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Gluteus Medius Repair/Trochanteric Bursectomy

Conservative Rehab Protocol

Frequency of PT: 2x week for the first 1-2 weeks to establish HEP and then 1x per week for weeks 2-12 for ROM and manual tx. At 12 weeks resume 2x per week for strengthening

Phase 1 (Weeks 0-6) Max protection phase; post op until cleared to begin WB progression by MD

Goals	• Protection of tendon repair, conservative vs accelerated protocol per MD • Pain and edema control • Normalize gait pattern while using brace; crutches • Begin to normalize regional muscle activation; range of motion
Precautions	• Weight Bearing (WB): 50% WB x6 weeks • NO active abduction/internal rotation x6 weeks • NO passive external rotation, adduction past neutral x6 weeks • Brace worn when out of bed • Monitor for symptoms of hip flexor tendinitis, synovitis • Monitor for symptoms or history pelvic floor dysfunction ○ *Increased urinary frequency (>once/2 hours daily), stress or urge incontinence, buttock/coccygeal/ischial tuberosity pain that does not improve with standard orthopedic physical therapy approach*

ROM/Manual Therapy	• Pain free physical therapist (PT) and partner assisted PROM
	  ○ Flexion limited to 90 degrees, abduction to tolerance
	  ○ NO active abduction; internal rotation (IR)
	  ○ NO passive ER, adduction past neutral to not stress the repair
	• Scar tissue, surgical incision management to prevent adhesions
	• Retrograde massage, regional soft tissue mobilization as needed
	• Prone lumbar mobilizations as needed

Motor Control/ Neuromuscular Re-education	• 0-4 weeks
	  ○ Pelvic tilts, hamstring/adduction isometrics, diaphragmatic breathing
	  ○ Gluteus maximus progression in prone, supine (glute squeezes)
	  ○ At 2 weeks: initiate ER/extension/Adduction isos at 50% max effort (supine or HL)
	  ○ MUST be pain free at surgical site
	• 5-6 weeks
	  ○ Initiate supine marching progression if patient has no history of hip flexor tendinitis
	  ○ MUST be pain free at surgical site

Therapeutic Exercise	• Week 2-3 upright stationary bike within range of motion limitations x20 min daily ○ Patients may complete this training 2x daily if tolerable • Prone lying if required for hip flexor lengthening
Criteria for progression	• Normalized gait pattern within WB precautions, with AD • Pain free PROM within limitations of the protocol

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Phase 2 (Weeks 6-10) Basic activation and motor control phase

Goals	• Successfully wean from assistive devices, brace • Pain free ADL function; normalized DL tasks in small range • Full passive ROM
Precautions	• Continue to monitor for symptoms of hip flexor tendinitis, trochanteric pain, synovitis, or pelvic floor dysfunction • Monitor for increased pain with ADLs, regress as indicated • NO single leg strength/high level impact act this time

Weight Bearing Progression	• Will take at least 10-14 days, progress per pain tolerance/soreness rules
	• Pool walking highly encouraged, no side stepping!
	• Weight shifting for increased load on operative leg
	• After 6 weeks, progress to WBAT with assistive device and 1 crutch for short distances. After 1-2 weeks progress to 1 crutch in public, none at home. After another 5-7 days, FWB in all settings
	  ○ Please leave this up to your discretion as the treating therapist
	  ○ Based on patient tolerance vs timelines at this point!

ROM/Manual Therapy	• Progress PROM as tolerated • Add passive hip ER/IR. Avoid extreme combined ROM or pain • Continue with scar tissue/soft tissue mobilization as indicated • Begin joint mobilizations of the hip as indicated ○ i.e. Hip inferior/lateral mobilizations, prone PA mobilizations

Motor Control/ Neuromuscular Re-education	• Quadruped and tall kneeling rhythmic stabilization of hip deep rotators, core musculature
	• Continue with light lumbopelvic strengthening
	• Continue with hip flexor progression per patient tolerance (see appendix)
	• Kneeling front planks
	  ○ NO side planks at this time due to high levels of gluteus medius activation
	• 8 Weeks: Prone rhythmic stabilization for ER/IR, beginning at 25% max effort
	  ○ Patient is prone with knee bent to 90 degrees, manual cues for IR/ER applied at ankle
	• 8 Weeks: Hooklying BKFO no resistance
	• Double leg balance tasks (i.e. Balance board tasks), split stance balance tasks
	  ○ NO single leg, tandem stance at this time due to high levels of gluteus medius activation/demand
	• Week 10: begin gluteus medius isometrics with 10% MVC. Must be Pain free!
	  ○ Begin in hooklying positions before completed against gravity

Therapeutic Exercise	• 6 weeks: quadruped rocking exercises • Continued cardiovascular program via biking, initiate pool walking as indicated • Standing hip flexion/extension, calf raises, HS curls with operative limb moving only (not standing on operative limb)
Criteria for progression	• Pain free, symmetrical passive range of motion and joint mobility • Normalized gait pattern without assistive devices, no pain or Trendelenberg gait pattern • Pain free performance of ADLs

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Phase 3 (Weeks 10-14) Beginning strength phase

Goals	• Continue to progress lumbopelvic and gluteal strength without pain • Increase tolerance to strength and endurance based tasks
Precautions	• Continue to monitor for symptoms of hip flexor tendinitis, trochanteric pain, synovitis, or pelvic floor dysfunction • NO single leg strength/high level impact act this time
Manual Therapy	• Achieve and maintain full, multiplanar range of motion and lumbopelvic joint mobility ○ Joint mobilizations, soft tissue mobilizations, dry needling as needed/determined by physical therapist • Consider consult with pelvic floor therapist if indicated

