

HIP PROXIMAL HAMSTRING REPAIR POST-OPERATIVE GUIDELINES

The following Hip Proximal Hamstring Repair Post-Operative Guidelines were developed by HSS Rehabilitation. Progression is both criteria-based and patient specific. Phases and time frames are designed to give the clinician a general sense of progression but do not replace clinical judgement.

These guidelines are divided into five phases and balance healing of repaired tissue with restoration of motion, muscular balance, stability and biomechanics for a return to a patient's desired activities. Special attention is given to avoid gait deviations and irritation of surrounding soft tissues during daily activities and physical therapy exercises. The underlying etiology should be closely examined and addressed during the rehabilitation process to improve patient outcomes.

FOLLOW PHYSICIAN'S MODIFICATIONS AS PRESCRIBED.

HIP PROXIMAL HAMSTRING REPAIR POST-OPERATIVE GUIDELINES

Post-Operative Phase 1: Day 1 – Week 6

PRECAUTIONS

- Toe touch weight-bearing (TTWB), 20 pounds, with assistive device (AD)
- No active hamstring contraction
- Knee brace locked at 30°
- No hip flexion >60°
- No active knee flexion against gravity
 - Knee extension limited arc of motion 0-30° supine
- Incision and scar care
- Patient and family education

ASSESSMENT

- Lower Extremity Functional Scale (LEFS)
- Numeric Pain Rating Scale (NPRS)
- Screen for red flags
- Wound and sutures
- Neurological status (global and local to surgical site)
- Bed mobility and transfers
- Activity level and tolerance
- Brace compliance
- Weight-bearing (WB) status
- Gait assessment
- Precaution awareness

TREATMENT RECOMMENDATIONS

- Formal outpatient physical therapy (PT) to start at 6 weeks post-operatively, MD directed
- Continue instructions from hospital at discharge
- Knee brace (at all times)
 - Locked at 30° knee flexion
 - Can sit with knee flexed at 90°
 - Cast cover for showering

- Bed positioning
 - Pillow under knee to support knee at 30° flexion
 - Follow surgeon's recommendations regarding sleeping position
- Home exercise program (HEP)
 - Ankle pumps
 - Short arc quadriceps (SAQ)
 - Avoid quadriceps sets due to knee range of motion (ROM) restrictions
 - Posterior pelvic tilt
- Gait training with appropriate AD
 - TTWB surgical leg
- Cryotherapy recommended for edema and pain control

CRITERIA FOR ADVANCEMENT

- MD clearance at 6 weeks post-operative appointment
- Discharge brace as per surgeon clearance
- WB progression with AD as per surgeon clearance
- Outpatient PT initiated at week 6

EMPHASIZE

- Maintain WB precautions
- Tissue healing and protection
- Incision care and scar management
- Patient education and expectations

HIP PROXIMAL HAMSTRING REPAIR POST-OPERATIVE GUIDELINES

Post-Operative Phase 2: Weeks 7-12

PRECAUTIONS

- No isolated hamstring strengthening
- No hamstring stretching

ASSESSMENT

- LEFS
- NPRS
- Screen for red flags
- Wound and sutures
- Neurological status (global and local to surgical site)
- Bed mobility and transfers
- Activity level and tolerance
- Brace compliance
- WB status
- Gait assessment
- Passive range of motion (PROM) and active range of motion (AROM), as appropriate
- Lower extremity (LE) flexibility, as appropriate
- Manual muscle test (MMT), as appropriate
- Precaution awareness

TREATMENT RECOMMENDATIONS

- Gait training
 - Progression to weight-bearing as tolerated
 - Week 7: 50% WB
 - Week 8: 75% WB
 - Week 9: 100% WB
 - Weaning of AD
- Manual therapy
 - Scar mobilization
 - Soft tissue mobilization to hip as needed

- Manual and self LE stretching in supine and standing
 - Hip flexor
 - Hip adductor
- Gentle quadruped rocking
- Weight shifting
- Balance
 - Bilateral LE → single LE
 - Different surfaces as tolerated
- Bilateral LE heel raises
- Mini squats
 - 0°-45° hip flexion
- Isometric hip abduction, hip adduction and external rotation
- Gluteus medius strengthening
 - Clamshell
 - Active ROM→resistance, as tolerated
 - Side-lying hip abduction
 - Active ROM→resistance, as tolerated
- SAQ → Straight leg raise
 - Short lever arm to long lever arm
 - Progress with weight as tolerated
- Prone core and gluteal firing sequence
- Stationary bicycle for ROM (~8 weeks)
- Hamstring isometrics in supine
- May begin active knee flexion against gravity in prone (~10 to 12 weeks)
- Core strengthening
 - Hooklying core strengthening with upper extremity (UE) movement
 - Isometric bent knee fall out in hooklying
 - Active ROM→resistance, as tolerated
 - Marching LE in hooklying
 - Standing core strengthening
 - Modified side plank (~10 to 12 weeks)
- Activities of daily living (ADL) training and activity modification
 - Sit to stand
 - Ergonomics

CRITERIA FOR ADVANCEMENT

- Compliance with self-care, home management and activity modification
- Normalized gait pattern
- ROM hip (except extension) within normal limits (WNL)
- Increased activity without pain
- Single limb stance (SLS) ~ 10 seconds without compensation
- Perform sit to stand with minimal use of UE support

EMPHASIZE

- Normalize gait pattern
- Maintain WB precautions
- Restoration of ADLs
- Progress ROM
- Progress LE and core strengthening
- Patient education

HIP PROXIMAL HAMSTRING REPAIR POST-OPERATIVE GUIDELINES

Post-Operative Phase 3: Weeks 13-24

PRECAUTIONS

- No increase in symptoms during progressions
- No sport specific or impact activity

