



MENISCUS REPAIR

PHASE I: POSTOPERATIVE REHAB (Week 1-2)

GOALS: ROM 0-90°
Adequate quadriceps contraction
Control inflammation, effusion

- **EVALUATION:**
 - Pain
 - Hemarthrosis
 - Patellar mobility
 - ROM minimum
 - Quadriceps contraction & patella migration
 - Soft tissue contracture
- **WEIGHT BEARING:**
 - Toe-touch to 1/4 WB (complex): toe touch to 1/2 WB (peripheral) when: Pain controlled, Hemarthrosis controlled and voluntary quadriceps contraction & full extension achieved
- **ROM:**
 - Passive 0-90°
 - Ankle Pumps (plantar flexion with resistance band)
 - Patellar Mobilization
 - Hamstring , gastroc-soleus stretches
- **EXERCISE/STRENGTHENING:**
 - Straight leg raises (flexion)
 - Active quadriceps isometrics
 - Knee extension (active-assisted)
- **MODALITIES:**
 - Electrical muscle stimulation x 20 min
 - Cryotherapy x 20 min

PHASE II: POSTOPERATIVE PROTECTION (Week 3-4)

GOALS: ROM 0-120°
Control inflammation, effusion
Muscle control
Early recognition of complications (motion, RSD, patellofemoral)

- **EVALUATION:**
 - Pain
 - Hemarthrosis
 - Patellar mobility
 - ROM minimum
 - Quadriceps contraction & patella migration
 - Soft tissue contracture
- **WEIGHT BEARING:**
 - 1/2 WB complex, full WB (peripheral) when: Pain controlled, Hemarthrosis controlled and voluntary quadriceps contraction & full extension achieved
- **ROM:**
 - Passive 0-120°
 - Patella mobilization
 - Ankle pumps (plantar flexion with resistive band)
 - Hamstring, gastroc-soleus stretches
- **EXERCISE/STRENGTHENING:**
 - Straight leg raises (flexion, extension, adduction)
 - Isometric training: multi-angle (0°-60°)
 - Knee extension (active assisted 90°-30°)
 - Closed-chain (peripheral): toe raises, wall sits
- **BALANCE TRAINING (PERIPHERAL):**
 - Weight shift side/side and forward/back
 - Cup walking
- **AEROBIC CONDITIONING:**
 - Cup walking
- **MODALITIES:**
 - Electrical muscle stimulation
 - Cryotherapy

PHASE III CONTROLLED AMBULATION (WEEK 5-6)

GOALS: ROM 0°-135°
Control inflammation, effusion
Muscle control
Early recognition complications (motion loss, RSD, patellofemoral changes)

➤ EVALUATION:

- Pain
- Hemarthrosis
- Patellar mobility
- ROM
- Muscle control
- Inflammatory response

➤ WEIGHTBEARING:

- ¾ WB (complex); full WB peripheral when; Pain controlled without narcotics, Hemarthrosis controlled, ROM 0-135° and muscle control throughout ROM

➤ ROM:

- ROM (passive 0°-135°)
- Patella mobilization
- Hamstring, gastroc-soleus stretches

➤ EXERCISE/STRENGTHENING:

- Straight leg raises (Ankle weights not to exceed 10% of body weight)
- Isometric training: multi-angle (90°-60°-30°)
- Hamstring curl (active 0-90°, peripheral)
- Knee extension (active, 90°-30°)
- Closed chain (all repairs); Heel raise/toe raise, Wall sits
- Multiple hip machine (flexion, extension, abduction, adduction)
- Leg Press (70°-10°)

➤ BALANCE TRAINING:

- Weight shifting side to side, forward and back
- Balance board/ 2 legged
- Cup walking

➤ AEROBIC CONDITIONING: (patellofemoral precautions)

- UBE

➤ MODALITIES:

- Electrical muscle Stimulation
- Cryotherapy

PHASE IV LIGHT ACTIVITY PHASE (Month 7-8)

GOALS: Full weight bearing, normal gait
Control inflammation, effusion
Muscle control
ROM 0°-135°

➤ **EVALUATION:**

- Pain
- Hemarthrosis
- Patellar mobility
- ROM
- Muscle control
- Inflammatory response

➤ **WEIGHT BEARING:**

- Full weight bearing with 1 crutch (complex) when; Pain controlled without narcotics, Hemarthrosis controlled, ROM 0-135° and voluntary quad contraction achieved

➤ **ROM:**

- Hamstring, gastroc-soleus stretches
- ROM (0-135°)

➤ **EXERCISE/STRENGTHENING:**

- Straight leg raises (flexion, tension, abduction, adduction)
- Straight leg raises, rubbing tubing
- Hamstring curl (active 0-90°, all repairs)
- Knee extension (active, 90°-30°)
- Closed chain ; Mini squats, Wall sits
- Multiple hip machine (flexion, extension, abduction, adduction)
- Leg Press (70°-10°)

