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**PATELLAR/QUAD TENDON REPAIR**  
**PHYSICAL THERAPY PROTOCOL**

**Preoperative Guidelines**

- Restore full AROM
- Reduce edema
- Restore balance
- Restore strength
- Educate patient on:
  - Post-op exercises
  - Use of crutches (level and stairs)
  - Post-op **precautions**: importance of extension, bed positioning, brace (locked at 0 degrees for ambulation), avoid active quads exercises 1<sup>st</sup> 6 weeks, avoid flexion > 90 degrees, monitor swelling

**Note: Exercise prescription is dependent upon the tissue healing process and individual functional readiness in *all* stages. If any concerns or complications arise regarding the progress of any patient, physical therapy will contact the orthopedist.**

**Phase I (Weeks 0-6)**

- Bracing: **the surgeon will recommend what ROM the patient can begin with, then progress each week per surgeon**
- Ambulate with crutches WBAT. Ensure heel-toe gait, not flexed knee
- May d/c crutches when good quad control (normal gait, SLR x 30 no lag)
- Stair education
- Weight shifting/Well-leg Theraband (light)/easy balance activities/double BAPS with brace on
- Well leg bicycle
- Prone hangs and/or supine extension with bolster to 0 degrees extension
- Prone active knee flexion (**not to exceed 90 degrees**)
- Passive extension. **No active quad extension**
- Quad sets (e-stim. if patient unable to perform independently)
- SLR ONLY when no lag (**monitor**). May need e-stim.

- HS/gastroc/soleus stretch
- Patellar mobilization
- Begin scar massage after incision site sloughs and scar is formed
- Double leg calf raises (brace on)
- Ice after exercises

**Goals:** AROM 0-90, normal patellar mobility, proper heel-toe gait

### **Phase II (Weeks 7 to 8)**

- D/C brace when quad strength sufficient and gait is normal
- Stationary bike
- Treadmill: Forward and backward...progress for endurance
- Progress to full AROM
- Begin low resistance closed chain resisted quad exs: Leg Press/Total Gym, mini-squats, partial wall sits for time (goal: 3 minutes)
- Progress balance/proprioception activities: single leg balance, cone walking, rocker board, well leg tubing, etc.
- Single leg calf raises
- Pool walking/quad strengthening/1/2 squats/deep water jog

**Goals:** AROM 0-110 degrees, single leg balance 30 sec, normal gait

### **Phase III (Week 8-12)**

- Bike and Stairmaster/cross-trainer
- Continue treadmill progression
- ROM as needed
- Step-ups: anterior and lateral, slow and controlled
- Progress other closed chain quad exercises as tolerated: lateral step downs, leg press, etc.
- Progress proprioception/balance activities as tolerated (i.e.: one leg stance plyoback, eyes closed balancing, Fitter, etc)
- Easy jog on mini-trampoline
- Progress in pool therapy/pool running/kickboard/hopping

**Goals:** Full ROM, walk 2 miles at 15 min/mile pace

### **Phase IV (3-6 Months)**

- When jogging gait is normal, quad strength is 5/5 and can hop 10 times on affected limb without pain, begin straight-line walk/jog progression on flat surface (if cleared by physician).
- Gym program
- Begin easy plyometrics and progress proprioception/balance (BAPS, hopping, shuffles, carioca, etc, jump rope)
- Begin sports specific drills/cutting/figure 8, etc

**Goals:** Jog 2 miles at 50% normal pace without pain, edema, effusion

### **Phase V (6 Months)**

- Continue appropriate previous exercises...Home/gym program
- Agility drills/cutting/carioca/lateral shuffle/plyometrics/double hopping...progress to single
- May begin incorporating open chain strengthening as tolerated

- Quad stretch
- Continue running progression
- Progress to sports when able to perform sports-specific activities without pain or limitations (see 6 months goals below)

**4 months Goal:** Run 2 miles at comfortable pace without pain, swelling, or giving away

**6 months Goals:**

- No effusion or giving out
- Functional tests at least 90% of opposite leg to clear for sports and discharge (single leg hop and 12 meter hop for time)

***No contact sports until 6 months post-op***