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## **MEDIAL PATELLA FEMORAL LIGAMENT RECONSTRUCTION Rehab Protocol**

This rehabilitation protocol has been designed for patients who have undergone an MPFL reconstruction. Dependent upon the particular procedure, this protocol also may be slightly deviated secondary to Dr. Stewart's medical decision.

The protocol is divided into several phases according to post-operative weeks and each phase has anticipated goals for the individual patient to reach. The **overall goals** of the reconstruction and the rehabilitation are to:

- Control joint pain, swelling, hemarthrosis
- Regain normal knee range of motion
- Regain a normal gait pattern and neuromuscular stability for ambulation
- Regain normal lower extremity strength
- Regain normal proprioception, balance, and coordination for daily activities
- Achieve the level of function based on the orthopaedic and patient goals

The physical therapy is to begin 2nd post-operative week. It is extremely important for the supervised rehabilitation to be supplemented by a home fitness program where the patient performs the given exercises at home or at a gym facility.

### **Important post-operative signs to monitor:**

- Swelling of the knee or surrounding soft tissue
- Abnormal gait pattern, with or without assistive device
- Limited range of motion
- Weakness in the lower extremity musculature (quadriceps, hamstring)
- Insufficient lower extremity flexibility
- Excessive pain with flexion, or medial tracking of the patella with flexion

**Return to activity** requires both time and clinic evaluation. To safely and most efficiently return to normal or high level functional activity, the patient requires adequate strength, flexibility, and endurance. Isokinetic testing and functional evaluation are both methods of evaluating a patient's readiness to return to activity.



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## **MEDIAL PATELLA FEMORAL LIGAMENT RECONSTRUCTION Rehab Protocol (page two)**

### **PHASE ONE—Weeks 1-2**

#### **RANGE OF MOTION:**

1-2 ROM 0-40°

Passive Range of Motion

Ankle pumps

Gastroc/soleus stretches

#### **STRENGTH:**

Quad sets x10 minutes

SLR (flex and abd)

Heel raise/Toe raise

Wall squats

#### **WEIGHT BEARING:**

Partial weight bearing with the knee locked in extension

#### **MODALITIES:**

Electrical stimulation as needed

Ice 15-20 minutes with knee at 0° extension

#### **BRACE:**

Remove brace to perform ROM activities

I-ROM when walking with crutches

#### **GOALS OF PHASE ONE:**

ROM (see above, depends on procedure)

Control pain, inflammation, and effusion

Adequate quad contraction

NWB to WBAT, per Dr. Stewart (depends on procedure)

### **PHASE TWO—Weeks 2-4**

#### **RANGE OF MOTION:**

Passive, 0-60°

Ankle Pumps

Gastroc/Soleus stretch

Light hamstring stretch at Week 4

Heel/Wall slides to reach goal

#### **STRENGTH:**

Quad sets with biofeedback

SLR (flex, abd, add)

Heel Raise/Toe Raise

#### **MODALITIES:**

E-Stim/Biofeedback, as needed

Ice 15-20 minutes

#### **BRACE:**

I-ROM when walking with crutches with the brace locked in extension

#### **GOALS OF PHASE TWO:**

ROM to 60° flexion by week 4 and 0° extension

Diminish pain, inflammation, and effusion

Quad control

Initiate weight bearing as permitted by Dr. Stewart



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## **MEDIAL PATELLA FEMORAL LIGAMENT RECONSTRUCTION Rehab Protocol (page three)**

### **PHASE THREE-Weeks 4-6**

#### **RANGE OF MOTION:**

Passive, 0-90°

Gastroc/Soleus stretch

Heel/Wall slides to reach goal

#### **STRENGTH:**

Progressive isometric program

SLR in 4 planes with ankle weight/tubing

Heel Raise/Toe Raise

Mini-squats/Wall squats

Initiate isolated hamstring curls

Multi-hip machine in 4 planes

Leg Press—double leg eccentric

EFX/Retro treadmill

Lateral/Forward step-ups/downs

Lunges

#### **BALANCE TRAINING:**

Single leg stance

Weight shift

Balance board/two-legged

Cup walking/hesitation walking

#### **WEIGHT BEARING:**

WBAT in knee immobilizer locked in extension

#### **MODALITIES:**

Ice 15-20 minutes

#### **BRACE:**

Discharge at 6 weeks.

#### **GOALS OF PHASE THREE:**

ROM 0-90°

Increase lower extremity strength and endurance

Minimize pain, swelling, and effusion



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## **MEDIAL PATELLA FEMORAL LIGAMENT RECONSTRUCTION Rehab Protocol (page four)**

### **PHASE FOUR-Weeks 6-12**

Weeks 6-10:

RANGE OF MOTION:

0-135°

Passive, 0-135° by Week 10

Gastroc/Soleus/HS stretch

STRENGTH:

Continue exercises from Weeks 4-6

Leg press/Single Leg Eccentric

Lateral lunges

BALANCE TRAINING:

Two-legged balance board

Single leg stance with plyotoss

Cup walking

1/2 foam roller work

MODALITIES:

Ice 15-20 minutes

BRACE:

Functional brace as needed

GOALS OF PHASE FOUR:

Full weight bearing, normal gait

Restore full knee ROM (0-135°)

Increase strength and endurance

Enhance proprioception, balance, and neuromuscular control

Weeks 10-12:

RANGE OF MOTION:

0-135°

Passive, 0-135°

Gastroc/Soleus/HS stretch

STRENGTH:

Continue exercises from Weeks 4-10

Initiate jogging protocol, start on mini-tramp at  
week 10, as tolerated, progress to treadmill

Progress with proprioception training

Walking program

Bicycle for endurance

MODALITIES:

Ice 15-20 minutes

### **PHASE FIVE-Weeks 12-16**

RANGE OF MOTION:

Continue all stretching activities

STRENGTH:

Continue exercises from weeks 4-12

Initiate plyometric training drills

Progress jogging/running program

Initiate isokinetic training (90-30°), (120-240°/sec)

MODALITIES:

Ice 15-20 minutes

GOALS OF PHASE FIVE:

Restore functional capability and confidence

Restore full knee ROM (0-135°)

Enhance lower extremity strength and endurance



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## **MEDIAL PATELLA FEMORAL LIGAMENT RECONSTRUCTION Rehab Protocol (page five)**

### **PHASE SIX-Weeks 16-20**

#### **RANGE OF MOTION:**

Continue all stretching activities

#### **STRENGTH:**

Continue all exercises from previous phases

Progress plyometric program

Increase jogging/running program

Swimming (kicking)

Backward running

#### **FUNCTIONAL PROGRAM:**

Lateral movement

Carioca, figure 8's

#### **MODALITIES**

Ice 15-20 minutes, as needed

#### **GOALS OF PHASE SIX:**

Maintain muscular strength and endurance

Perform selected sport-specific activity

Progress skill training

Enhance neuromuscular control

### **PHASE SEVEN-Weeks 20-36**

#### **RANGE OF MOTION:**

Continue advanced strengthening

#### **FUNCTIONAL PROGRAM:**

Progress running/swimming program

Progress plyometric program

Progress sport training program

Progress neuromuscular program

#### **MODALITIES:**

Ice 15-20 minutes, as needed

#### **GOALS OF PHASE SEVEN:**

Return to unrestricted sporting activity

Achieve maximal strength and endurance

Progress independent skill training

Normalize neuromuscular control drills

At six and twelve months, a follow-up isokinetic test is suggested to guarantee maintenance of strength and endurance. Advanced weight training and sport specific drills are advised to maintain a higher level of competition.