Quadriceps Tendon Repair

Physical Therapy Protocol

Phase I – Protective Phase (Weeks 0–3)

Goals:

- Protect surgical repair
- Minimize pain and inflammation
- Prevent stiffness and quadriceps atrophy
- Begin gentle patellar and soft tissue mobility

Precautions / Restrictions:

- Weight Bearing: Toe-touch weight bearing (TTWB)
- Brace: Locked in full extension (0–0°) at all times
- ROM:
 - No active flexion
 - Passive extension only

Therapeutic Exercises:

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- Patellar/tendon mobilization
- Extension mobilization
- Ankle pumps
- Quadriceps sets
- Hamstring sets
- Seated hamstring stretch with towel

Cardiovascular:

• Bike or rower (well leg only)

Phase II – Controlled Motion Phase (Weeks 4-6)

Goals:

- Restore gradual ROM (active flexion to 60°)
- Maintain quadriceps and hamstring activation
- Begin neuromuscular control in safe positions

Precautions / Restrictions:

• Weight Bearing: WBAT with brace locked in full extension (0–0°)

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- ROM:
 - Week 4: Active flexion 0–60°
 - Advance flexion by 10° per week

Therapeutic Exercises:

- Seated flexion and wall slides (0–60°)
- Continue quad/hamstring sets
- Continue ankle pumps
- Sit-and-reach hamstring stretch
- Core and hip strengthening (without abduction/adduction)

Cardiovascular:

• Continue well-leg biking or rowing

Phase III – Progressive Strengthening Phase (Weeks 7–12)

Goals:

• Normalize gait and weight bearing

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- Improve lower limb strength and control
- Restore ROM to near full range

Precautions / Restrictions:

- Brace Settings:
 - Week 7: Unlock to 0–60°
 - Advance 10° per week (e.g., 0–70°, 0–80°, etc.)
- ROM Goal: Full flexion by end of Phase

Therapeutic Exercises:

- Continue wall and seated flexion/extension (matching ROM limits)
- Initiate toe and heel raises
- Begin balance series (within ROM limits)
- Start weight-bearing strengthening:
 - Double leg bridges
 - Double knee bends
 - Static lunges
 - Beginning cord resistance

Cardiovascular:

- Stationary bike (both legs start no resistance, then progress)
- Treadmill walking (7% incline)
- Aquajogging and swimming (if incisions healed)

Phase IV – Advanced Strengthening & Agility (Weeks 12–20)

Goals:

- Develop dynamic strength, balance, and endurance
- Initiate sport-specific preparation
- Normalize single-leg control

Therapeutic Exercises:

- Leg press
- Balance squats
- Single leg deadlifts
- Advanced cord drills
- Agility progression:

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- Running progression
- Single-plane agility
- Multi-directional drills

Cardiovascular:

- Elliptical trainer
- Rowing
- Stair stepper

Phase V – Return to Sport & High-Level Function (Weeks 20-24+)

Goals:

- Return to full, pain-free activity and sport
- Reintroduce high-level and impact-based movements

Therapeutic Exercises:

- Functional sports testing
- Plyometric progressions (as appropriate)
- Continued agility work

High-Level Activities:

- Golf, outdoor biking, hiking, snowshoeing
- Return to higher-demand sports (basketball, tennis, soccer, skiing) with clearance