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SPORTS MEDICINE ORTHOPEDIC SURGEON

## **Proximal Hamstring Repair Rehab Program**

### Precautions:

- No forceful passive hip flexion or knee extension for 4-6 weeks (no passive hamstring stretch).
- No active hamstring contraction for 4-6 weeks.
- No resisted hamstring exercise for 6-8 weeks.
- NWB for 6-8 weeks.
- Wear brace for 6-8 weeks. (MD will determine when to D/C brace)
- Keep wound dry and clean until stitches are removed at 2 weeks post-op.
- Use raised toilet seat for 2-3 weeks.
- Lie on uninvolved side for sitting and when in car.
- Sleep on side with brace on, knee flexed to 90° and pillows between knees.

### 0-1 Weeks Post-Op (Day 1- Day 7):

- NWB on crutches
- Brace fixed with hip in neutral and knee flexed to 90°.
- Wound should be cleaned and inspected for infection daily.

#### -Ankle Pumps

- Side-lying passive knee flexion from 90° to 110° with hip in neutral flexion
- Side-lying passive abduction/adduction with knee flexed to 110° and hip flexed to 45°
- Side-lying passive hip flexion from neutral to 60° max with knee flexed to 120°
- Supine passive hip flexion from neutral to 60° with knee flexed to 120°
- Prone passive hip IR/ER with knee flexed to 90°
- Use of scooter as per MD orders (usually get scooter at 1 week-10 days post-op)
- Ice and stim

### 1-2 Weeks Post-Op (8-14 days post-op):

- Use of scooter as per MD orders,
- Brace fixed with hip in neutral and knee flexed to 90°.
- Wound should be cleaned and inspected for infection daily.
- Stitches are removed at the end of 2 weeks if the wound is closed.

- Side-lying passive hip flexion to 90° with knee flexed to 120°
- Side-lying active assistive hip abduction with knee flexed to 90°
- Side-lying active hip abduction with leg supported and knee flexed to 90°
- Supine passive hip flexion to 90° with knee flexed to 120°
- Supine passive knee flexion in prone with hip in neutral
- Supine passive knee extension with hip flexed to 25-30°
- Supine active assistive knee extension with hip flexed to 25-30°
- Supine active knee extension with hip flexed to 25-30°
- Supine SLR hip flexion at 0-30°
- Supine active hip abduction/adduction with knee flexed to 110° and hip flexion to 45°

- Supine active hip flexion from 40-70° with knee flexed to 90°
- Prone or side-lying isometric knee extension with knee flexed to between 90-100°
- Prone or side-lying gluteal set

#### 2-3 Weeks Post-Op (15-21 days Post-op)

- Scooter with brace fixed at neutral hip and knee flexed to 45-70°.
  - Hamstring massage and scar mobilization may begin with wound closure.
- Weight shift of 25% towards affected side if patient has full knee extension with hip in neutral
  - Side-lying active hip abduction with knee extended (no active hamstring contraction)
  - Supine passive knee extension with hip flexed from 40-60°
  - Supine manually resisted hip abduction with hip flexed to 45° and knee flexed to 110°
  - Supine manually resisted hip flexion from 40-70° with knee flexion to 90°
  - Resisted SAQ with hip flexed to 25-30°
  - Prone active assistive hip IR/ER with hip in neutral

#### 3-4 Weeks Post-Op (22-28 days post-op)

- Scooter with brace fixed at neutral hip and knee flexed from 30-45°.
- Weight shift of 25-50% towards affected side if patient has full knee exten. with hip neutral
  - Side-lying resisted hip abduction with knee extended (no active hamstring contraction)
  - Supine manually resisted hip abduction with hip in neutral and knee fully extended
  - Gentle Supine passive hip adductor stretch with knee fully extended
  - Gentle Supine passive hamstring stretch (to 60-80° of hip flexion)
  - Prone active hip IR/ER with knee flexed to 90°
  - Prone passive quad stretch

#### 4-6 Weeks Post-Op

- Scooter with brace fixed at neutral hip and knee flexed from 10-20°.

