



## **Rehabilitation Guidelines for Quadriceps/Patella Tendon Repair**

The intent of this protocol is to provide the clinician with a guideline to establish and progress a patient through post operative rehabilitation. It is not intended to be a substitute for one's clinical decision making. The plan of care should be based upon the patients clinical exam and individual goals. Prior to initiation of interventions the therapist needs to check with the surgeon/operative report regarding progression. The therapist needs to take into consideration multiple variables including: mechanism of injury, time lapse from injury to surgery, tear location, repair type, tissue quality, patient characteristics including comorbidities, age, goals, and expectations, and surgeon specific philosophy/preferences. Based upon these variables, wide variations of progressions and patient outcomes may exist, however the following is a basic guideline that can be used to reference.

❖ Notify the surgeon ***immediately*** of any concerns for DVT, infection, excessive edema, or significant variation in expected progression/outcomes.

❖ **Pre-Op (if available):**

- Measure for and fit for post operative brace (drop lock hinge brace)
- Measure for and fit with ted hose
- Perform crutch/walker training and issue crutches/walker if needed
- Evaluation should be scheduled for 2- 3 days after surgery
- Post-op instructions and education from surgery date to initial physical therapy appointment

❖ **Phase I: 0-6 weeks**

- *Goals:*
  - Maintain integrity of repair
  - Decrease pain and inflammation
  - Promote tissue healing
  - Achieve/maintain full extension
  - Incrementally increase passive range of motion (per surgeon consultation)
  - Facilitate quadriceps contraction
  - Patient education of precautions and progressions
- *Precautions:*
  - No quick movements
  - No aggressive stretching
  - Avoid PROM that is too aggressive or provokes muscle guarding



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- Keep incision dry and clean
  - Ensure proper brace fit/locked in extension
- 0-2 weeks
  - PROM 0° extension
    - Must achieve 0° extension
  - Patella mobilizations
  - May initiate quadriceps isometrics if pain allows.
  - Brace locked at 0° and WBAT
    - Note: if painful/swollen may keep PWB for 2 weeks to keep swelling/pain minimal
- 2-6 weeks
  - Maintain 0 degrees extension.
  - PROM flexion 60-90 degrees (per consultation with physician)
  - NMES to facilitate quadriceps contraction as indicated
  - Ambulation with brace locked at 0° and WBAT
- ❖ **Phase II: 6-12 weeks**
  - Criteria to progress to phase II.
    - Appropriate healing by adhering to precautions in phase I
    - Staged ROM goals achieved (per consultation with surgeon)
    - Minimal pain
  - Goals for Phase II
    - Allow healing of repair site
    - Do not overstress healing tissue
    - Restore full PROM by week 12
    - Normalize AROM
    - Initiate gradual return to functional activities and light work activities
      - **Note:** progression is time and criterion based and needs to progress per continuous assessment of patients impairments and functional limitation
  - 6-12 weeks
    - Initiate functional weightbearing exercises
    - Initiate open kinetic chain AROM
    - Initiate isotonic strengthening exercises
    - Initiate balance/proprioception exercises
    - Advance intensity of PROM as indicated
    - Unlock brace with ambulation, once displays functional quadriceps control may switch to functional short hinge knee brace.



Northwest Ohio Orthopedics and Sports Medicine  
7595 County Road 236, Findlay, OH 45840  
Phone: 419.427.3109 Fax: 419.427.3020

*NWO Therapy Department*

❖ **Phase III: 12+ weeks**

- Criteria to progress to phase III
  - Minimal pain with AROM and strengthening activities
  - Full AROM without substitution
  - 5/5 strength without substitution
- Goals
  - Full P/AROM
  - Enhance dynamic stability
  - Gradual restoration of strength, power, and endurance
  - Advance neuromuscular control
  - Return to full ADLs/work
- 12+ weeks
  - Advance all activities based upon patient goals and expectations.

\* \*Close communication with surgeon is always necessary

**References:**

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