Connecticut Orthopaedics

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Sports Medicine/Foot & Ankle

MPFL Reconstruction
Post-Operative Protocol

Phase I – Maximum Protection

Weeks 0 to 2:

- Brace – locked in full extension during all ambulation and weight bearing as tolerated for 6 weeks
  - Can unlock brace to allow for 0-30 degrees for unloaded range of motion only.
- Use two crutches initially with gradual progression of weight bearing to full or WBAT
- Limit knee flexion to 0-30 degrees for 2 weeks.

  Goals
  - Reduce inflammation
  - Normalize superior/inferior patella mobility with manual mobilizations
  - Full extension
  - Passive/active ROM with 30 degree flexion limit

  Exercise progression
  - Quadriceps setting, emphasize VMO, using NMES as needed
  - Emphasize patellofemoral mobilizations
  - Passive/active knee range of motion with 30 degree flexion limit
  - Multi plane straight leg raising
  - Open chain hip strengthening
  - Gait training

Weeks 2 to 4:

- Brace- locked in full extension during all ambulation and WBAT
- Progress ROM as tolerated to 0-60 degrees

  Goals
  - Reduce inflammation
  - Maintain 0 degrees of knee extension

  Exercise progression
  - Full knee extension/hyperextension
  - 30 degrees of knee flexion, progressing 30 degrees of motion/week
    - Goal: 90 degrees at week 6
  - Progress off of crutches

Weeks 4 to 6:

- Brace- unlock brace during ambulation and WBAT
- Progress ROM as tolerated to 0-90 degrees
- Initiate bike with light resistance
- Initiate loaded flexion 0-90 degrees

  Goals
  - Reduce inflammation and pain
  - Maintain 0 degrees of knee extension

  Exercise progression
  - Quadriceps setting
  - Straight leg raises
  - Multi-plane open chain hip strengthening
  - Bridge with knee extension (ball)
  - Lower extremity stretching (hamstring, calf, ITB)
  - Calf raises

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Phase II – Progressive Stretching and Early Strengthening

Weeks 6 to 8:

- Discontinue Brace
- Progress to full ROM as tolerated

Goals

- Full knee extension/hyperextension
- Progress to full knee flexion ROM
- No swelling
- Normalize gait mechanics
- Normalize patellofemoral joint and scar mobility

Exercise progression

- Continue to emphasize patella mobility
- Begin unilateral closed kinetic chain program
- Multi-plane open and closed kinetic chain hip strengthening
- Step-up progression
- Stationary biking and treadmill/outdoor walking
- Deep water pool program when incisions healed. Focus on range of motion
- Proprioception drills

Phase III – Advanced Strengthening and Endurance Training

Weeks 8 to 10:

- Full ROM

Goals

- Reduce inflammation
- Full range of motion
- Normal gait

Exercise progression

- Begin closed chain squat progression (mini-squat, etc)
- Gym strengthening program
- Increase intensity of stationary bike program. May add elevation to treadmill walking and elliptical trainer
- Advance intensity of deep water pool program; focus on endurance training

Weeks 10 to 12:

Goals

- Full knee flexion and extension with terminal stretch
- Progressive strengthening
- Increase muscular endurance
- Pass preliminary functional test around 12 weeks

Exercise progression

- Squat progression: progress as tolerated with focus on swelling and pain
- Lunch progression (retro, walk, and split) as indicated
- Controlled movement series
- Focus on increased lower extremity flexibility
- Swimming freestyle
- Gym strengthening progression

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Phase IV – Advance Strengthening and Running Progression

Weeks 12 to 14:

- Administer Preliminary functional test for physician to review
- Initiate straight line jogging at 12 weeks if proper biomechanics are demonstrated

  Exercise progression
  - Conservative gym program (avoid leg extension and lunch due to stress on patellofemoral joint)
  - Outdoor biking-week 12
  - Swimming freestyle-week 12
  - Backward elevated treadmill walking-week 12 to 16
  - Lateral lunch progression-week 16
  - Shallow water pool running-week 16
  - Basic ladder series-4+ months
  - Basic plyometric box progression

Weeks 14 to 20:

- Advance training in preparation for functional testing
- Progress plyometric training from double leg to single leg activities

  Criteria to progress to Phase V
  - Pass Return to Sport test at >90% (involved vs. uninvolved limb)
    - See testing protocol—perform at 16 weeks

Phase V- Return to Sport

Weeks 20 to 24:

- Return to Sport and Functional Drills Phase
- Follow-up examination with the physician
- Sports test for return to competition at 6 months

  Exercise progression
  - Advance ladder, hurdle and plyometrics
  - Sport specific field/court drills
  - Non-contact drills

Criteria to be released for return to sport

- Follow-up examination with the physician
- Pass return to sport functional test at >90 % (involved vs. uninvolved limb)
- Display symmetry and confidence in high-speed cutting, multi-plane plyometric drills, sprinting and decelerating

Revised ***