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REHABILITATION PROTOCOL: ACL RECONSTRUCTION with
☐ Meniscus Repair ☐ MCL Repair ☐ PLC Reconstruction

I. Immediate Post-Op

- A. Bledsoe brace locked at 0 °
- B. Cryocuff incorporated in brace with TED stocking
- C. Patient instructed in performance of ROM exercises: 2-3 times daily
 - 1. "Towel" extension: obtain passive extension at least 30 minutes by propping heel up on pillows.
 - 2. Passive flexion – off side of bed.
 - 3. Good leg assist for passive ROM.
 - 4. Prone extension stretch
- D. Isometric hamstrings
- E. Isometric quads at > 45°. Quad sets, SLR at 0°
- F. SLR for quad control
- G. Co-contractions
- H. Ankle pumps
- I. **Meniscal Repair Precautions:**
 - 1. _____ **weight bearing** for 4-6 weeks in full extension with brace locked
 - 2. **Limit flexion to 90°** for first 4 weeks
- J. **MCL Repair / Reconstruction precautions:**
 - 3. _____ **weight bearing** for 3-6 weeks
 - 4. **Maintain brace for ROM exercises (not including CPM)** for 4 weeks
- K. **PLC Repair / Reconstructions:**
 - 5. _____ **weight bearing** for 3-6 weeks
 - 6. **Maintain brace for ROM exercises (not including CPM)** for 4 weeks

II. Days 3-4 to 2-3 weeks

- A. CPM for home use only if unable to start physical therapy in 1 week after surgery
(2 hour sessions, 3 x per day- slow speed for 2 weeks) Start at the degrees of flexion obtained in hospital. Progressive increase in increments of flexion. Increase 10° increments per day up to 90°, then increase in 5° increments as tolerated.
 - 1. Goal: 0-100 of flexion (emphasis on full extension)
- B. Outpatient P.T.: 2-3 times per week
- C. Use TED stocking until follow up appointment (10-14 days)
- D. Continue cryocuff as needed
- E. Home exercises: 3 times per day
 - 1. Towel extensions
 - 2. Prone passive stretching (if necessary for extension)
 - 3. Wall & heel slides for flexion (or comparable flexion exercises)
 - 4. **Active assisted knee flexion only**
 - 5. Good leg assist passive extension
 - 6. Isotonic hamstrings
 - 7. Open chain quads 90° - 45° (if tolerated)
- F. Brace at 0° for ambulating and sleeping
- G. Cryocuff after exercises or if swelling occurs
- H. EMS Protocol: High Voltage, co-contractions



III. Weeks 3-6

- A. **Meniscal repair, MCL repair, and or PLC Reconstruction stays in large Bledsoe brace for 4-6 wks.**
- B. Wean down on one crutch or cane as directed by MD
- C. EMS Protocol
- D. Continue ROM exercises as before with home program
- E. Water Conditioning (can start earlier if there is complete wound healing)
- F. Swimming- well leg kick only
- G. Stationary Biking, Stairmaster, ¼ Squats
- H. Start easy closed-chain quad exercises
- I. Isotonic Hamstring
- J. Quads 90-30° (if no patellar irritation)
- K. Stress Full Extension. Should have 120° of flexion by 6 weeks

IV. Weeks 6-12

- A. Most strengthening exercises for quadriceps are to be closed kinetic chain exercises
 - 1. Bilateral knee bends; progress to unilateral knee bends
 - 2. Calf raises (double to single leg)
 - 3. Leg press machine (90- 10°)
 - 4. One leg balancing
- B. Brace: **Wean off brace when directed by MD for meniscus repair or combined ligament injuries**
- C. Wean off crutch or cane
- D. Stationary Biking (for ROM first, then gradually add resistance)
- E. Continue heel slides for flexion at home
- F. Passive flexion stretch
- G. Water conditioning
- H. Swimming (flutter kick only)
- I. Increase hamstrings
- J. Strengthening
- K. If quad strength > 70% - rope jumping (with brace), leg press, hip slide, squat rack (90- 10°), stairmaster

V. 3-5 Months

- A. Cycling & swimming (progress to road bike)
- B. Isokinetics at **5-6 Months** with extension stop of 20° (**no low angular velocities**)
- C. Jogging at 3-4 months (if quad strength > 70 %)
- D. Proprioception exercises (balance board)
- E. Leg Press
- F. Strength Test, KT – 1000. If > 70% strength, lateral shuffles, cariocas, jumping rope, isotonic with 20° extension stop
- G. Closed-chain quad strengthening with increasing resistance

VI. 5- 12 Months

- A. Progressive Strengthening without restrictions on extension
- B. Proprioceptive exercise
- C. Sports specific activities
- D. Biking and swimming
- E. Return to all sports (per physicians instructions)
- F. Protective brace for pivoting and jumping activities until 24 months
- G. Running sports to cutting sports
- H. Jumping sports last
- I. Serial isokinetic testing as indicated
- J. Running program with emphasis on agility and power
- K. Functional activities
 - 1. side- cutting
 - 2. back pedaling
 - 3. cutting
 - 4. plyometrics