ORTHOSURGERY
Ιατρείο Ορθοπαιδικών Παθήσεων

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Meniscus Repair Rehabilitation

This rehabilitation protocol was developed for patients who have isolated meniscal repairs. Meniscal repairs located in the vascular zones of the periphery or outer third of the meniscus are progressed more rapidly than those repairs that are more complex and located in the avascular zone of the meniscus. Dependent upon the location of the repair, weight bearing status post-operatively as well as the intensity and time frame of initiation of functional activities will vary. The protocol is divided into phases. Each phase is adaptable based on the individual patients and special circumstances.

The **overall goals** of the repair and rehabilitation are to:

- Control pain, swelling, and 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 orthopedic and patient goals

The physical therapy should be initiated within 3 to 5 days post-op. 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-op signs to monitor:

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

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. Return to intense activities such as impact loading, jogging, deep knee flexion, or pivoting and shifting early post-operatively may increase the overall chance of a repeat meniscal tear and symptoms of pain, swelling, or instability should be closely monitored

by the patient.

Phase 1: Weeks 1-2

Meniscal Repair

WEEK EXERCISE GOAL

1-2 ROM 0-90°

Passive, 0-90°

Patellar mobilizations

Ankle pumps

Gastoc/soleus stretch

Hamstring/ITB stretch

Prone hangs to facilitate extension

STRENGTH

Quad sets with E-stim/biofeedback

SLR in 4 planes

SAQ

Multi-hip machine in 4 planes

Hip flexion-seated

Multi-angle isometrics (0-60°)

WEIGHT BEARING

Toe touch weight bearing in post-op brace with crutches

MODALITIES

E-stim/biofeedback as needed

Ice 15-20 minutes with 0° knee ext

BRACE

Remove brace to perform ROM activities

Post-op brace with crutches

Brace locked at 0° ext to protect repair

GOALS OF PHASE:

- Control pain, inflammation, and effusion
- Adequate quad/VMO contraction
- Independent in HEP
- TDWB to PWB as instructed

Phase 2: Weeks 2-4

Meniscal Repair

WEEK EXERCISE GOAL

2-4 ROM 0-120°

Passive, 0-120°

Patellar mobs

Gastoc/soleus stretch

Hamstring/quad/ITB stretch

Prone hang as needed

Heel/wall slides to reach goal

STRENGTH

Quad sets with biofeedback

SLR in 4 planes with ankle weight

Multi-angle isometrics (0-60°)

Knee extension (90-30°)

Heel raises/Toe raises

Leg Press (110-40°)

Wall squats

BALANCE TRAINING

Weight shift (side/side, fwd/bkwd)

Single leg balance

Cup walk/Hesitation walk

WEIGHT BEARING PWB to FWB

PWB to FWB with crutches as tolerated

As instructed (case-dependent)

BICYCLE

May initiate bike when 110° flex is reached

DO NOT use bike to increase flexion

MODALITIES

Biofeedback as needed

Ice 15-20 minutes

BRACE

Discontinue week 4

Post-op brace with crutches

Opened to 90° at wk 2

Opened to full ROM at wk 3-4

GOALS OF PHASE:

- ROM 0-120°
- Adequate quad/VMO contraction
- Control pain, inflammation, and effusion
- PWB to FWB with quad control

Phase 3: Weeks 4-12

Meniscal Repair

WEEK EXERCISE GOAL

4-12 ROM 0-135°

Passive, 0-135° (full)

Gastroc/soleus stretch

Hamstring/quad/ITB stretch

Prone hang to reach goal as needed

Patellar mobs

STRENGTH

Bicycle/EFX

SLR in 4 planes with ankle weight/tubing

Mini-squats/Wall squats

Knee extension (90-30°)

Hamstring curl (0-90°)

Leg Press-single legged eccentric

Smith Press-double legged

Isokinetic training at high speeds (180-360°/sec)

Multi-hip machine in 4 planes

Lateral/Forward step-up/down

Heel raise/Toe raise

Lunges-knee not to migrate over toe

BALANCE TRAINING

Single leg balance with plyotoss

Sports cord agility work

Wobble board work

½ Foam roller work

WEIGHT BEARING FWB

FWB by wk 4

BRACE

Discontinue

MODALITIES

Ice 15-20 minutes as needed

GOALS OF PHASE:

- ROM 0-135°
- Full weight bearing
- Control pain, inflammation, effusion
- Increase lower extremity strength and endurance
- Enhance proprioception, balance, and coordination
- Complete readiness for sport specific activity

Phase 4: Weeks 12-36

Meniscal Repair

WEEK EXERCISE

12-36 ROM

Continue all stretching activities

STRENGTH

Continue all exercises from previous phases

RUNNING PROGRAM

Water walking

Swimming (kicking)

Backward run

CUTTING PROGRAM

Lateral shuffle

Carioca, figure 8's

FUNCTIONAL TRAINING

Initiate light plyometric program

box hops, level, double-leg

Sport specific drills

MODALITIES

Ice 15-20 minutes as needed

GOALS OF PHASE:

• Enhance neuromuscular control

• Progress skill training

• Perform selected sports specific activity-unrestricted sporting activity

• Achieve maximal strength and endurance

Advanced weight training and sports specific drills are advised to maintain a higher level of competition. Isokinetic testing at 6 and 12 months may be recommended to guarantee maintenance of strength and endurance