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Proximal Hamstring Tendon Repair Rehab Protocol

Weeks 0-6

Goal:

- 1) Protection of the surgical repair

Precautions:

- 1) Foot Flat weight bearing with crutches for 6 weeks
- 2) Hip abduction brace x 1-2 weeks.
- 3) No active hamstring contraction
- 4) Avoid hip flexion greater than 45°
- 5) No active knee flexion against gravity
- 6) Avoid combined hip flexion with knee extension.

Durable Medical Equipment

- 1) Hip abduction brace for 1-2 weeks to be worn all the time including when you go to sleep
- 2) Crutches- Foot flat weight-bearing for 6 weeks

Exercises:

- 1) pelvic tilts (5 sec holds x 20/day)
- 2) isometrics hip abduction/adduction/external rotation (5 sec holds x 10/day)
- 3) Quadriceps sets (4 x 20 reps/day)
- 4) Ankle pumps (20-30 reps/hour)
- 5) Begin passive range of motion of the knee and hip at week 2. Do not exceed 45° of hip flexion. Keep knee flexed.
- 6) Begin gentle active range of motion of the knee and hip at week 4. Do not exceed 45° of hip flexion. No active knee flexion against gravity.

Other:

- 1) scar massage
- 2) Begin Alter-G ambulation for gait training with 50% body weight at 4-5 weeks.

Weeks 6-9

Goals:

- 1) Restoration of normal gait
- 2) Wean off of crutches.
- 3) Weight-bearing progression to full weight bearing as tolerated
- 4) Return of pain-free functional ADL

Precautions:

- 1) No hamstring strengthening exercises
- 2) No hamstring stretching exercises

Exercises:

- 1) Continue week 0-6 exercises
- 2) Alter-G ambulation for gait training. Progression as tolerated.
- 3) May begin active knee flexion against gravity (concentric)
- 4) Weight shifts
- 5) Straight leg raises
- 6) Gentle quadruped rocking
- 7) Gentle stool stretches for hip flexion and adduction
- 8) Gluteus medius strengthening is progressed to isotonic in a side-lying position (clam shells)

Weeks 9-16

Goals:

- 1) Return to unrestricted activities of daily living (ADL) at home and work
- 2) Hamstring strengthening

Exercises:

- 1) Continue week 6-9 exercises
- 2) Begin hamstring flexibility exercises
- 3) Begin hamstring strengthening exercises
 - Begin with hamstring curls strengthening exercises with the patient standing with the hip joint held in neutral position and the lower leg moving against gravity in pain-free arcs
 - Resistance is increased a pound at a time as tolerated with emphasis on high repetitions (50 reps) and high frequency (4-5 times/day)
 - When the patient is able to move through a full and pain-free knee flexion arc with 8-10 pounds of high reps, patients can transition from standing to machine hamstring curls.
- 4) Begin total leg and hip strengthening exercises:
 - Quarter squats: Begin bilaterally and progress to unilateral status
 - Heel raises: Begin bilaterally and progress to unilateral status
 - Gluteus maximus strength exercises progress from prone (heel pushes with the knee flexed at 90° to hip extension with the knee flexed at 90° to hip extension with an extended knee) to supine (bilateral to unilateral bridging)

- Gluteus medius strengthening is further progressed to the upright position (hip hiking and multi-hip machine).
 - Patients can begin unilateral knee extension and leg press activities with light resistance and increase resistance as the surgical hip tolerates.
- 5) Balance and Proprioception (Balance board → foam → dynadiscs)
 - 6) Begin Alter-G jogging at 60% BW at 3 months and progress to 100% by 4 months as tolerated.

Months 4-6

Goal:

- 1) Completion of a functional program for the patient's return to sport activity

Exercises:

- 1) Continue week 12 exercises
- 2) Perform advanced proprioceptive training
- 3) Closed kinetic chain hamstring exercises, such as advanced step downs, double to single-leg Swiss ball hamstring curls, resisted incline hip extensions, Roman dead-lifts, and half to full squat progression with progressive resistance, can gradually be introduced.
- 4) Low level plyometrics, such as jump rope, step lunges in multiple directions with progression to walking lunges, can be introduced.
- 5) Patient may continue a treadmill jogging progression
- 6) Return to sport progression at 5 months.
- 7) Return to full sports typically around 6 months.

Progression Criteria to Return to Sport

- 1) No pain with normal daily activities
- 2) Hip and knee range of motion within functional limits
- 3) Community mobility without pain
- 4) Hamstring strength is 75% of the contralateral side (concentric and eccentric)