Motor Control/ Neuromuscular Re-education	• Continue with gluteus medius isometrics
	  ○ Week 12+ progress to standing gluteal isometrics in small range, standing on non-operative limb
	• Continue with double leg and tandem balance and strength tasks, progressing to kickstand positions at week 12. Must be pain free!
	  ○ Week 12+ double leg hip hinges progressing to kickstand deadlift positions

Therapeutic Exercise	• Cardiovascular training: continue biking for cardiovascular training
	• Continue with core progression as indicated, please continue to hold on side planks due to repair size
	• Continue with quadruped birddogs, add single leg bridges
	• Week 12+ Leg press or double leg squats within tolerance
	  ○ Smaller range squats will have less demand on gluteus medius, begin with ¼ to ½ depth and progress over the course of 2-3 weeks (higher surface sit to stand)
	• Week 12+ forward step ups, progressing to lateral step ups at week 14+
	• Week 12+ supine clamshell w/ light resistance
	• Week 14+ multi-angle clams
	  ○ Start at 90 deg hip flex and decrease angle (increase hip ext) as able for increase glute med bias

Criteria for progression	• Walk 1 mile without insertional pain, Trendelenberg gait pattern • Complete all strength training tasks without pain

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Phase 4 (Week 14-20): Continued Strengthening to Progressive Overload

Goals	• Continue to build strength, progressing into single leg positions
Precautions	• Continue to monitor for symptoms of hip flexor tendinitis, trochanteric pain, synovitis, or pelvic floor dysfunction • NO plyometric tasks without passive testing as listed
Manual Therapy	• Maintain full, multiplanar range of motion and lumbopelvic joint mobility ○ Joint mobilizations, soft tissue mobilizations, dry needling as needed/determined by physical therapist
Therapeutic exercise Neuromuscular Re-education	• Progressive hip ROM and stretching as indicated • Progressive LE and core strengthening ○ Initiate hip hikes in small range at weeks 16+. This is a higher demand gluteus medius exercise and must be pain free! • Week 16+: begin kneeling planks if indicated • Week 16-18: standing hip abduction (bilateral) • Week 20+ side steps no resistance, progressing to resisted • Increase dynamic balance demand as tolerated • Cardiovascular training: begin elliptical as tolerated/desired
Criteria for progression	• Pass step down test (see appendix) with <2 errors

Phase 5 (Week 20+): Continued, high level strength training progressing to discharge

Goals	• Continue to build strength in single leg positions • Initiate running progression if this is a goal
Precautions	• Continue to monitor for symptoms of hip flexor tendinitis, trochanteric pain, etc
Manual Therapy	• Maintain full, multiplanar range of motion and lumbopelvic joint mobility
Therapeutic exercise Neuromuscular Re-education	• Continue single limb strengthening • Increase dynamic balance demand as tolerated • Cardiovascular training: begin running once patient passes y-balance/step down tests

Criteria for progression	• Criteria for discharge
	  ○ Pass y-balance test
	  ○ Return to high level tasks per patient goals without pain

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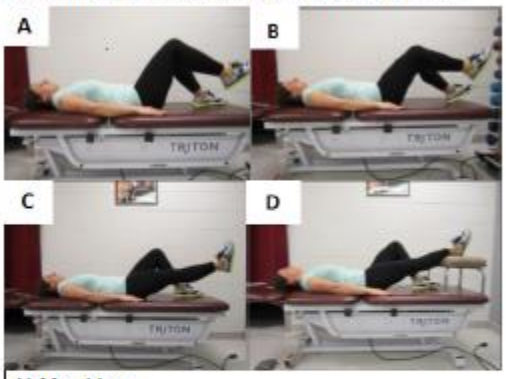
Appendix

Psoas progression/marching progression

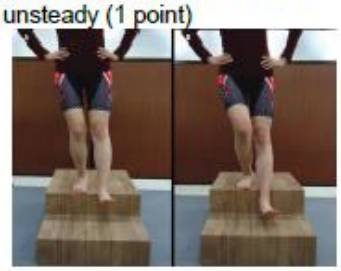
Clinicians may choose either of the two iliopsoas strengthening progressions based on clinician/patient preference. All exercises are performed with simultaneous abdominal drawing in maneuver and lumbar spine in neutral alignment.



A) Supine short-lever hip flexion	A) Marching
B) Seated hip flexion	B) Walk Out
C) Seated hip flexion on Swiss ball	C) Heel Slide
D) Standing hip flexion with theraband resistance	D) Heel Slide with SLR
Tyler TF, Fukunaga T, Gellert J. Rehabilitation of soft tissue injuries of the hip and pelvis. *Int J Sports Phys Ther*. 2014;9(6):785-797.	Dewitt, JD. Non-surgical/post-op management. Presented at: APTA's NEXT Conference & Exposition; June 5, 2015; National Harbor, MD.

Forward Step Down Test

Definition of errors	Interpretation of errors	
Arm strategy: subject uses an arm strategy in an attempt to recover balance (1 point) **Trunk movement:** trunk leans right or left (1 point) **Pelvic plane:** pelvis rotates or elevates on one side compared to the other (1 point) **Knee position:** knee deviates medially and the tibial tuberosity crosses an imaginary vertical line over 2nd toe (1 point); knee deviates medially and the tibial tuberosity crosses an imaginary vertical line over medial boarder of the foot (2 points) **Balance:** subject steps down on the uninvolved side or the subject's tested leg becomes unsteady (1 point)	0-1 errors	Good quality mechanics
	2-3 errors	Medium quality mechanics
	4+ errors	Poor quality mechanics



Park K, Cynn H, Choung S. Musculoskeletal predictors of movement quality for the forward step-down test in asymptomatic women. *J Orthop Sports Phys Ther*. 2013;43(7):504-510.