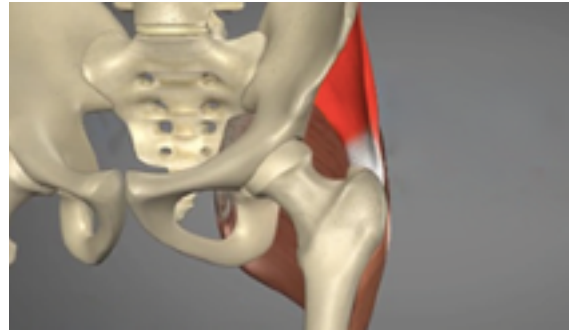


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Hip Abductor (gluteus medius) Repair

Hip abductors are a major group of muscles found in the buttocks. They include the gluteus maximus, gluteus medius, gluteus minimus, and tensor fascia lata muscles.

Gluteus medius is situated on the outer surface of the hip. The function of the gluteus medius is to assist with pelvis stability, hip abduction, along with internal and external rotation of the hip. Tears of the gluteus medius usually occur where the tendon inserts at the greater trochanter, causing lateral hip pain.



Tears of the gluteus medius can occur due to traumatic injury or degenerative conditions such as tendinopathy (chronic inflammation of the gluteus medius tendon). Gluteus medius tears cause pain and weakness on the affected side of the hip. One of the main symptoms of a gluteus medius tear is the presence of Trendelenburg sign—dropping of the pelvis towards the unaffected side by being unable to bear weight on the affected limb. The diagnosis of gluteus medius tear is based on physical examination of the patient, followed by palpation of the affected muscle, testing muscle power and assessing walking pattern or gait of the patient. Certain special tests such as single-leg squat test or a positive Trendelenburg sign confirm the diagnosis of gluteus medius tear. Sometimes, MRI or ultrasound may be helpful to show the pathological changes of the muscle.

Treatment

The aim of treatment is to restore the normal function of the gluteus medius tendon.

Immediately following the rupture of the tendon, you should do the following:

- Rest your hip by refraining from activities until it is healed.
- Apply ice to your hip to reduce pain and inflammation caused by injury.
- Elevation involves keeping the affected hip raised above your heart to minimize swelling.

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Medications such as non-steroidal anti-inflammatory drugs (NSAIDs) or steroid injections may be given to reduce the pain and inflammation. Assistive devices such as a cane or crutch may be used temporarily to facilitate pain free ambulation.

Dr Nelson may recommend physical therapy to strengthen the muscles and increase stability of the hip prior to any surgical procedure.

In addition, Injections, such as, Corticosteroids or PRP can be utilized to help your pain and function without a surgical procedure.

Surgical treatment may be recommended to repair a complete, full-thickness gluteus medius tear. The rupture can be repaired arthroscopically to help restore the strength and function of the gluteus medius.

Gluteus medius tendon ruptures can be repaired by open or arthroscopic technique.

The steps involved in open surgery include:

You will be placed either under general anesthesia or spinal anesthesia

The surgeon makes a long incision in your hip.

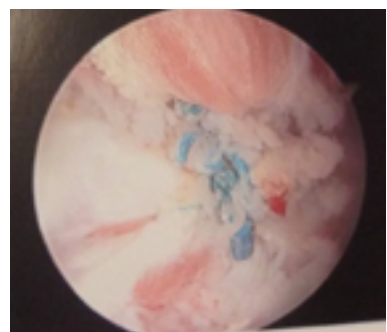
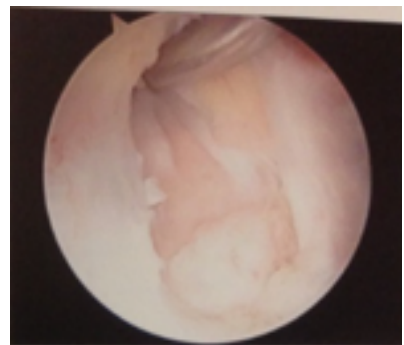
The underlying muscles and tissues are separated to expose the damaged tendon.

Arthroscopic surgery involves the following steps:
(Dr. Nelson's Preferred technique)

You will be placed either under general anesthesia or spinal anesthesia

The surgeon makes two or three small incisions, about 1/4 of an inch each, around the hip joint area. Each incision is called a portal. A blunt tube, called a trocar, is inserted into each portal prior to the insertion of the arthroscope and surgical instruments.

The arthroscope is inserted through one of the portals, to view the hip joint. The images from the arthroscope guide the surgeon and assist in detection of any anomaly. It also enables the surgeon to see the attachment of the gluteus medius muscle. The surgeon conducts a diagnostic endoscopic examination of the peritrochanteric space. The other portals are used for the insertion of surgical instruments.



