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Meniscus Repair Rehabilitation Dr. Matthew Crawford

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 that 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

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 of 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.

Dr. Matthew Crawford
Phase 1- Weeks 1-2 Meniscal Repair

WEEK	EXERCISE	GOAL
1-2	ROM Passive, 0-90 ⁰ Patellar mobs 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 ⁰) WEIGHT BEARING Toe touch weight bearing in I-ROM with crutches MODALITIES E-stim/biofeedback as needed Ice 15-20 minutes with 0 ⁰ knee ext BRACE Remove brace to perform ROM activities I-ROM with crutches Brace locked at 0 ⁰ ext to protect repair	0-90 ⁰

GOALS OF PHASE:

- Control pain, inflammation, and effusion
- Adequate quad/VMO contraction
- Independent in HEP
- TDWB to PWB as noted by Dr. Crawford

Phase 2- Weeks 2-4 Meniscal Repair

WEEK	EXERCISE	GOAL
2-4	ROM Passive, 0-120 ⁰ Patellar mobs Gastoc/soleus stretch Hamstring/quad/ITB stretch Prone hang as needed Hell/wall slides to reach goal STRENGTH Quad sets with biofeedback SLR in 4 planes with ankle weight Multi-angle isometrics (0-60 ⁰)	0-120 ⁰

Knee Extension (90-30⁰)

Heel raises/Toe raises

Leg Press (110-40⁰)

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

Dependent upon Dr. Crawford

BICYCLE

May initiate bike when 110⁰ flex is reached

DO NOT use bike to increase flexion

MODALITIES

Biofeedback as needed

Ice 15-20 minutes

BRACE

Discharge wk 4

I-ROM with crutches

Opened to 90⁰ at wk 2

Opened to full ROM at wk 3-4

GOAL OF PHASE:

- ROM 0-120⁰
- 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

0-135⁰

Passive, 0-135⁰ (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 (90-30⁰)

Hamstring curl (0-90⁰)

Leg Press-single legged eccentric

Smith Press-double legged

Isokinetic training at high speeds (180-360⁰/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 Discharge
 As needed wk 4
MODALITIES
 Ice 15-20 minutes as needed

GOALS OF PHASE:

- ROM 0-135⁰
- Full weight bearing
- Control pain, inflammation, and effusion
- Increase lower extremity strength and endurance
- Enhance proprioception, balance, and coordination
- Complete readiness for sport specific activity

WEEK	Phase 4- Weeks 12-36 Meniscal Repair	GOAL
12-36	EXERCISE 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.