Proximal Hamstring Repair

Weeks 1-4	Weeks 4-6
Initial Evaluation	**Evaluate**
➢ History of injury/Premorbid activity level ➢ Evaluate incisional integrity and inspect for signs of infection/DVT ➢ Gait assessment (patient typically presents in custom fitted hip orthosis that restricts hip flexion) ➢ Establish patient goals and assess RTW and sport expectations ➢ TTWB x2 weeks, 25% x2 weeks, then WBAT per MD ➢ Encourage ice x 10 minutes PRN ➢ Assess foot, ankle, and knee biomechanics	➢ Compliance with post-op precautions ➢ ROM (avoid terminal ranges) ➢ Evaluate pain ➢ PROM ➢ Review ADL/work tolerance and return to work plans
Patient Education	**Patient Education**
➢ Compliance with post-op PRECAUTIONS: • Reinforce use of brace and assistive device • Avoid NSAID's and support physician prescribed meds ➢ Reinforce weight bearing guidelines (TTWB x2 wks, 25% x2 wks, min to no hip flexion and no hamstring activity x6 wks) ➢ Discuss frequency and duration of treatment (2-3x wk for first 10 wks, followed by intermittent appointments over another 3-4 months) ➢ Donning/doffing brace PRN ➢ Review ADLs with brace	➢ Continued compliance with post-op precautions • Restate surgical precautions and discuss scenarios that may cause re-injury • Continue to avoid end range hip flexion ➢ Reinforce use of brace ➢ Begin WBAT and wean from crutches as appropriate
Therapeutic Exercise*	**Therapeutic Exercise***
➢ Review and update pre-op HEP • Isometric Quad sets, ankle pumps, isometric glute sets ➢ Lumbopelvic stabilization exercises ➢ Isometric hip abduction and adduction exercises ➢ Ankle strengthening ➢ Passive calf stretching (maintain neutral hip) ➢ Mobility training with AD, suggest shortened stride length to limit hip flexion/hamstring lengthening ➢ May initiate heel raises and weight shifting activities as tolerated ➢ AVOID heel slide/hamstring activity x6 wks ➢ Aquatics are not advised in this phase	➢ Begin gentle AAROM and AROM at week 4 ➢ Initiate AAKE, AROM SLR, side lying hip ABD/ADD ➢ Progress lumbopelvic stabilization exercises to standing using PNF patterns with weights and therabands ➢ Initiate single and double leg static balance, weight shifting, and proprioception exercises ➢ Multi angle sub-maximal isometrics (pain free) ➢ Aquatics are not advised in this phase
Manual Techniques	**Manual Techniques**
➢ PROM hip and knee ➢ Soft tissue mobilization of incision and associated tissue when healing is appropriate. ➢ Patellar mobilizations	➢ May continue PROM of hip and knee as needed. ➢ May continue soft tissue and incisional mobilization as needed. ➢ May continue patellar mobilization as needed.
Modalities	**Modalities**
➢ NMES/IFC ➢ Ice	➢ Modalities may be used as needed
Goals	**Goals**
➢ Minimize swelling and pain ➢ Understand post-op precautions and weight bearing status ➢ Independence with HEP	➢ Minimize swelling and pain ➢ Continued independence with HEP ➢ Improve gait on flat surfaces wearing brace ➢ Restore full PROM

* Exercises within each category are to provide the clinician with examples based on evidence based research, but are not all inclusive

Weeks 6-12	Weeks 12 to Discharge
Evaluate	**Evaluate**
➢ Ability to contract hamstring ➢ Gait assessment ➢ Evaluate Pain ➢ Evaluate active and passive ROM	➢ Address any deficits that may limit return to work or sport goals ➢ Functional movement screen
Patient Education	**Patient Education**
➢ Progress to FWB if not completed prior to 6 weeks ➢ Discharge brace at 6 weeks	➢ Emphasis on maintaining normal gait and movement patterns with functional activities ➢ Adhere to Physician recommendations regarding return to sport guidelines as appropriate o Return to sport expected at 6-7 months
Therapeutic Exercise*	**Therapeutic Exercise***
6 weeks ➢ Initiate stationary bike with no resistance ➢ Add active hip extension and hamstring curl with no resistance ➢ Progress lumbopelvic stabilization with modified plank and side planks progressing as able ➢ Initiate double leg bridging with progression to single leg ➢ May initiate Aquatic Therapy with a focus on CKC activities 8 weeks ➢ Begin isotonic exercises/activities ➢ Progress CKC activates to include partial assisted squat and leg press 10+ weeks ➢ Progress to single leg, step ups, and partial lunges ➢ Initiate light jogging in the pool	➢ May initiate CFA program ➢ Consider use of dynamic warm-up prior to activity ➢ Initiate sports specific drills/activities ➢ Initiate jogging no sooner than 12 wks with appropriate strength/movement testing, and Physician approval ➢ Progress plyometrics, agility, and multiplane activities as appropriate
Manual Techniques	**Manual Techniques**
➢ Any manual techniques needed	➢ Any manual techniques needed
Modalities	**Modalities**
➢ Modalities may be used as needed	➢ Modalities may be used as needed
Goals	**Goals**
➢ Eliminate pain with normal daily activities ➢ Restore normal gait on all surfaces ➢ Normal AROM ➢ 4+ MMT of all involved musculature by 8-10 weeks ➢ Continued independence with HEP	➢ 5/5 MMT of all involved musculature ➢ Appropriate completion of functional movement screen ➢ Return to work and sport activities without pain ➢ Discharge to independent HEP and/or gym program
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References

1. Askling CM, Koulouris G, Saartok T, Werner S, Best TM. Total proximal hamstring ruptures: clinical and MRI aspects including guidelines for postoperative rehabilitation. Knee Surg Sports Traumatol Arthrosc. 2012; 21(3):515-33. doi: 10.1007/s00167-012-2311-0.
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3. Degen RM. Proximal Hamstring Injuries: Management of Tendinopathy and Avulsion Injuries. Curr Rev Musculoskelet Med. 2019;12(2):138–146. doi:10.1007/s12178-019-09541-x.
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5. Lightsey HM, Kantrowitz DE, Swindell HW, Trofa DP, Ahmad CS, Lynch TS. Variability of United States Online Rehabilitation Protocols for Proximal Hamstring Tendon Repair. Orthop J Sports Med. 2018; 6(2): 2325967118755116. doi:10.1177/2325967118755116.