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The following steps are common for both open and arthroscopic surgeries:

Debridement of the tears on the under surface of the gluteus tendon and pathologic tendon tissue is performed using a shaver.

The tear at the lateral facet of the greater trochanter is identified and removed using a bur to stimulate active bleeding which would aid in healing of the repaired tendon

The tendons are visualized and an anchor(s) is/are placed onto the greater trochanter of the femur and a suture is passed through the ruptured tendon. The tendon is then pulled down to its normal anatomic position and tied over the bone.

After the surgical procedure is complete, the incisions will be closed with sutures or surgical tape.

PT Protocol

The intent of this protocol is to provide guidelines for your patient's therapy progression. It is not intended to serve as a recipe for treatment. We request that the PT/PTA/ATC should use appropriate clinical decision making skills when progressing a patient. The exercises listed are not all inclusive, you can modify exercises as long as you maintain the appropriate precautions. Please obtain documentation of the exact procedure that was performed from our office. Please contact Dr. Nelson if there are any questions about the protocol or your patient's progression

Please keep in mind common problems that may arise following hip arthroscopy: Hip flexor tendonitis, adductor tendonitis, sciatica/piriformis syndrome, ilial upslips and rotations, LB pain from QL hypertonicity and segmental vertebral rotational lesions. If you encounter any of these problems, please evaluate, assess and treat as you feel appropriate maintaining Dr. Nelson's precautions and guidelines at all times. Gradual progression is essential to avoid flare-ups. If a flare-up occurs, back off with therapeutic exercises until it subsides.

Please reference the exercise progression sheet for timelines and use the following precautions during your treatments. Thank you for progressing all patients appropriately and please fax all progress notes to Dr. Nelson's office or hand deliver the the patient. Successful treatment requires a team approach. Please contact Dr. Nelson at any time with your input on how to improve the therapy protocol.

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Initial Pre-operative Assessment

- Assess bilateral hips
- A/PROM
- Gait
- Strength
- Review surgical precautions
- Have patient practice putting brace on/off, practice PWB gait with crutches

General Guidelines/Precautions following surgery

- Weight bearing: 2 crutches, 20 pounds weight bearing for 6 weeks
- ROM: **NO** Active hip abduction and IR and **NO** Passive hip ER and adduction for 6 weeks
- Do not push through pain or pinching, gentle stretching will gain more ROM.
- Manage scarring around portal sites
- General precautions: Hip flexor tendonitis, Trochanteric bursitis, synovitis, scar tissue around portals

Day 1

- Therapy should begin post-op day 1-3
- Perform dressing change POD #3
- Examine incisions
- Teach proper brace placement
- Teach proper dressing, bathing, etc..
- Teach proper use of crutches (20 pound weight bear)
- Begin PROM

Weeks 0-4

- upright bike (no resistance) for 30 minutes to 2 hours/day
- ROM: **NO** active hip abduction or IR. **NO** passive hip adduction, ER, or IR
 - PROM: Hip flexion to 90 for 3 weeks, gradually increasing after 3 weeks
 - PROM hip abduction as tolerated.
 - PROM Hip extension: 0 for weeks 0-3, gradually progress after week 3
- Upright bike **NO RESISTANCE** (must be painfree, begin 1/2 circles, progress to full circles)
- Joint mobilization: Grade I oscillations for pain management
- Soft tissue Mobilization:
 - Gentle hip flexor
- Gait training: 20 pounds with assistive device

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-Strength:

- Hip isometrics (Begin at 2 weeks): extension, adduction
- (Begin at 4 weeks): sub max pain free hip flexion
- Quad sets, Hamstring sets, Lower abdominal activation
- Modalities for pain control, swelling

Weeks 4-6

- Continue with previous exercise
- Gait training: 20 pounds weight bearing until 6 weeks and then wean to 100%
- ROM: **NO** active hip abduction or IR. **NO** passive hip adduction or ER
 - Begin PROM IR (gentle, no pain)
 - Begin gentle AROM of hip flexion (avoid hip flexor tendonitis)
- Joint mobilization: Gr I-II distraction, lateral distraction
- Soft tissue massage
 - iliopsoas, TFL, ITB, piriformis, QL, lumbar paraspinals, hip adductors
- Strength
 - Progress isometric resistance
 - Quad and hamstring isotonic exercise
 - Quadruped rocking
- Stretching
 - Manual hip flexor stretching (gentle, no pain)
 - Modified Thomas position, or pillows under buttock
- Modalities for pain control, swelling

