

DUKE ORTHOPAEDICS OF RALEIGH

Donald F. O'Malley Jr., MD
Duke Medicine Plaza, 3480 Wake Forest Road Suite 204 Raleigh, NC 27609
(919) 862 - 5093

PATELLAR TENDON/QUAD TENDON REPAIR GUIDELINES

GENERAL GUIDELINES

- Focus on protection of graft during primary revascularization (8 weeks) and graft fixation (4-6 weeks)
- Showering is permitted when the wounds have been dry for 48 hours
- Driving: Off all pain meds when operating vehicle
 - 1 week for automatic cars, left leg surgery
 - 4 weeks for standard/manual cars or right leg surgery
- Crutches for ambulation for 4-6 weeks as determined by MD/PT. Discontinue when gait is normalized (ie – no limp present)
- Brace use:
 - NWB locked in extension 2 weeks
 - WBAT locked in extension for 6 weeks
 - WBAT brace unlocked 0-90 degrees until 12 weeks
 - Sleep with brace locked in extension for 1 week
- Return to work as determined by MD/PT dependent on work demands
- Use ice and elevation for swelling/pain control
- No **ACTIVE** knee extension for 6 weeks or quad sets for 4 weeks

PHASE I (Week 0-2)

GOALS

- Protect repaired structures
- Educate patient on rehab progression
- Decrease inflammation and swelling
- Control pain
- Full passive knee extension to 0 degrees

EXERCISES

- Ankle pumps
- Passive knee extension
- Heel slides 0-45 degrees
- Active standing or prone knee flexion 0-45 degrees
- Hip SLR in abd/add/ext in brace
- Seated gastrocnemius stretch with towel

CRITERIA TO ADVANCE TO PHASE II

- Knee ROM: 0-45 degrees
- Minimal swelling/inflammation

PHASE II (Weeks 2-6)

GOALS

- Eliminate inflammation and swelling
- Passive knee ROM (0-90 degrees)
- Restore full patellar mobility
- Normal gait on all surfaces without brace or assistive device
- Improve lower extremity strength
- Demonstrate stability with dynamic knee activities (no varus/valgus deviations)

EXERCISES

- Patellar mobilizations
- Heel slides, AAROM prone knee flexion, seated flexion stretch
- Gentle submax quad sets and progress to assisted SLR with brace locked in extension
- Prone or standing active knee flexion
- At 4 weeks, initiate active knee extension (LAQ knee extension and SAQ over bolster – use non-involved leg or strap to assist as needed)
- Initiate stationary bike for ROM as able
- Aquatic exercises for gait training and lower extremity strengthening
- At 2-4 weeks, 25% PWB on land
- At 4 weeks, progress gait training 50-75% PWB on land

CRITERIA TO ADVANCE TO PHASE III

- Knee ROM 0-90 degrees
- Normal patellar mobility
- Demonstrates good SLR without quad lag
- Normalized gait with brace locked in extension
- Minimal swelling/inflammation
- No pain with exercises

PHASE III (Week 6-12)

GOALS

- Full knee flexion ROM
- Improve quad strength
- Progress hip, quad, hamstring, calf strengthening
- Normalize gait with brace locked 0-90 degrees and no assistive device
- Advance lower extremity flexibility
- Advanced aquatic exercises
- Initiate proprioception exercises

EXERCISES

- Gentle quad stretching in prone or semi-reclined Thomas test position
- Progree gait training with brace unlocked 45 to 90 degrees of flexion. Wean from crutches.
- Bilateral closed kinetic chain strengthening (partial wall slides, mini-squats, low resistance leg press)
- At 8-10 weeks, single leg closed chain strengthening (leg press, stepup/down, partial lunge)
- Stationary bike for aerobic training

CRITERIA TO ADVANCE TO PHASE IV

- Full knee ROM
- Demonstrates good quad strength with exercises
- Normal gait on all surfaces at community level distances using brace
- Minimal swelling/inflammation
- No pain with exercises

PHASE IV (Weeks 12-16)

GOALS

- Normal gait on all surfaces without brace or assistive device
- Cross-training machines for conditioning
- Increase strength to >85% non-involved extremity
- Advance proprioception exercises
- Improve aerobic endurance
- Initiate plyometric exercises
- Physician clearance to initiate return to running and functional progression

EXERCISES

- Spin bike
- Cybex training
- Pre-running exercises (low skips, punch steps, double punch steps, hurdle walks, high skips, kickbacks, step-overs)
- Advance proprioceptive exercises (BOSU, single leg dynamic balance, dual task balance)
- Agility drills (ladder, side shuffles, crossovers, backwards run, quick start/stops, zig-zags, cutting)
- Jump training (shuttle training, trampoline, landing technique, box jumps, single leg hops, tuck jumps)
- Return to running – treadmill, with transition to level outdoor surfaces
- Continue strengthening - advance resistance and repetitions (ball hamstring curls, single leg press, core stabilization)

CRITERIA TO ADVANCE TO PHASE V

- Lower extremity strength greater than or equal to 85% of non-involved by Cybex test
- Single leg hop test greater or equal to 85% of non-involved
- No pain with forward running, agilities, jump training, or strengthening
- Good knee control with single leg dynamic proprioceptive activities

PHASE V (Week 16-on)

GOALS

- Full return to sport activity
- Equal bilateral lower extremity strength
- Equal bilateral balance, proprioception, power in lower extremity
- 100% global function rating

EXERCISES

- Advance above exercises
- Gradually increase level of participation in sports-specific activities
- Running on all surfaces