



Custom Protocol for Patellar OCD ORIF, MPFL Reconstruction

Mark Ayzenberg, MD, FAAOS

Phase I: Acute (0-4 weeks)

Goals:

Alleviate acute pain and swelling

Increase ROM 0-30° (emphasize 0° extension)

No strengthening about the knee, but may work ankle and foot

Promote comfortable ambulation with brace and crutches w. WB restrictions

Maintain cardiovascular conditioning

Plan: (0-2 weeks)

Ankle ROM and strength

Focus on achieving full extension.

At follow up, will lock brace at 30 degrees of flexion, still non weight bearing. May unlock or come out of brace BID or TID to work on full extension and to shower once Dressings removed at follow up. Keep wounds covered and dry during shower.

Modalities for pain and edema control

Plan: (3-4 weeks)

May begin showering with wound uncovered. Dab dry

Foot flat weight bearing in full extension locked brace

Work on gentle 0-30 degree range of motion

Lock brace at 30 degrees when sleeping.

Gentle soft tissue/scar mobilization

Phase II (5-12 weeks)

Goals:

Decrease swelling and minimize atrophy

Increase ROM 0-90° (AAROM, PROM)

Start upright hip exercises, straight leg raises, continue ankle exercises

Stimulate collagen healing

Progress to WBAT locked in extension

Continue general conditioning



Plan (weeks 5-6)

Continue phase I exercises

Begin standing hip flexion, abduction, adduction and extension exercises with light bands with brace locked at 0.

Work on ankle band resisted strengthening with brace locked.

Straight leg raises with brace locked at 0

Progress to WBAT as tolerated with brace locked in extension with crutches

Work on slow, GENTLE ROM 0-60 degrees

Plan (weeks 6-8)

Progress ROM 0-90 degrees.

Gentle isometric strengthening of quads/hamstrings

Plan (weeks 9-12)

Continue prior exercises

Unlock brace for weight bearing, then wean brace

Work on restoring full ROM, hamstring and quad stretching

Progress closed chain strengthening of quads/hamstrings

Prone/standing knee flexion, heel slides, etc

May begin aquatic therapy

Mini squats 0-30 degrees ROM

Gentle proprioceptive training/balance

EMS as needed for muscle re-ed and edema

General conditioning

Joint and soft tissue mobilization as needed

*McConnell taping as necessary

Patellar mobilization - gentle

Phase III (13-20 weeks)

Goals:

Full ROM

Continue all goals from Phase II

Initiate mobility exercises

Plan (weeks 13-16)

Continue phase II exercises and progress as tolerated

Initiate cycling, elliptical, swimming

Once doing well with above, can in-line jog

Continue closed chain, balance and proprioceptive activities



Continue EMS as needed for muscle re-ed and edema
Step-ups (controlled)
½ wall sits as tolerated
Work on core, glutes, pelvic stability

Plan (17-20 weeks)

Light jogging on trampoline
¼ to 1/2 squats (painfree)
Progress with closed chain activity

Phase IV (21- 6 months)

Goals:

Development of strength, power and endurance
May ease into running if painless
Begin to prepare for return to recreational activity
Begin sport specific training

Plan:

Continue Phase III exercise and conditioning activities
Progress strength training as tolerated
Initiate running program
Initiate agility drills

Phase V (6-12 months)

Goals:

Perfect above. Goal to return to activities/sports as tolerated by month 8-9.

Some suggested therapeutic exercises for closer to the end of rehab protocol *if age and sport-appropriate* once patient judged ready and safe by physical therapist:

- Low amplitude low velocity agility drills: forward and backward skipping, side shuffle, skater's quick stepping, carioca, cross overs, backward jog, forward jog
- Closed chain strengthening for quadriceps and glutes - progressing from double leg strengthening to single leg strengthening: lunge progressions and single leg squat progressions
- Single leg balance exercises and progressions, progressing from stationary to deceleration in to holding posture and position

- Initiate low amplitude landing mechanics: med ball squat catches, shallow jump landings, chop and drop stops, etc
- Hip strengthening - especially oriented at neuromuscular control in prevention of hip adduction at landing and stance
- Core strength and stabilization - especially orientated at preventing frontal plane trunk lean during landing and single leg stances
- Unanticipated movement control drills, including cutting and pivoting
- Agility ladder drills
- Stretching for patient specific muscle imbalances

Criteria for discharge:

- Non-antalgic gait
- Painless, full ROM
- Full strength
- Independent with home program
- Normal age-appropriate balance and proprioception
- Resolved palpable edema
- Patient should have <15% difference in Biodex strength test, force plate jump and vertical hop tests as well as functional horizontal hop tests.