DISTAL REALIGNMENT PHYSICAL THERAPY PRESCRIPTION

Diagnosis: s/p (LEFT / RIGHT) Tibial Tubercle Osteotomy

Date of Surgery: ____________________

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)

**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

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

Treatment: __________ times per week  __________ Home Program

Duration: ________ weeks
**Please send progress notes.

Physician’s Signature: ___________________________ Date: ___________________
Kristofer J. Jones, M.D., Attending Orthopaedic Surgeon
NAME OF PATIENT: ________________________

MRN: ________________________________

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