

Rehabilitation Guidelines for Open Hip Abductor (Gluteus Medius) Repair

The hip joint is composed of the femur (the thigh bone) and the acetabulum (the socket which is from the three pelvic bones). The hip joint is a ball and socket joint that not only allows flexion and extension, but also rotation of the thigh and leg. Unlike the shoulder, stability is not sacrificed for mobility. The head of the femur is encased by the socket and with the addition of the strong, non-compliant joint capsule, so the hip is an extremely stable joint. Because the hip is responsible for transmitting the weight of the upper body to the lower extremities, the joint is subjected to substantial forces. Walking transmits 1.3 to 5.8 times body weight through the joint and running and jumping can generate forces across the joint equal to 6 to 8 times body weight.

The gluteus medius and gluteus minimus are two of the abductor and external rotator muscles of the hip and rotate outward when the leg is in the air. When the foot is on the ground the gluteus muscles stabilize the hip and the pelvis, making it crucial for walking and running. Tears of the gluteus medius and minimus can be a significant source of hip pain and dysfunction. These tears can occur traumatically (with sudden injury) but most often are degenerative in nature (occur over time with wear and tear). Figure 3 shows an image

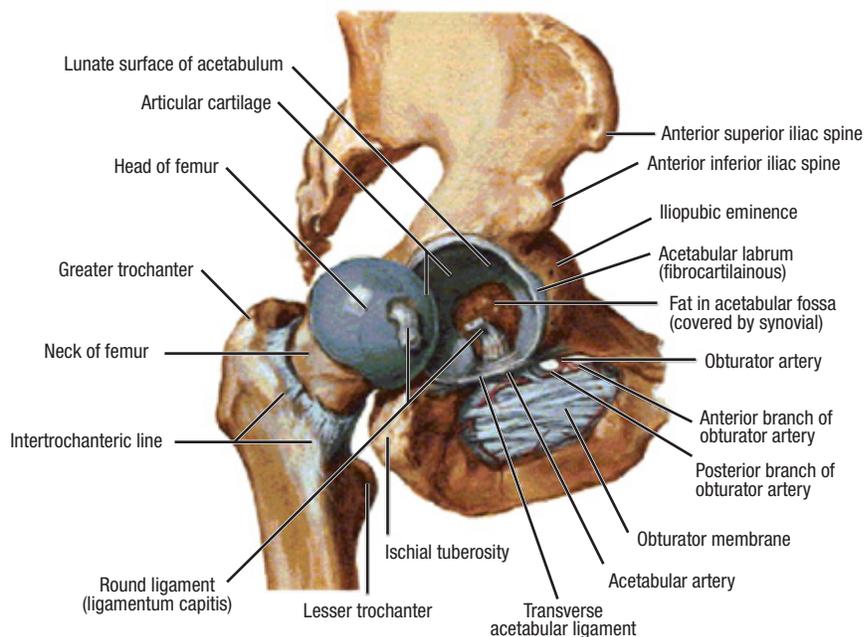


Figure 1 Hip joint (opened) lateral view

of an abductor tendon tear on MRI. If these tears do not respond to non-surgical physical therapy treatments, they can be repaired surgically. Small hip abductor tears may be amenable to arthroscopic repair (see https://uwhealth.org/files/uwhealth/docs/pdf2/Rehab_Hip_Arthroscopy.pdf). Tears that are larger or more chronic are best treated with an open incision and repair. In the open abductor repair, an incision is made directly over the abductor tear, the bursa is removed and the torn tendons identified. Suture anchors are placed in the greater trochanter and sutures are passed through the torn tendons to re-approximate

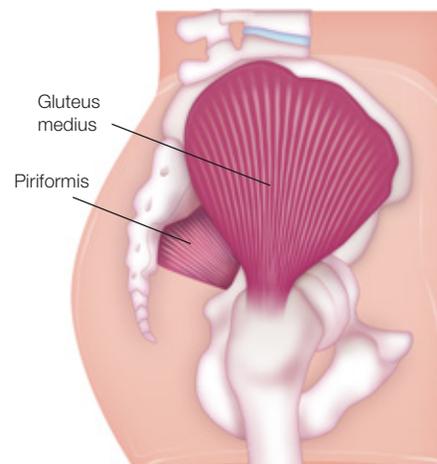


Figure 2 Gluteus medius muscle of the hip.

