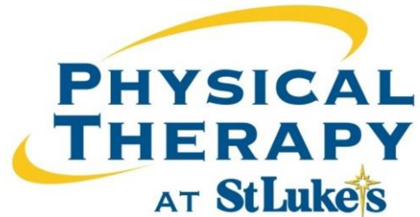

MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION
REHABILITATION PROTOCOL

PHASE I (0-4 weeks)

A. Goals for Phase I:
- Minimize pain and knee effusion, initiate gait training – bilateral axillary crutches
- Early ROM 0-60 degrees weeks 0-2
- Brace locked at 0 degrees for 2 weeks, unlocked 0-30 degrees with ambulation weeks 2-4, gentle progression of ROM 0-90 degrees
- Bledsoe brace locked at 0 degrees during sleep hours for two weeks, then discontinue during sleep hours upon MD clearance
- Quad sets to assist with restoration of neuromuscular control

B. Therapeutic exercise:
- Non-weight bearing exercise should include quad and glute sets, heel slides
- Straight leg raises in all planes with brace donned, locked at 0 degrees
- Perform knee extension, clamshells and hip abduction – minimize TFL recruitment
- Self stretch of hamstring group, gastrocnemius and soleus
- Partial squat to promote vastus medialis oblique recruitment (begin at 3-5 weeks)
- Upper extremity cardiovascular conditioning

C. Modalities:
- Modalities as needed to minimize pain, low-level electrical stimulation combined with exercise to promote quadriceps strength and minimize gait abnormalities

D. Manual Therapy:
- Low grade patellofemoral joint mobilization (inferior glide) for pain relief, articular nutrition and to minimize capsular/suprapatellar fat pad contracture
- Manage early effusion with cryotherapy and compression wrap as needed, electrical stimulation
- Early ROM to the operated limb (i.e. hip complex, ankle mobilization as appropriate to minimize pain, promote healthy development of periarticular tissues/cartilage, minimize scar formation and prepare for weight bearing activities within phase II)
- Assessment of lumbosacral spine/pelvis to rule out contributing factors, which may contribute to current functional limitation

E. Criteria for Progression:
- Achieve 0 degrees knee complex extension ROM, 60-90 degrees knee flexion ROM by end of week 4
- Straight leg raise without extensor lag
- Minimal pain with sit to stand, functional squat patterns within shallow arc of motion

PHASE II (4-12 weeks)

A. Goals for Phase 2:
    - Lateral restraint brace provided by Orthopedic Surgeon, patient must demonstrate adequate quadriceps control for ambulation and to normalize/achieve reciprocal gait pattern, achieve independence with ambulation
    - ROM progression 90-120 degrees weeks 4-6
    - Progress closed kinetic chain strengthening as part of exercise regimen
    - Continue to establish muscular control of quadriceps group and hip musculature (i.e. gluteus maximus, medius, minimize valgus position of knee with exercise
    - Supplement land based exercise with water walking/gait training in pool
    - Protect surgical site/graft with weight bearing exercise through week 12

B. Therapeutic Exercise:
    - Weight bearing exercise performed with lateral restraint bracing
    - Balance/proprioception training (i.e. symmetrical stance squat) including use of balance disc, wobble board, progression from symmetrical stance to single leg balance – pain should be minimal, weight bearing appropriate
    - Initiate low level plyometrics (i.e. step-hold) at 6-12 weeks
    - Progress closed kinetic chain multi-planar strength training at hip complex weeks 8-12 (when quadriceps control achieved) – avoid dynamic knee valgus, transverse plane rotation through lower leg
    - Initiate core training (i.e. elastic exercise band push/pull from seated/standing position)

C. Modalities:
    - As needed

D. Manual Therapy:
    - Knee complex mobilization as needed (i.e. tibiofemoral joint, patellofemoral joint)
    - Patellofemoral joint mobilization (i.e. inferior glide, medial glide)
    - Assessment of lumbosacral spine/pelvis to rule out contributing factors, which may contribute to current functional limitation
    - Soft tissue and scar mobilization PRN

E. Criteria for Progression:
    - Knee complex ROM must exceed 90 degrees by week 6, if not achieved contact referring MD
    - Maintenance of single leg stance 30 seconds, no buckling of knee complex and minimal pain

PHASE III (Weeks 12 to 16)

A. Goals for Phase 3:
- Patient should demonstrate full range of motion
- Provide instruction pertaining to safety with dynamic loading/jumping (i.e. caution with excessive trunk lean/dynamic valgus, encourage hip dominant pattern)
- Progress with dynamic proprioception/balance weeks 8-12
- Initiate running activities week 12-16
- Begin sport specific training week 14-16 (i.e. cutting, pivoting)

B. Therapeutic Exercise:
- Weight bearing exercise performed with lateral restraint bracing
- Balance/proprioception training (i.e. symmetrical stance squat) including use of balance disc, wobble board, progression from symmetrical stance to single leg balance.
- Progress multi-planar strength training at hip complex weeks 8-12 (when quadriceps control achieved) – avoid dynamic knee valgus, transverse plane rotation through lower leg)
- Progress core stabilization (i.e. bird dog, dead bug, chop/lift diagonal patterns, medicine ball throw)

C. Modalities:
- As needed

D. Manual Therapy:
- Knee complex mobilization as needed (i.e. tibiofemoral joint, patellofemoral joint)
- Patellofemoral joint mobilization (i.e. inferior glide, medial glide)
- Assessment of lumbosacral spine to rule out contributing factors to current functional limitation
- Soft tissue mobilization PRN

E. Criteria for Progression:
- Full knee complex range of motion, good dynamic control of knee position with jumping/loading
- Patient reports no pain with sport specific training, no pain with running activities

PHASE IV (Weeks 16 to 20)

A. Goals for Phase 4:
   - Patient should demonstrate full range of motion
   - Progress sport specific training week 14-16 (i.e. cutting, pivoting)
   - Return to sport or demanding physical activity week 16-20

B. Therapeutic Exercise:
   - Progression of plyometrics/agility training, running activities
   - Patient should continue to demonstrate control of knee position with progressive dynamic loading
   - Continue with strengthening/progression of multi-planar hip strengthening and advance core stabilization

C. Modalities:
   - As needed

D. Manual Therapy:
   - Knee complex mobilization as needed (i.e. tibiofemoral joint, patellofemoral joint)
   - Patellofemoral joint mobilization (i.e. inferior glide, medial glide)
   - Assessment of lumbosacral spine to rule out contributing factors to current functional limitation
   - Soft tissue mobilization PRN

E. Criteria for Progression:
   - No pain
   - Good lower extremity neuromuscular control

PLEASE CONTACT THE REFERRING PHYSICIAN WITH CONCERNS PERTAINING TO THE PATIENT'S RESPONSE TO THE SURGICAL PROCEDURE OR DIFFICULTY WITH THE PROGRESSION OF PHYSICAL THERAPY

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