#### 4-5 Weeks Post-Op

- Weight shift of 75% at 4 wks. post-op towards affected side
- Supine manually resisted hip adduction with hip flexed to 45° and knee flexed to 110°
- Seated resisted FAQ

#### 5-6 Weeks Post-Op

- Weight shift 100% at 5 wks. post-op towards affected side
- Supine manually resisted hip adduction with hip in neutral and knee fully extended
- Prone active knee flexion with hip in neutral
- Supine passive hamstring stretch to 80-90° of hip flexion

#### 6-8 Weeks Post-Op

- Scooter and brace discontinued at the beginning of Week 6.
- Begin with WB on two crutches and progress to WBAT without crutches.
- Two legged Bridge
- Lateral Step-up-begin with 2" and gradually increase by 2" increments to 4-6-8"
- Front Step-up and gradually increase by 2" increments to 4-6-8"
- One Leg Balance on Airex

- Bike (put seat high so patient doesn't get excessive hip flexion)
- Week 8-Standing resisted hamstring curl with hip in neutral or Prone resisted knee flexion with hip in neutral
- Prone manually resisted hip IR/ER with hip in neutral and knee flexed to 90°

#### 8-10 Weeks Post-Op (Gradual increase of resistance on hamstring tendon)

- Leg Extension Machine
- Step-Down
- 4 Way hip with bands
- Physioball two legged wall squat
- Walking on Treadmill
- Multi-Hip Machine-Hip Abduction
- Multi-Hip Machine-Hip Flexion
- Long Sit Hamstring Stretch
- Active knee extension at 90-90 for hamstring stretch
- Piriformis Stretch
- Physioball bridge: two legs with knees extended
- Physioball bridge: one leg with knees extended
- Active Fast Claw Exercise
- Multi-Hip Machine Extension
- Multi-Hip Machine Adduction
- Butterfly adductor stretch with soles of feet together
- EFX

#### 10-12 Weeks Post-Op

- Fast Walk
- Hamstring Curl Machine: Two legs
- Contract Relax Hamstring Stretch
- Hamstring Rope Stretch with knee in full extension
- Leg Press Machine: Two legs
- Jog on Treadmill
- Resisted Fast Claw with Band
- Leg Press Machine: One Leg
- Stairmaster
- Hamstring Curl Machine: One Leg
- Lateral Walk with band around ankle
- Monster Walk with band around ankle
- BOSU ball catching-ball in all directions
- Physioball leg curl: Two legs
  - Physioball wall squat: One Leg
- Lunges-begin with partial ranges and progress to full lunges as tolerated
- Isokinetics- Concentric/Concentric-begin with high speed, progress to medium and slower speeds as tolerated

#### **CRITERIA TO START PLYOMETRIC/RUNNING/AGILITY PROGRAM**

- Land with good control and correct form on mat jumps
- MMT at least 5/5, ROM equal to uninvolved side or at least 0-125

- Normal gait pattern at least 20 minutes without symptoms
- Leg Press test within 75-80% of contralateral LE
- Hamstring and quadricep strength 70 % of the involved side isokinetically,
- Lateral step test within 75-80% of contralateral LE
- No pain, crepitus, edema or giving way
- Clearance from MD

#### 12-14 weeks

- Lateral Shuffle
- Carioca
- Sport Cord Running-Forward, Laterally, Backward
- Physioball Leg Curl-One Leg
- Single Leg Body weight squat
- Standing Touch drill
- Fast Feet
- Agility Ladder Drills
- Figure 8
- Butt Kicks
- Skipping
- High Knee Run
- Jog/Sprint on Treadmill
- Walking Lunges
- 2 Leg Deadlifts with DB

#### 14-16 weeks

- Standing One Leg Deadlift with MB
- Bunny Hop
- Alternate Leg Forward and back over line
- Step Stool Touch Drill
- 2 Leg Line Jump (forward, backwards, sideways, diagonal)
- Power Skip
- Forward Run over small green hurdles
- Lateral Run over small green hurdles
- High Knee Crossover Run
- Heidens
- Zig Zag Through cones
- 1/2 Foam roller star drill
- Airex 1 leg take off/land on one foot
- 3 Way Lunge Matrix
- Isokinetics Concentric/Eccentric

#### 16+ Weeks Post-Op

- 2 Leg Jump over Cone-Forward and lateral
- Lazy W-Forward and back pedaling
- T-Drill
- One Leg Hop and stick landing
- 2 Leg Tuck Jumps in Place
- Skipping into one leg power vertical

- Split squat jumps in place
- 1 Leg Deadlift with Medicine Ball
- Sprint 50%, gradually progress to 75%, 90% and 100% as tolerated
- 1 Leg Line Jump (forward, backward, lateral)
- Bounding
- One Leg 3 Consecutive Hops for Distance

### **CRITERIA TO RETURN TO SPORTS**

- Completion of running and agility/plyometric program without symptoms with good form
- Quadriceps strength 85-90 %
- Quad torque to body weight ratio:  
Males: @180°/sec 65-75%, Females 50-60%; @ 300°/sec males 45-55, females 35-45
- Hamstring strength 85-90 %
- Hamstring to quadriceps ratio is 65%
- Good balance and proprioception
- Functional tests (single leg hop for distance, single-leg triple crossover hop, 6 meter timed hop) is 85% compared to opposite LE