Weeks 6-8

- Continue with previous exercise
- Gait training: wean off crutches WBAT
- ROM: Passive hip IR, Active assistive hip ER, Active assistive hip abduction, adduction
 - AROM: hip flexion, extension
- Joint mobilization: Perform as needed to gain appropriate ROM
- Soft tissue massage
 - iliopsoas, TFL, ITB, piriformis, QL, lumbar paraspinals, hip adductors, gluteus medius
- Strength
 - Progress core strengthening
 - Straight leg raise, prone hip extension, supine bridge

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- Hip IR/ER using stool under knee (make sure to hold onto object for support).
- Upright bike with resistance
- Stretching
 - Manual and self hip flexor stretching
- Modalities for pain control, swelling

Weeks 8-10

- Continue with previous exercise
- ROM: progress A/PROM all directions
- Joint Mobilization: As needed
- Soft tissue massage: As needed
- Strength
 - Hip abduction: Isometrics to isotonic
 - Progress LE and core strength and endurance as able
 - Begin proprioception/balance activity (2 legs to 1 leg, stable to unstable)
 - Leg press, side stepping, beginning closed chain strength, wobble board balance/taps, Single leg stance
- Stretching
 - Manual and self hip flexor stretching
- Begin Elliptical training

Weeks 10-12

- Continue with previous exercise
- Gait: Normalize without AD
- ROM: Progressive hip A/PROM
- Joint Mobilization: As needed
- Soft tissue massage: As needed
- Strength: Progressive LE and core strengthening
 - Hip PRES and hip machine
 - Unilateral leg press
 - Hip hiking
 - Eccentric step downs
 - Side stepping (no resistance-theraband at week 12)
 - Progress balance and proprioception
- Stretching
 - Manual and self: Hip flexor, hip adductors, glute, piriformis, TFL, ITB

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Weeks 12-16 (Advanced Rehabilitation)

Criteria for progression to this level

- Full ROM
- Painfree, normal gait pattern
- Hip flexor strength 4/5 or better
- Hip abd, add, ext and IR/ER strength of 4+/5 or better
- Strength
 - Progress core, hip, LE strength and endurance
 - Lunges (multi angle)
 - Plyometric progression (Must have good control with all exercises first) -
- Forward/Backward running program (Must have good control with all exercises first)
 - Agility drills (Must have good control with all exercises first)
- Stretching
 - Progress self and manual stretches

PRECAUTIONS

- No contact activities
- No forced (aggressive) stretching

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Dr. Nelson's Gluteus Medius Repair Rehabilitation Protocol

Diagnosis:														
Procedure date:	S/P:													
	WEEK										MONTH			
	1	2	3	4	5	6	7	8	9	10	3	4	5	6
PHASE 1 EXERCISES (week 0-)														
Keep brace on, TTWB	•	•	•	•	•	•								
Upright stationary bike	•	•	•	•										
Hip isometrics			•	•										
quad sets, hamstring sets, lower abdominal activation	•	•	•	•										
PHASE 2 EXERCISES (week 4-6)														
No abduction exercises still					•	•								
Soft tissue ilioasoas, TFL, ITB, piriformis, QL, Lumbar			•	•	•	•								
Progress isometric strengthening					•	•	•	•	•	•				
Quad and hamstring isotonic exercise					•	•								
Quadruped rocking					•	•								
Stretch hip flexors (no pain)					•	•								
PHASE 3 (weeks 6-8)														
WBAT						•	•	•						
Passive hip IR, ER, AAROM abduction, adduction							•	•						
Progress core strengtening							•	•						
SLR, Prone hip extension, supine bridge							•	•						
upright bike with resistance														
PHASE 4 (weeks 8-10) continue previous plus														
A/PROM all directions									•	•				
Hip abduction Isometrics to isotonics									•	•				
Progress LE and core strength and endurance									•	•				
proprioception/balance activity (2->1 Leg, stable to unstable)									•	•				
leg press, side stepping, beginning closed chain strength wobble board, balance/traps, single leg stance									•	•				
PHASE 5 (weeks 10-12) continue previous plus														
Hip Pres and hip machine												•		
Unilateral leg press												•		
hip hiking												•		
Eccentric step down												•		
side stepping (no resistance-theraband at 12 week)												•		
Progress balance and proprioception												•		
May initiate advance rehab once full ROM, pain free gait Hip flexor 4/5													•	•
														•
Return to play typically 5-6 months														
Call or email Dr. Nelson with any concern														•
Additional Instructions:														

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