

### **Quadriceps Tendon Repair Rehabilitation Protocol**

Brace locked at 0° for ambulation for 6-8 weeks with use of bilateral axillary crutches.

#### **Initial Visit:** Dressing change

- Start P.T. at 2-3 weeks
- May start WBAT with brace locked in extension
- At 2-3 weeks home E-stim unit (if needed) for quadriceps muscle re-ed.
- At 3 weeks pt can WBAT with brace locked in extension.
- At 6 weeks typically can open the brace 0-90° with ambulation with bilateral axillary crutches, unless otherwise specified.

**PRECAUTIONS:** Avoid impact loads/sudden activation (eccentric load)

#### **GOALS:**

- A/AROM 90-100° by 6 weeks, 0-110° by week 8, 0-130° by week 10, and 0-135° by week 12.

#### **Week 1-4**

No active ROM knee extension.

- PROM knee ext to 0 degrees
- AROM/AAROM knee flexion – very gently
- Gradually unlock brace for sitting as PROM knee flexion improves

#### **Exercises:**

- Ankle pumps, Patellar mobilizations, Hamstring stretch sitting, Gastroc stretch with towel, Heel slides
- Quad sets – may add E-stim for re-education at 2-3 weeks upon MD approval
- SLR all directions, active assistive flexion- start at 3rd post-op week – do not allow lag – use e-stim as needed after 2-3 weeks. If unable to achieve full extension, perform SLR in knee immobilizer

#### **Week 5:**

Gradually increase A/AAROM knee flexion

#### **Exercises:**

- Submaximal multi-angle isometrics (30-50% only), Continue knee flexion ROM – rocking chair at home, Active SLR 4 way – no weight for flexion – watch for extensor lag – increase resistance for hip abduction, adduction, and extension.

#### **Week 6-8:**

Brace – unlock for sitting to 90 degrees at 6 weeks. If quad control sufficient at 8 weeks unlock brace 0-90° for ambulation with bilateral axillary crutches and gradually open brace as ROM improves. Progress to ambulation at 8 weeks with no crutches as quadriceps strength allows. D/C crutches and brace at 8-12 weeks depending on patient's quadriceps control. Emphasize frequent ROM exercises

Goals – Gradually increase P/A/AAROM during weeks 6-8

#### **Exercises:**

- Total gym semi squats level 3-4
- Gradually increase weight on all SLR, if no lag present
- Week 6 – bike (begin with rocking and progress to full revolutions)
- Week 6 – Closed chain terminal knee extension with theraband

Note: These instructions are to serve as guidelines and are subject to Physician discretion. Actual progress may be faster or slower depending on the individual.

**Week 6-8 Continued:**

- Week 6 – SAQ (AROM)
- Week 7 – LAQ (AROM)
- Week 8 – SAQ (gradually increase resistance)
- Week 8 – LAQ (gradually increase resistance)
- Week 8 – weight shifts
- Week 8 – balance master and/or BAPS – with bilateral LE weight bearing
- Week 8 – cones

**Week 9-10:**

**Exercises:**

- Total gym level 5-6
- Bilateral leg press – concentric only – no significant load work until 12 weeks.
- Weight shift on minitramp
- Toe rises
- Treadmill – Concentrate on pattern with eccentric knee control

**Week 11-16:**

**Exercises:**

- Leg press – Gradually increase weight and begin unilateral leg press at week 12
- Wall squats
- Balance activities: unilateral stance eyes open and closed, balance master
- Standing minisquats
- Step-ups – start concentrically, 2” to start and progress as tolerated
- Week 16 – lunges
- Week 16 – stairclimber/elliptical machine

**CRITERIA TO START RUNNING PROGRAM**

- Patient is able to walk with a normal gait pattern for at least 20 minutes without symptoms and performs ADL's pain free
- ROM is equal to uninvolved side, or at least 0-125 degrees
- Hamstring and quadriceps strength is 70% of the uninvolved