© Copyright 2018 UW Health Sports Medicine

Rehabilitation Guidelines for Open Hip Abductor (Gluteus Medius) Repair

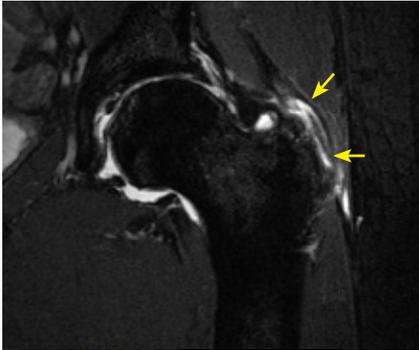


Figure 3: T2 MR image showing abductor tendon tears (yellow arrows) at the greater trochanter of the femur.

them to their anatomic location on the femur. This is similar to a rotator cuff repair in the shoulder. In order to allow the tendon to heal back to the bone after this procedure, weight bearing and strengthening exercises will be more protected and limited in the first post-operative rehabilitation phase.

Rehabilitation of the hip begins the day after surgery but the first outpatient physical therapy appointment will not be until 3 weeks after surgery.

The rehabilitation guidelines are presented in a criterion-based progression and each patient will progress at a different rate depending on the specific procedure performed, age, pre-injury health status and rehab compliance. All exercises should be performed within pain tolerance. Pushing to extremes of motion beyond pain tolerance does not enhance function but rather increases discomfort and may affect the healing tendon.

PHASE I (Surgery to 3 weeks)

Appointments	<ul style="list-style-type: none"> • Patient will have one appointment 2-5 days after surgery to make sure they are ambulating correctly and following precautions. Their second appointment will be 2-3 weeks after surgery (after the first post-op visit with the surgeon) to begin the more formal exercise program.
Rehabilitation Goals	<ul style="list-style-type: none"> • Protection of the post-surgical hip through limited weight bearing and education on avoiding pain (approximately 3/10) with range of motion (ROM) exercises.
Precautions	<ul style="list-style-type: none"> • No active abduction • No passive adduction • Normalize gait pattern with brace and crutches • Weight-bearing: 20 lbs for 6 weeks
Range of Motion Exercises	<ul style="list-style-type: none"> • Continuous passive motion (CPM) for 2 hours a day • Bike for 20 minutes a day (can be 2 times a day) as tolerated • Scar massage • Hip passive range of motion (PROM) • Hip flexion as tolerated, abduction as tolerated • Log roll • No active abduction and internal rotation (IR) • No passive external rotation (ER) (4 weeks) or adduction (6 weeks) • Stool stretch for hip flexors and adductors • Quadruped rocking for hip flexion • Gait training partial weight bearing (PWB) with assistive device

Rehabilitation Guidelines for Open Hip Abductor (Gluteus Medius) Repair

Suggested Therapeutic Exercises	<ul style="list-style-type: none"> • Hip isometrics for extension, adduction, ER at 2 weeks. • Hamstring isotonic • Pelvic tilts • NMES to quads with SAQ with pelvic tilt
Cardiovascular	<ul style="list-style-type: none"> • Upper body circuit training or upper body ergometry (UBE)
Progression Criteria	<ul style="list-style-type: none"> • Normal gait with assistive device on level indoor surfaces with PWB and minimal to no pain • Functional ROM without pain • At least 3 weeks post-op

PHASE II (4-10 weeks post surgery)

Appointments	<ul style="list-style-type: none"> • Rehabilitation based on patient progress, 1-2 times every 1-2 weeks
Rehabilitation Goals	<ul style="list-style-type: none"> • Regain and improve muscular strength • Progress off crutches for all surfaces and distances • Single leg stand control • Good control and no pain with functional movements, including step up/down, squat, partial lunge
Precautions	<ul style="list-style-type: none"> • Weeks 4-6: Gait training PWB with assistive device and no trendelenberg gait - 20 pounds through 6 weeks • Weeks 7-8: Gait training: increase weight bearing to 100% with crutches • Weeks 9-10: Wean off crutches (2 to 1 to 0) without trendelenberg gait / normal gait
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> • Start isometric sub max pain free hip flexion (4 weeks) • Stool rotations IR/ER (20°) • Supine bridges • Isotonic adduction • Progress core strengthening (avoid hip flexor tendonitis) • Progress with hip strengthening • Quadriceps strengthening • Scar massage • Gait drills in the pool at chest deep water, as needed and available <p>At 8 weeks:</p> <ul style="list-style-type: none"> • Progress with ROM • Hip joint mobs with mobilization belt (if needed) <ul style="list-style-type: none"> - Lateral and inferior with rotation - Prone posterior-anterior glides with rotation • Progress core strengthening (focus on post pelvic tilt and avoid hip flexor tendonitis)
Cardiovascular Exercise	<ul style="list-style-type: none"> • Upper body circuit training or UBE

