

Ganz Osteotomy Protocol

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A Ganz procedure is an osteotomy of the pelvis where the acetabulum is cut free from the pelvis and is rotated over the femoral head to improve the femoral head coverage and treat dysplasia. It is always combined with a hip arthroscopy to treat the labral tear and the CAM deformity. The initial rehab goal with the combined procedure is to get the joint moving while respecting the initial motion precautions for the arthroscopic portion of the procedure.

The intent of this protocol is to provide guidelines for progression of rehabilitation, it is not intended to serve as a substitute for clinical decision making. Progression through each phase of rehabilitation is based on clinical criteria; there will be variability between patients in terms of time frames and it is crucial not to progress through phases until the individual is ready and has met clinical criteria.

Phase 1 - Protection Phase (post-op weeks 1-8)

Weight Bearing:

- 25% Flat Foot Weight Bearing for 2 weeks
- 50% FFWB weight bearing for 2 weeks
- 75% FFWB weight bearing for 2 weeks
- 100% weight bearing for 2 weeks then weight bearing as tolerated

Initial ROM Related Restrictions for 2 weeks to protect the labral reconstruction:

- External Rotation to 0°
- CPM 6 hours daily
- Spend 2 hours per day on stomach to allow for mild stretching of the hip flexors

Initial ROM Related Restrictions for 2 weeks to protect the PAO:

- No adduction across midline x 4 weeks

Goals:

- Reduce swelling and pain
- Restore mobility within limitations
- Restore normal gait
- Promote normal proprioceptive and neuromuscular control

Pain and Swelling

- PRICE – Protection, Rest, Ice, Compression, Elevation
 - At a minimum 5-6 times per day for 20-30 minute sessions
 - There is no maximum!
 - Icing is encouraged to be done in prone
 - Ankle Pumps for swelling and DVT prevention

Range of Motion

- Passive Range of Motion
 - Circumduction Abduction
 - Internal rotation with the hip in neutral
- Active/Active Assistive Range of Motion
 - Week 2-3 begin quadruped rocking and cat/camel
 - Stationary bike without resistance 20 minutes per day starting week 3 based on comfort
 - No recumbent biking
- Initiate Thomas stretch at week 3

Always avoid terminal hip flexion that results in pinching

Aquatic Therapy

- Begin at week 4-5 post-operatively once the incisions are healed and there is a chair to get into/out of the pool
- Motor control and ROM exercises
 - Circumduction, Hip abduction
- Forwards and Backwards gait with emphasis on full hip extension and an upright trunk

Strength/Motor Control weeks 4-8

- Edge of bed hip extension
- Standing Skaters (abduction with IR) for gluteus medius
- Swiss ball flexion (hamstring ball rolls) for initial psoas activation

- Tall kneeling with controlled rotation and pelvic tilt

Proprioception and Neuromuscular Re-education

- Prone IR/ER rhythmic stabilization exercises
- Quadruped stabilization exercises
- ½ kneeling for stability prior to full weight bearing
- Standing forward flexion
- Progressive weight bearing using crutches with FFWB is indicated for the first 8 weeks to protect healing structures. This will also help to reduce swelling and pain
- Focus on closed chain stabilization and gait exercises to promote normalized hip extension and lumbar stabilization with gluteus medius activation

Phase 2 - Initial Strengthening (post-op weeks 9-12)

Criteria for advancement to Phase 2:

- Pain-free passive hip flexion and abduction
- Able to maintain full bridge position without compensations
- Mild deviations in gait with no discomfort and no Trendelenberg
- Maintain stable tall kneeling position without anterior hip discomfort

Goals:

- Full active and passive ROM including pain-free standing hip flexion
- Rotary stability including side and front planks without compensations or pain
- Normalize gait
- Increase leg strength to allow for:
 - Walking 1 mile
 - Stair descending without compensations
 - Single leg bridge
 - Double knee bends without compensations
 - Single knee bend to 70° without compensations

Strength, Proprioception and Neuromuscular Re-education

- Closed chain double leg strength and stability exercises at therapist's discretion. Include multiplanar strength and proprioception; bridging progression, closed chain hip abduction strength

Cardio

- Bike gradually increasing resistance at week 10 and when patient can ambulate without a limp; limit to a maximum of 30 minutes total for the first two weeks then continue to progress gradually if there is no increased hip pain
- Elliptical trainer beginning at week 12
- Swimming without leg kick (using a pool buoy) beginning at week 8. Swimming with kicking allowed at week 12 only if there is no hip flexor pain

Phase 3 - Advanced Strengthening (post-op weeks 12- Sport Specific Training)

Criteria for Advancement to Phase 3:

- Full active and passive ROM
- Ascending and descending stairs with involved leg without pain or compensation
- Gait without deviations or pain after 1 mile of walking on level surface
- At least 1 minute of double knee bends without compensations
- Single knee bends to 70° flexion without compensations
- Rotary stability and ability to hold plank

Goals:

- Restore multi-directional strength and agility
- Restore ability to absorb impact on leg (plyometric strength)
- Full extension for normal running mechanics

No running or kicking activities until a minimum of 5 months and patient is able to demonstrate pain-free standing repetitive hip flexion

Phase 4 - Return to Sport

Criteria for advancement to phase 4

- Bilateral 1 minute single leg stance with alternate hip flexion/extension
- Resisted single leg squat for 3 minutes

Perform sport specific strength training and drills until patient begins team training progression

Closed chain pilates is recommended for hip maintenance and can be very helpful in the final phase of PT to address late muscular imbalance and maintain posterior chain strength