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High Tibial Osteotomy and Distal Femoral Osteotomy Rehab Protocol

Weeks 1-6

- HEP
- ROM as tolerated in brace
- NWB in brace for 2 weeks
- Progress from 25-50% PWB in brace locked in extension for 4 week
- SLR, quad sets
- Patella mobilization

Weeks 6-14

Supervised PT- 3 times a week (may need to adjust based on insurance)

Goals

- Restore full ROM
- Restore normal gait
- Demonstrate ability to ascend and descend 8-inch stairs with good leg control with out pain
- Improve ADL endurance
- Independence in HEP

Precautions

- Avoid descending stairs reciprocally until adequate quad control and lower extremity alignment
- Avoid pain with therapeutic exercise and functional activities
- Avoid running and sport activity

Treatment Strategies

- Progressive WBAT with brace-allowed flexion advanced if good quad control (good quad set/ability to SLR without pain or lag).
- Aquatic therapy if available- pool ambulation or underwater treadmill
- D/C crutches or can when gait is non-antalgic
- D/C brace and use patellar sleeve when non-antalgic gait and quad control adequate as determined by therapist
- AAROM exercises
- Patellar mobilization
- SLR's in all planes with weights
- Proximal PREs
- Neuromuscular training (bilateral to unilateral support)
- Balance apparatus, foam surface, perturbations
- Short crank stationary bike
- Standard stationary bike (when knee ROM> 115)
- Leg press- bilateral/ eccentric/ unilateral progression
- Squat program (PRE) 0-60 deg
- Open chain quad isotonics (pain free arc of motion)
- Initiate step-up and step-down programs
- Stairmaster
- Retrograde treadmill ambulation
- Quad stretching
- Elliptical machine
- Forward Step-Down Test
- Upper extremity cardiovascular exercise as tolerated
- Cryotherapy
- Emphasize patient compliance to HEP

Criteria for advancement

- ROM to WNL
- Ability to descent 8-inch stairs with good leg control w/o pain
- Add water exercises if desired (and all incisions are closed and sutures out)

Weeks 14-21

Goals

- Maximize strength and flexibility as to meet demands of ADLs
- Isokinetic test > 85% limb symmetry
- Lack of apprehension with patient specific activities

- Flexibility to accepted levels for patient specific activities
- Independence with gym program for maintenance and progression of therapeutic exercise program at discharge

Precautions

- Avoid pain with therapeutic exercise and functional activities
- Avoid sport activity until adequate strength development

Treatment strategies

- Progress squat program < 90-degree flexion
- Lunges
- Start favored running (treadmill) program at 4-month postop if 8-inch step down satisfactory
- Cont LE strengthening and flexibility programs
- Agility program/sport specific (sports cord)
- Start plyometric program when strength base is sufficient
- Isotonic knee flexion/ extension (pain and crepitus-free arc)
- Isokinetic training (fast to moderate to slow velocities)
- Functional testing (hop test)
- Isokinetic testing
- HEP

Criteria for discharge

- Symptom free running and sport-specific agility
- Hop test > 85% limb symmetry
- Isokinetic test > 85% limb symmetry
- Lack of apprehension
- Flexibility to acceptable levels
- Independence with gym program for maintenance and progression of therapeutic exercise program at discharge
- Lack of apprehension
- Flexibility to acceptable levels
- Independence with gym program for maintenance and progression of therapeutic exercise program at discharge