Rehabilitation Guidelines for Open Hip Abductor (Gluteus Medius) Repair

Progression Criteria	<ul style="list-style-type: none"> Normal gait on all surfaces Ability to carry out functional movements without unloading affected leg or pain, while demonstrating good control Single leg balance greater than 15 seconds without trendelenburg
----------------------	---

PHASE III (begin after meeting Phase II criteria, about 12 weeks)

Appointments	<ul style="list-style-type: none"> Rehabilitation based on patient progress, 1-2 times every 1-2 weeks
Rehabilitation Goals	<ul style="list-style-type: none"> Regain and improve muscular strength Discontinue off crutches for all surfaces and distances Single leg stand control Good control and no pain with functional movements, including step up/down, squat, partial lunge
Precautions	<ul style="list-style-type: none"> Post-activity soreness should resolve within 24 hours No ballistic or forced stretching Avoid post-activity swelling or muscle weakness Be cautious with repetitive hip flexion activities, such as treadmill and Stairmaster
Suggested Therapeutic Exercise	<ul style="list-style-type: none"> Stationary bike Gait and functional movement drills in the pool Standing hip abduction and extension, single leg bridging, sidelying leg raises with leg in internal rotation and prone heel squeezes with hip extension Closed chain abductor strengthening – lateral stepping progressing to with bands, standing hip hikes, step backs Non-impact hip and core strengthening – body boards, bridging (progressing from double to single leg), mini band drills, physioball drills Non-impact balance (progressing to single leg) and proprioceptive drills Half kneeling progression: stability, to reaching, to rotation, to resisted rotation Unilateral leg press Hip active ROM using D1 and D2 patterns with proprioceptive neuromuscular facilitation Stretching for patient specific muscle imbalances
Cardiovascular Exercise	<ul style="list-style-type: none"> Non-impact endurance training; stationary bike, Nordic track, swimming, deep water run, cross trainer
Progression Criteria	<ul style="list-style-type: none"> Normal gait on all surfaces Ability to carry out functional movements without unloading affected leg or pain, while demonstrating good control Single leg balance greater than 15 seconds

Patient may return to sport after receiving clearance from the orthopedic surgeon and the physical therapist/athletic trainer. Progressive testing will be completed. Patient should have less than 15%

Rehabilitation Guidelines for Open Hip Abductor (Gluteus Medius) Repair

difference in all strength tests, force plate run, jump and hop tests, and functional hop tests.

These rehabilitation guidelines were developed collaboratively by UW Health Sports Rehabilitation and the UW Health Sports Medicine physician group.

Updated 1/2018

REFERENCES

1. Enseki KR, Martin RL, Draovitch P, Kelly BT, Philippon MJ, Schenker ML. The hip joint: arthroscopic procedures and postoperative rehabilitation. *J Orthop Sports Phys Ther.* Jul 2006;36(7):516-525.
2. Larson, CM and Giveans. Arthroscopic management of femoroacetabular impingement: early outcomes measures. *Arthroscopy.* May 2008;24(5):540-546.
3. Schmerl M, Pollard H, Hoskins W. Labral injuries of the hip: a review of diagnosis and management. *J Manipulative Physiol Ther.* Oct 2005;28(8):632.
4. Stalzer S, Wahoff M, Scanlan M. Rehabilitation following hip arthroscopy. *Clin Sports Med.* Apr 2006;25(2): 337- 357, x.
5. Standaert CJ, Manner PA and Herring SA. Expert Opinion and Controversies in Musculoskeletal and Sports Medicine: femoroacetabular impingement. *Arch Phys Med Rehabil.* May 2008;89:890-893.
- 6 Decker MJ, Torry MR, Anstett F, Giphart JE, Wahoff M and Philippon MJ. Gluteus Medius Muscle Activation During Hip Rehabilitation Exercises. Denver, Colorado. AAOSM Meeting July 9, 2009 – Research Presentation. Lee et al, JBJ 2015 Register et al, AJSM 2012. Jayakaretal et al, Skel Rad 2016.

At UW Health, patients may have advanced diagnostic and /or treatment options, or may receive educational materials that vary from this information. Please be aware that this information is not intended to replace the care or advice given by your physician or health care provider. It is neither intended nor implied to be a substitute for professional advice. Call your health provider immediately if you think you may have a medical emergency. Always seek the advice of your physician or other qualified health provider prior to starting any new treatment or with any question you may have regarding a medical condition.

Copyright 2018 UW Health Sports Medicine