

Dr. Pathik Shah
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DISTAL REALIGNMENT PHYSICAL THERAPY PRESCRIPTION

Diagnosis: s/p Tibial Tubercle Osteotomy Date of
Additional Procedures:

- Lateral Retinacular Release
- MPFL Reconstruction
- Cartilage Procedure: _____

POST-OPERATIVE PHASE I (WEEKS 0-6)

Goals:

Patient education
Control effusion
Control pain
ROM: 0° knee extension to 60° knee flexion (2 weeks); 90° (6 weeks)
Avoid quadriceps inhibition
Promote healing
Independent ambulation NWB with crutches and brace locked in extension on level surfaces and stairs
Independence in a home exercise program, as instructed

Precautions:

Symptom provocation: quadriceps shut down, joint effusion, active inflammation
Progression of weightbearing
Knee flexion range of motion as per surgeon's guidelines
Active knee extension
Wound healing, patella position

Treatment Strategies:

- ___ Activity modification
- ___ Cryotherapy
- ___ Modalities, as needed for pain, effusion
- ___ Quadriceps re-education: biofeedback, electrical stimulation, quad sets performed with a towel roll
- ___ Continuous Passive Motion
- ___ ROM exercises:
 - PROM knee extension with a towel roll under heel
 - AROM knee flexion in sitting, PROM knee extension with noninvolved extremity upon return from flexion in sitting
- ___ Patellar mobilization: emphasize cephalad direction
- ___ Gait training NWB with crutches and brace locked in extension
- ___ Initiate proximal strengthening: SLR series, gluteals, comply with NWB status
- ___ Address flexibility: gastrocnemius (towel stretch); hamstring stretch
- ___ Initiate distal strengthening: Elastic bands for triceps surae

Criteria for Advancement to Phase 2:

Radiographic evidence of adequate healing ***Please contact MD's office
ROM: 0° knee extension to 90° knee flexion

POST-OPERATIVE PHASE II (WEEKS 7-15)

Goals:

Patient education
Control effusion, inflammation, and pain
0/10 pain with ADLs, therapeutic exercise
ROM: 0° knee extension to 120° (12 weeks)
Normalize gait
Home exercise program including SLR, Clam shells

Precautions:

Sign and Symptom provocation: pain, inflammation, quadriceps shut down, joint effusion
Progression of weight bearing (please confirm with MD's office evidence of healing on x-ray)

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Treatment Strategies:

- ___ Quadriceps strengthening:
 - Submaximal multi angle closed chain isometrics (**NO** open chain)
 - Bilateral leg press: monitor arc of motion
 - Initiate forward step up progression
- ___ ROM exercises:
 - AROM to AAROM knee flexion in sitting
- ___ Patellar mobilization (medially and cephalad)
- ___ Cycle ergometry: progressing from short crank to standard crank
- ___ Gait training
 - Hydro - treadmill
 - Unweighted treadmill
- ___ Flexibility exercises - evaluation-based: AROM knee flexion with hip extension
- ___ Advance proximal strengthening: hip extension with knee flexion, and **closed chain** activities.
- ___ Initiate balance and proprioceptive training: double limb support on progressively challenging surfaces

Criteria for Advancement to Phase 3:

- Ability to support and control knee in single limb stance
- Able to ascend an 8" step with good control

POST-OPERATIVE PHASE III (WEEKS 16-22)

Goals:

- ROM: WNLs
- Normalize gait
- Good single leg dynamic balance
- Good eccentric quad control
- Pelvic control during step down
- Independence in a home exercise program, as instructed

Precautions:

- Sign and symptom provocation: pain, and active inflammation
- Gait deviations
- Overloading the joint

Treatment Strategies:

- ___ Quadriceps strengthening: monitor arc of motion
 - Forward step up progression
 - Eccentric leg press
 - Forward step down progression
 - Squat progression
- ___ ROM exercises:
 - PROM knee extension with a towel roll under heel
 - AROM to AAROM knee flexion in sitting and supine wall slides
- ___ Gait training
 - Treadmill
 - Retro treadmill
- ___ Advance proximal strengthening through functional activities
- ___ Balance activities: single limb static balance to dynamic activities
- ___ Address muscle imbalances – evaluation-based
- ___ Cross training: elliptical trainer, bicycle, stair machine (Please contact MD's office to confirm bone healing before advancing to elliptical)

Criteria for Advancement to Phase 4:

- ROM WNLs
- Normalize gait
- Ability to support control knee in dynamic single limb stance
- Able to ascend an 8" step with good control
- Able to descend a 8" step with good control, and alignment
- Good postural alignment during dynamic single limb stance

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POST-OPERATIVE PHASE IV (WEEKS 36-44)

Goals:

Patient education
0/10 pain with ADLs, advanced therapeutic exercise
Good dynamic balance
Muscular endurance and flexibility to meet demands of ADLs, and sport
Independence in a home exercise program, as instructed
Strength: 85% limb symmetry

Precautions:

Sign and Symptom provocation
Volume of training

Treatment Strategies:

- Home exercise program: evaluation-based
- Educate patient
- Activity level should be within envelope of function
- Cryotherapy
- Continue functional quadriceps strengthening
- Dynamic balance activities
- Continue to address muscle imbalances – evaluation-based
- Cutting drills and deceleration training
- Endurance training: cross training
- Initiate plyometrics
- Initiate running program: retro to forward running intervals
- Strength testing and functional testing

Return to Sport/ Criteria for Discharge:

85% Limb Symmetry with:
Strength testing: isokinetics, if appropriate
Functional testing: single leg hop
Muscular endurance and flexibility to meet demands of ADLs, and sport