

### **Patellar and Quadriceps Tendon Repair Post-op Protocol**

You will follow-up with Dr. Robertson 10 -14 days after surgery. At this office visit you will also see one of his physical therapists. At that time, they will perform an assessment, review several exercises, and help you schedule a physical therapy appointment at UTSW. Should you wish to perform therapy elsewhere, you should make arrangements to start therapy 1-3 days following this visit. This handout serves as a guideline for your rehabilitation. Depending on your injury, your restrictions and ability to do these may vary. Please call Dr. Robertson's office if you are having a problem with your knee or need clarification regarding the rehab protocol. This rehab protocol can be found at [billrobertsonmd.com](http://billrobertsonmd.com)

#### **Phase I. Maximum Protection Phase (Weeks 0 to 6)**

##### **Goals:**

- Control postoperative pain and swelling
- Gradually increase knee flexion ROM as directed by M.D.
  - Example: 0-45 at 0 to 3 wks, 45-90 at 3 to 6 wks
- Prevent quadriceps inhibition
- Independent in home program

##### **Precautions:**

- Avoid active knee extension
- Avoid ambulation without brace locked at 0°
- Avoid aggressive flexion, adhere to ROM limits

##### **Treatment Plan:**

- Cryotherapy
- Patient education on brace use (locking and unlocking, and setting dial)
- Continuous passive motion machine (home and/or clinic)
- Seated active and active assisted knee flexion exercises, passive extension
- Quadriceps reeducation (submaximal quads with NMES)
- Multi-angle quadriceps isometrics
- Patellar and scar mobilization
- Gait training -- progressive weight-bearing as tolerated with crutches with brace locked in full extension, progress to WBAT, brace locked in extension

##### **Criteria for advancement:**

- ROM 0 to 90°
- Good patellar mobility
- Ability to SLR without extensor lag
- Pain-free WBAT with brace locked at 0° of extension

## **Phase II. Moderate Protection Phase (Weeks 6-11)**

### **Goals:**

- Control forces during ambulation and ADL's
- Restored knee flexion range of motion 0 to 125°
- Normalize gait without assistive device
- Patient able to ascend 8 inch step

### **Precautions:**

- Avoid aggressive strengthening
- Avoid excessive activity that increases pain
- Avoid aggressive flexion ROM exercises

### **Treatment Plan:**

- Patient education on brace use (locking and unlocking, and setting dial)
- Gait training -- brace unlocked with flexion stop at 60° once the patient demonstrates good quad control
- Discontinue brace criteria
  - Good quad control (able to perform 20 reps of SLR without lag)
  - When cleared by surgeon
- Range of motion:
  - Week 7: 0-95/100 degrees
  - Week 8: 0-100/105 degrees
  - Week 10: 0-115 degrees
- Continue patellar mobilization
- Exercises: Gradually increase muscular strengthening
  - Initiate forward step ups
  - Straight leg raises
  - Hip abd/adduction
  - Knee extension 90-0
  - ½ squats
  - Leg press
  - Wall squats
  - Front lunges
  - Lateral lunges
  - Calf raises
  - Hamstring curls (restricted ROM)
  - Proprioception drills
  - Bicycle
  - Pool program

### **Criteria for advancement:**

- Minimal to no joint effusion
- Knee flexion ROM to at least 125°
- Normal patellar mobility
- Good lower extremity control -- no extensor lag
- Able to perform 8 inch forward step-up
- Normal symmetrical gait pattern

### **Phase III. Moderate Protection Phase (Weeks 11-16)**

#### **Goals:**

- Full knee range of motion
- Return to normal ADL's
- Improve quadriceps and lower extremity flexibility
- Patient able to descend 8 inch step

#### **Precautions:**

- Avoid pain with ADLs
- Avoid stair descent until adequate quadriceps strength and lower extremity control
- Avoid high-level sport activity until adequate ROM, muscle strength, and flexibility is achieved

#### **Treatment Plan:**

- Continue knee ROM exercises
- Advance close chain exercise program -- step program
- Advance proprioception exercises
- Advance squat program
- Agility training
- Elliptical training
- Initiate forward step down program
- Home program

#### **Criteria for advancement:**

- Full knee range of motion
- Adequate quadriceps strength and lower extremity flexibility
- Ability to descend 8 inch step with good eccentric control
- Compliance with home exercise program

### **Phase IV. Late Functional/Return to Sport (Weeks 16 to 24)**

#### **Goals:**

- Lack of apprehension with sport specific activities
- $\geq 85\%$  limb symmetry with hop test and isokinetic testing

#### **Precautions:**

- Avoid pain with ADLs
- Avoid high-level sport activity until adequate strength and surgeon clearance

#### **Treatment Plan:**

- Continue to advance lower extremity strengthening and flexibility
- Plyometric program
- Forward running
- Agility and sport specific training

#### **Criteria for discharge:**

- $\geq 85\%$  limb symmetry with hop test and isokinetic testing
- Pain-free running

- Full knee range of motion
- Lack of apprehension with sport specific movements