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Distal Patellar Realignment Tibial Tubercle Osteotomy (TTO/AMZ/Fulkerson) Rehabilitation Guidelines

- o Concurrent cartilage surgery such as MACI/osteochondral auto/allograft, etc may have ROM requirements that take precedence

Acute/Immediate Post-Operative Phase 0-4 weeks

Guidelines

- Bracing: Extension Lock Splint (ELS) locked at -10 degrees for 24 hours per day; can be removed only for exercises (except SLRs). Ice-Man or ice application for pain and swelling.
- WB status: STRICT NWB x6 weeks; Transition to WB from week 6 to 8 gradually.
- PROM: 0-90 degrees goal by POW 4
- Exercises: Quadriceps sets (full extension), SLRs – flexion (assisted), abduction, extension and adduction (in brace locked in extension), patellar mobility - gentle, calf and hamstring stretching (seated only), ankle pumps, heel prop/prone hang for knee extension, PROM supine or seated, may start bike without resistance at ~POW 2 (0-90 degrees only)

Moderate Protection Phase 4-6 weeks

Guidelines

- WB status: NWB
- Bracing: Continue
- ROM: As tolerated
- Exercises: Continue isometric quad strengthening, SLRs, resisted ankle strengthening in NWB and HS curls 0-90 degrees, core stability activities, gait training

Moderate Protection Phase 6-8 weeks

GOALS:

- Full knee flexion and extension ROM
- Good quadriceps control
- Good proprioceptive control
- Normal gait pattern

Guidelines

- WB status: Progress to WBAT
- Bracing: Discontinue brace when patient has adequate quad control (not before POW 6)

- ROM: as tolerated
- Exercises: Continue quad strengthening, ROM and stretching, begin closed chain activities in small range flexion (0-45 degrees) with bilateral LE, progress to greater knee flexion range, heel raises bilateral, step-ups, bilateral leg press (light weight), proprioception activities bilateral unilateral, hamstring curls

Minimal Protection Phase (Progressive ROM/Strengthening) 9-12 weeks

GOALS:

- Light cardiovascular progression
- Good hip, knee and ankle strength compared to contralateral leg

Guidelines

- Exercises: progress above bilateral activities to unilateral, increase proprioceptive challenges, may start light running if pain-free, good strength and no effusion at ~week 12

Return to Activity Phase

- Exercises: Slowly progress to treadmill walking, resisted biking, running (as strength, ROM and pain/swelling allow) progress proprioception activities as tolerated, begin hop/agility when good alignment and LE control is present*
- *May use single leg hop for distance testing (Cincinnati hop tests) for side-to-side comparison 80% is goal to begin light agility and cutting
- Concurrent Cartilage restoration procedure will ultimately determine Return to Activity

**Modalities as needed for pain control and quadriceps strengthening are permitted.