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High Tibial Osteotomy (HTO) Protocol

Phase I: 0-6 weeks

*Goals: crutch/brace education, pain and swelling control, range of motion, glute/quad/hamstring activation
Progressive ROM > 120 by 6 weeks*

Weeks 0-2

- Non-weight bearing x 6 weeks
- Pain/edema control, patella mobilizations if necessary
- Modalities as needed
- Quad Sets/Hamstring co-contractions at multiple angles 13x10 2-3x's daily
- SLR in brace at 0° until quad can maintain knee locked
- Heel slides
- Calf stretches
- Ankle pumps +/- with leg elevation
- Obtain full extension if lacking

Weeks 2-6

- Continue what is listed above.
- Crutches and non-weight bearing until 6 weeks post-op

Muscle Strength & Endurance Exercise Suggestions:

- Quadriceps isometrics in standing/sitting/lying +/- muscle stimulation or biofeedback
- Quads over roll
- Standing closed-chain terminal extension with tubing at knee - forward facing (active terminal extension) and backward facing (passive terminal extension)
- Straight leg raise (on bed) with pelvic stability (all 4 planes)
- S/L clam shells
- Prone knee flexion
- Ankle plantar flexion with theraband



Meagan McCarthy, MD

Phase II: weeks 6-12

Goals: normal gait without assistance, full range of motion, proprioception, strengthening starting with isometrics and progressing appropriately

Progress from 2 crutches to one crutch and then full weight bearing over

Weeks 6-8

- Normalize gait
- Baseline proprioceptive/balance re-education
- Weight bearing strengthening of lower extremity muscle groups

Exercise suggestions:

- Patellar/tibial/femoral mobilization for terminal ROM
- Mini wall squats, sit to stand, shuttle, calf raise
- Leg press, walking with bands
- Stationary bike

Phase III: weeks 12+

Goals: Continue and advance strengthening: lower chain concentric/eccentric strengthening of core/hips/glutes/quads/hamstrings, dynamic lower chain strengthening, progress cardio training, progress proprioception, sport specific training

- Progress to jogging/running
- Continue strengthening: lunges, squats,
- Controlled jumping
- Agility progression
- Sport specific exercises (progression)