



QUADRICEPS/PATELLA TENDON REPAIR PHYSICAL THERAPY PROTOCOL

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PHASE 1: Immobilization

Weeks 0-2

- Hinged knee brace locked at 15 degrees. Brace stays on for 6 weeks post-operatively. Brace can be removed for showering once incision healed.
- TDWB with crutches
- Quad/gluteal/hamstring isometrics (4 sets, 6 reps, twice daily)
- Ankle pumps
- Edema control: ice/compression/elevation
- E-stimulation
- Patellar mobs
- Upper body ergometer

PHASE 2: Range of motion

Weeks 3-6

- Hinged knee brace locked in full extension
- Crutch ambulation to WBAT to be achieved by week 6
- AROM 0 – 45 degrees with passive extension (in brace).
- Increase flexion by 15 degrees each week
- Full flexion should be achieved by week 6
- Quad/gluteal/hamstring isometrics (4 sets, 6 reps, twice daily)
- Upper body ergometer
- Stationary bike for **passive** ROM (**no pedal resistance**) once 95-105 degrees of knee flexion is achieved (week 5)
- Modalities: hot packs, TENS

PHASE 3: Strengthening (7-12 weeks)

Weeks 7-8

- Crutch ambulation, full WB with brace allowing 0-60 degrees active knee flexion
- Gradually discontinue crutches when gate pattern is normal
- Discontinue brace once SLR without an extensor lag
- Closed chain exercises including double-leg mini-squats, heel raises, and leg press (0-60 degrees knee flexion)
- Multiangle, **submaximal** quad isometrics
- Stationary bike, progressive resistance

Weeks 9-12

- Open-chain quads (short arc 0-30, SLR). Gradually add resistance.
- Closed chain exercises
- Isokinetics
- Balance and proprioceptive training. Gradually progress to single-leg
- Stationary bike, progressive resistance
- Ambulation on treadmill. Encourage normal gait pattern.

PHASE 4: Sport-specific Functional Rehab

4-6 Months

- Open-chain and closed chain exercises, isokinetics, stationary bike
- Treadmill
- Plyometrics
- Running program (only after quad strength is 65%, symmetric gait pattern). Gradual progression.
- Speed and agility training