase 4 (weeks 6-12)	WBAT with crutches	Full ROM	Progression LE isotonic exercises at 8wks SL balance progression Manual Therapy techniques	Biking okay May start golf at 12 weeks
Phase 5 (weeks 12+)	WBAT	Full ROM	Continue above exercises	May start return to run program if no increase in pain or limp

\*Resistive exercises using ankle weight, resistive band cable column, or machine

# Keys for Scheduling

- Dr. Almaguer's team will coordinate scheduling with the sports medicine surgeon who is performing your hip scope
- Hip scope is performed 3-7 days prior to the PAO
- Once dates have been agreed upon, my staff will contact you

I hope this is helpful and allows you to better understand combined hip arthroscopy and Ganz osteotomy

I look forward to helping you get back to the activities you enjoy doing!



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