ASSESSMENT

- LEFS
- NPRS
- Screen for red flags
- Neurological status (global and local to surgical site)
- Activity level and tolerance
- PROM and AROM
- LE flexibility
- MMT
- Functional testing
- Precaution awareness

TREATMENT RECOMMENDATIONS

- Continue previous phase treatments as needed
- Manual therapy
 - Scar mobilization
 - Soft tissue to hip as needed
 - Manual eccentric training in prone
 - Manual resistance exercises
 - Soft tissue techniques
- LE Stretching
 - Gentle hamstrings, hip flexors, adductors, piriformis/glutes
 - Manual and self-stretching
- Hamstring strengthening
 - Hamstring curls in standing with hip in neutral position
 - Increase resistance with emphasis on high repetitions and high frequency

- Standing hip progressive resistance exercises, with consideration to surgical LE
 - Open kinetic chain
 - Closed kinetic chain
- Squats and leg press progression
 - Mini to full
 - Bilateral LE → Single LE
 - Concentric strengthening
 - Eccentric strengthening
- Step down
 - 4" → 6" → 8"
- Side stepping
 - Resistance band at knees (short lever) □ ankles (long lever)
 - Clocks
- Gluteal bridges
 - Bilateral LE → Single LE
- Hip hiking
- Front plank after improved stability on side plank
 - Knees (short lever) → feet (long lever)
- Dynamic core progressions
 - Modified side and front plank continued from previous phase
 - Long lever planks
 - UE on stability ball or half-moon stability ball
- Bilateral cable column rotations
 - Pallof press
- Step up
 - 4" → 6"
- Balance and proprioception
 - Continue from previous phase
 - Bilateral LE and single LE
 - Balance board
- Dynamic balance progressions
 - Ball toss
 - Unstable surface
 - Dual task balance interventions
- Light bilateral LE agility may begin in preparation for next phase (~20 weeks)
 - Hopping side to side, forward and backwards

CRITERIA FOR ADVANCEMENT

- Perform sit to stand without UE assist
- Descend 6"-8" step with good eccentric control
- SLS > 20 sec without trunk or hip deviations
- Ascend 6" step without assistance
- Pain free or manageable discomfort with activity progression
- Pain free ADLs

EMPHASIZE

- Hamstring strengthening
- Hamstring stretching
- Progress ROM
- Progress LE and core strengthening
- Patient education
- Unrestricted ADLs at home and work

HIP PROXIMAL HAMSTRING REPAIR POST-OPERATIVE GUIDELINES

Post-Operative Phase 4: Weeks 25-36

PRECAUTIONS

- No increase in discomfort with increasing activity

ASSESSMENT

- LEFS
- NPRS
- Screen for red flags
- Neurological status (global and local to surgical site)
- Activity level and tolerance
- PROM and AROM
- LE flexibility
- MMT
- Functional testing
- Return to sport testing (RTS), as appropriate
- Precaution awareness

TREATMENT RECOMMENDATIONS

- Continue previous phase treatments as needed
 - Advanced proprioceptive training
 - Dynamic hamstring interventions
 - Stability ball hamstring curls
 - Bilateral LE → single LE
- Romanian deadlift
 - Bilateral LE → single LE
 - With and without UE movement
 - With and without weight
- Low level agility
 - Jump rope
 - Agility ladder
 - Lunges in multiple directions
 - Bilateral and single LE hopping and movements

- Light jogging progression
 - Antigravity treadmill, if available
 - Intervals of walk/jog on treadmill or outdoors
- Dynamic core progressions
 - UE or LE on stability ball or half-moon stability ball
 - Lateral and front
- Manual therapy
 - Stretching and soft tissue as needed
 - Eccentric training in prone
- Sports specific and multiplanar activity (as tolerated)
 - Forward and lateral bounding
 - Bilateral and single LE
 - Cutting and pivoting
 - Forward and backwards skips
 - Plyometrics
 - Squat jumps
 - Box jumps
 - A and B skips
 - Split jumps
 - Hill running

CRITERIA FOR ADVANCEMENT

- Pain free/manageable level of discomfort
- Unrestricted ADLs
- MMT within 10% of uninvolved LE
- Full PROM and AROM
- Functional Testing
- Varies for each patient
- Sport specific testing
 - Star Excursion Test
 - Hop testing
 - Objective strength testing (handheld dynamometer)
 - Movement and agility testing

EMPHASIZE

- Completion of functional program prior to RTS
- Progressive LE and core strengthening and flexibility
- Endurance training
- Advanced balance activities
- Advanced core exercises
- Reassess each month
 - Modify any of your treatment interventions
- Posterior chain loading
- Increasing dynamic movements, agility, plyometrics and running with proper form and mechanics

HIP PROXIMAL HAMSTRING REPAIR POST-OPERATIVE GUIDELINES

Post-Operative Phase 5: Weeks 37-52 (Return to Sport)

PRECAUTIONS

- No increase in pain with sport specific activity
- Monitor for fatigue

ASSESSMENT

- LEFS
- NPRS
- Screen for red flags
- Neurological status (global and local to surgical site)
- Activity level and tolerance
- PROM and AROM
- LE flexibility
- MMT
- Objective strength testing (e.g. hand-held dynamometer)
- Functional testing
- RTS
- Precaution awareness

TREATMENT RECOMMENDATIONS

- Continue treatment from previous phases
- Initiate and progress through interval sports programs

CRITERIA FOR ADVANCEMENT

- Completion of interval sports programs with no increase in pain or fatigue

EMPHASIZE

- Progress through interval sport program
- Proper mechanics with sports activity
- Endurance training and power development

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References

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