

# PATELLAR OR QUADRICEPS TENDON REPAIR

## Post-Operative Physical Therapy Protocol



SCAN FOR THE  
ONLINE VERSION



**Stanford**  
MEDICINE

Dear Colleague,

I appreciate your partnership in the rehabilitation of this very special patient of ours. I have instructed the patient that you will be using this protocol. My belief is that the biggest predictor of success is what the patient does at home and consistently. **They should view you not just as a therapist but as a highly educated and skilled teacher** and the patient *must* be an active participant in the rehab process.

To facilitate this, I have included a copy of the rehab protocols I would like the patient to focus on at each time point in the rehab process. Please assist me by encouraging and teaching our mutual patient their home exercises as well.

With your help and the active participation of our patient, I know we can have another fantastic knee.

Please do not hesitate to reach out directly to me and my team with any questions at any time.

Respectfully,



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|                         | WEEKS 0-2                                   | WEEKS 2-4                               | WEEKS 4-6                               | WEEKS 7-8                              | WEEKS 9-12                                   | MONTHS 3-6                                         |
|-------------------------|---------------------------------------------|-----------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------------|----------------------------------------------------|
| <b>Weight bearing</b>   | WBAT<br><i>Brace locked</i>                 | WBAT<br><i>Brace locked</i>             | WBAT<br><i>Brace locked</i>             | WBAT<br><i>Brace locked</i>            | Full<br><i>Normalize gait</i>                | Full                                               |
| <b>Range of motion</b>  | PROM 0-30°<br><i>No AAROM, AROM</i>         | PROM 0-60°<br><i>AAROM flexion only</i> | PROM 0-90°<br><i>AAROM flexion only</i> | AROM flexion<br><i>0-90°</i>           | Full<br><i>Short arc quad 0-30°</i>          | Full                                               |
| <b>Brace</b>            | Locked straight<br><i>Walking, sleeping</i> | Locked straight                         | Locked straight                         | Locked straight                        | Open, wean<br><i>SLR without lag</i>         | None                                               |
| <b>Strengthening</b>    | Quad sets<br><i>No SLR</i>                  | Quad sets<br><i>No SLR</i>              | Quad sets<br><i>No SLR</i>              | Quad<br>isometrics<br><i>Focus VMO</i> | Light closed chain<br><i>Once full ROM</i>   | Advance<br><i>Open and closed chain</i>            |
| <b>Impact and sport</b> | None                                        | None                                    | None                                    | None                                   | Bike, elliptical<br><i>Treadmill walking</i> | Pool run 17-20 wks<br><i>Land, cutting 20+ wks</i> |

*As tolerated means pain during exercise no more than 2/10 above baseline. Avoid pushing into pain.*

### WEEKS 0-2

- WBAT with the brace in full extension; discontinue crutches when comfortable.
- **Brace locked at full extension while ambulating and sleeping.**
- **PROM 0 to 30° with emphasis on full extension** (no AAROM or AROM).
- Patellar mobilization, ankle pumps.
- Quad sets with the brace locked in extension (no straight leg raises until weeks 9 to 12).

### WEEKS 2-4

- WBAT with the brace in full extension; brace locked at full extension while ambulating and sleeping.
- **PROM 0 to 60°**; may begin AAROM 0 to 60° but only with knee flexion (no AAROM extension).

### WEEKS 4-6

- WBAT with the brace in full extension; brace locked at full extension while ambulating and sleeping.
- **PROM 0 to 90°**; may begin AAROM 0 to 90° but only with knee flexion (no AAROM extension).

**WEEKS 7–8**

- WBAT with the brace in full extension; brace locked at full extension while ambulating and sleeping.
- Begin AROM knee flexion 0 to 90°. Continue quad sets and begin isometric quad exercises (focus VMO).

**WEEKS 9–12**

- **Open the brace to full ROM;** wean out of the brace when able to SLR without a lag.
- Progress to full PROM, then full AAROM, then AROM as tolerated (begin with short arc quad 0 to 30°).
- Begin light closed chain quad and hamstring strengthening when full ROM is achieved.
- Stationary bike or elliptical, normalize gait, treadmill walking program.

**WEEKS 13–16**

- Advance closed and open chain strengthening.
- Increase intensity on the bike, treadmill, and elliptical; multidirectional functional cord program.

**WEEKS 17–20**

- Continue exercises as above; pool running program progressing to a land program.

**WEEKS 20+**

- Progress the running and gym program; multidirectional cutting and pivoting drills.
- **Return to sport around 6 months,** once strength and hop testing are at 90% or better and Dr. Tummala clears the patient.

**CRITERIA TO RETURN TO SPORT**

- Full ROM compared with the uninvolved side.
- No effusion.
- Normal gait and pain-free activities of daily living.
- Quadriceps strength at least 90% of the uninvolved side.
- Single-leg hop tests at least 90% of the uninvolved side.
- Around 6 months after surgery.

**WEEK-BY-WEEK PROGRESSION**

| EXERCISE                                        | 1 | 2 | 3 | 4<br>(1 mo) | 5 | 6 | 7 | 8<br>(2 mo) | 9 | 10 | 12<br>(3 mo) | 16 | 20 | 24<br>(6 mo) |
|-------------------------------------------------|---|---|---|-------------|---|---|---|-------------|---|----|--------------|----|----|--------------|
| <b>Initial Exercises</b>                        |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| WBAT, brace locked straight (walking, sleeping) |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| PROM 0-30°, no active motion                    |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| PROM and AAROM flexion 0-60°                    |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| PROM and AAROM flexion 0-90°                    |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| AROM flexion 0-90°                              |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Quad sets in locked brace (no SLR)              |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Patellar mobs, ankle pumps                      |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| <b>Advanced Exercises</b>                       |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Isometric quad exercises (focus VMO)            |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Open brace, wean when SLR without lag           |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Full ROM; short arc quad 0-30°                  |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Light closed chain (once full ROM)              |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Advance open and closed chain, cord program     |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Bike, elliptical, treadmill walking             |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| <b>Agility Exercises</b>                        |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Pool running, progressing to land               |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Land running, cutting and pivoting drills       |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| <b>High-Level Activities</b>                    |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Return to sport around 6 months                 |   |   |   |             |   |   |   |             |   |    |              |    |    |              |

*This protocol is a general guideline and does not replace the clinical judgment of the treating therapist and surgeon. Please contact our office with any questions.*