➤ **AEROBIC CONDITIONING:**

- UBE
- Stationary bicycling

➤ **BALANCE TRAINING:**

- Balance board/ 2 legged
- Single leg stance
- Cup walking

➤ **MODALITIES:**

- Cryotherapy

PHASE V: WEEKS 9 THROUGH 12

**GOALS: Increase strength and endurance
ROM 0-135°**

- EVALUATION:
 - Pain
 - Manual muscle test (hamstrings hip abductors adductors/flexors/extensors)
 - Swelling
 - Isometric test (peripheral, % difference quads & hams)
 - Patellar mobility
 - Crepitus
 - Gait
- ROM:
 - Hamstring, gastroc-soleus, quad, ITB stretches
- EXERCISE/STRENGTHENING:
 - Straight leg raises
 - Straight leg raises, rubbing tubing
 - Hamstring curl (active 0-90°)
 - Knee extension (active, 90°-30°)
 - Closed chain ; Mini squats, Wall sits, lateral step-ups (2-4" block)
 - Multiple hip machine (flexion, extension, abduction, adduction)
 - Leg Press (70°-10°)
- BALANCE TRAINING
 - Balance board/ 2 legged
 - Single leg stance
- AEROBIC CONDITIONING:
 - Stationary bicycling
 - Water walking
 - Swimming (straight leg kicking)
 - Walking
 - Stair machine (low resistance, low stroke)
 - Ski machine (short stride, level, low resistance)
- MODALITIES:
 - Cryotherapy

PHASE VI: WEEKS 13 THROUGH 26

GOALS: INCREASE STRENGTH AND ENDURANCE

- EVALUATION:
 - Pain
 - Swelling
 - Isometric test (6 mos. complex, % difference quads & hams)
 - Patellar mobility
 - Crepitus
 - Gait
- ROM:
 - Hamstring, gastroc-soleus, quad, ITB stretches
- EXERCISE/STRENGTHENING:
 - Straight leg raises, rubbing tubing (high speed)
 - Hamstring curls with resistance (active 0-90°)
 - Knee extension with resistance (active, 90°-30°)
 - Closed chain ; Mini squats (rubber tubing, 0-40°)
 - Multiple hip machine (flexion, extension, abduction, adduction)
 - Leg Press (70°-10°)
- BALANCE TRAINING
 - Balance board/ 2 legged
 - Single leg stance
- AEROBIC CONDITIONING: (patellofemoral precautions)
 - Stationary bicycling
 - Water walking
 - Swimming (kicking)
 - Walking
 - Stair machine (low resistance, low stroke)
 - Ski machine (short stride, level, low resistance)
- RUNNING PROGRAM (16-20 wks peripheral, straight, 30% deficit isometric test)
 - Jog
 - Walk
 - Backward run
- CUTTING PROGRAM –lateral, carioca, figure 8's
- FUNCTIONAL TRAINING
 - Plyometric training: box hops, level, double-leg
 - Sports specific drills (10-15% deficit isokinetic test)
- MODALITIES:
 - Cryotherapy

PHASE VI: WEEKS 27 THROUGH 52

**GOALS: INCREASE FUNCTION
MAINTAIN STRENGTH, ENDURANCE
RETURN TO PREVIOUS ACTIVITY LEVEL**

- EVALUATION:
 - Isokinetic test (isometric + torque 300%/sec % difference quads & hams)
 - Swelling
 - Patellar mobility
 - Crepitus
 - Single-leg function tests (9 mons: hop distance, timed hop, % inv/uninv)
- ROM:
 - Hamstring, gastroc-soleus, quad, ITB stretches
- EXERCISE/STRENGTHENING:
 - Straight leg raises, rubbing tubing (high speed)
 - Hamstring curs with resistance (active 0-90°)
 - Knee extension with resistance (active, 90°-30°)
 - Closed chain ; Mini squats (rubber tubing, 0-40°)
 - Multiple hip machine (flexion, extension, abduction, adduction)
 - Leg Press (70°-10°)
- BALANCE TRAINING
 - Balance board/ 2 legged
 - Single leg stance
- AEROBIC CONDITIONING: (patellofemoral precautions)
 - Stationary bicycling
 - Water walking
 - Swimming (kicking)
 - Walking
 - Stair machine (low resistance, low stroke)
 - Ski machine (short stride, level, low resistance)
- RUNNING PROGRAM (straight, 30% deficit isometric test)
 - Jog
 - Walk
 - Backward run
- CUTTING PROGRAM (20 wks peripheral, 20% deficit isokinetic test) lateral, carioca, figure 8's
- FUNCTIONAL TRAINING (20 wks peripheral)
 - Plyometric training: box hops, level, double-leg
 - Sports specific drills (10-15% deficit isokinetic test)
- MODALITIES:
 - Cryotherapy

