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 0-120º
- 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 0-120º
  - 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 (0º-60º)
  - Knee extension (active assisted 90º-30º)
  - 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 curls with resistance (active 0-90º)
  • Knee extension with resistance (active, 90º-30º)
  • Closed chain; Mini squats (rubber tubing, 0-40º)
  • Multiple hip machine (flexion, extension, abduction, adduction)
  • Leg Press (70º-10º)

➢ 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