



Mid-America Orthopedics

Dr. John Babb

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ACL, MCL, LCL, & PCL RECONSTRUCTION PROTOCOL

Day 1-6 Post-op

- PT removes bandages on POD #3, keep steri-strips intact until Dr Babb can remove them.
- No ointments, betadine etc should be used on the incisions or portals.
- If any drainage/oozing is present, re-cover with 4x4's, and notify Dr Babb (may need antibiotics).
- **NO ice bags** on any oozing or open wounds without being covered first with a bandage.
- If any wounds are oozing delay range of motion until wounds are closed and healed.
- **NO water on wounds** for 2 weeks (including showers) even if covered, no submersion of wounds in water (baths) until wounds are scars.
- **Brace:** Locked in extension during ambulation. Unlock to 90 deg when sitting.
- **Ambulation:** WBAT with 2 crutches, brace locked in extension
- **ROM:** 0-90. Remove brace to perform ROM exercises
 - Emphasize restoring knee extension
 - Patellar mobilization
 - Ankle Pumps
- **Strengthening:**
 - SLR flx & abd
 - Ball squeezes
 - Quad sets: multi-angle at 90 & 60 degrees (knee extension)
 - Knee extension 90-40 degrees
 - Standing hamstring curls
 - Closed kinetic chain: mini squats, weight shifting
 - Proprioception & balance activities
- **Muscle Stimulation:** Use Russian/NMES units during quadriceps exercises

Day 7-13 Post-op

- **Brace:** Locked in extension during ambulation. Unlock when sitting.
- **Ambulation:** WBAT with brace locked in extension (goal is to D/C crutches 10-14 days post-op)
- **ROM:** Progress to 0-105. Remove brace to perform ROM exercises
 - Emphasize maintaining full knee extension
 - Patellar mobilization
 - Ankle Pumps

- **Strengthening:**
 - SLR's 4 planes
 - Ball squeezes
 - Quad sets: multi-angle at 90 & 60 degrees (knee extension)
 - Knee extension (90-40 deg)
 - Standing hamstring curls
 - Closed kinetic chain: Half Squats (0-40 deg), Weight Shifting, Front & Side lunges
 - Leg press (0-60 deg)
- **Muscle Stimulation:** Use Russian/NMES units during active quad exercises
- **Proprioception/Neuromuscular Training**
 - OKC passive/active joint repositioning (90, 60, 30 deg)
 - CKC joint repositioning during squats/lunges

Day 14-20 Post-op

- **Brace:** Unlocked
- **Ambulation:** WBAT with brace unlocked (establish normal gait pattern)
- **ROM:** Progress to 0-115. Remove brace to perform ROM exercises
 - Emphasize maintaining full knee extension
 - Patellar mobilization
 - Ankle Pumps
 - Stationary Bike once 105 deg of knee flexion as been achieved
- **Strengthening:**
 - Continue all exercises as in Week 2
 - Pool walking program (if incisions closed)
 - Eccentric quadriceps (40-100 deg isotonic only)
 - Lateral Lunges (straight plane)
 - Front Step downs
 - Lateral Step Over (cones)
- **Muscle Stimulation:** Use Russian/NMES units during active quad exercises
- **Proprioception/Neuromuscular Training**
 - Continue/Progress proprioception/stability drills as tolerated

Day 21-41 Post-op

- **Brace:** Unlocked
- **Ambulation:** WBAT with brace unlocked (establish normal gait pattern)
- **ROM:** Progress to 0-125. Remove brace to perform ROM exercises
 - Emphasize maintaining full knee extension
 - Patellar mobilization
- **Strengthening:**
 - Continue all exercises as previously
 - Leg press (0-100 deg)
 - Eccentric quadriceps (40-100 deg isotonic only)
 - Lateral Lunges (straight plane & multi-plane)
 - Front Step downs
 - Lateral Step ups

- Wall Squats
- Vertical Squats
- Calf Raises in standing & seated
- Lateral Step Over (cones)
- Pool walking program (Backward Running, hip & leg exercises)
- Stair stepper machine
- Bicycle
- **Muscle Stimulation:** Use Russian/NMES units during active quad exercises
- **Proprioception/Neuromuscular Training**
 - Continue/Progress proprioception/stability drills
 - BOSU/tilt board: balance, squats
 - Perturbation training

6-7 Weeks Post-op

- **Brace:** D/C brace when LE strength is 80% of contra lateral LE
- **Ambulation:** WBAT with brace unlocked (establish normal gait pattern)
- **ROM:** Progress to 0-135.
 - Emphasize maintaining full knee extension
 - Patellar mobilization
- **Strengthening:**
 - Continue all exercises
 - Pool running (forward) & agility drills
 - Wall slides/squats
- **Muscle Stimulation:** Use Russian/NMES units during active muscle exercises
- **Proprioception/Neuromuscular Training**
 - Continue/Progress proprioception/stability drills
 - BOSU/tilt board: balance, squats
 - Progress to balance & ball throws
 - Perturbation training

8-10 Weeks Post-op

- **Brace:** D/C brace when LE strength is 80% of contralateral LE
- **Ambulation:** WBAT with brace unlocked (establish normal gait pattern)
- **ROM:** Progress ROM to full.
- **Strengthening:**
 - Continue all exercises
 - Leg Press (single leg) 0-100 deg & 40-100 deg
 - Plyometric Leg Press
 - Walking program
 - Bicycle for endurance
 - Stair Stepper machine for endurance
- **Proprioception/Neuromuscular Training**
 - Continue/Progress proprioception/stability drills
 - BOSU/tilt board: balance, squats
 - Progress to balance & ball throws
 - Perturbation training

10-12 Weeks Post-op

- **ROM:** AROM full, stretching drills
- **Strengthening:**
 - Continue to progress all strengthening exercises in preparation for return to sports/work simulated positions/activities.
- **Proprioception/Neuromuscular Training**
 - Continue/Progress proprioception/stability drills in preparation for return to sport/work simulated positions/activities
- **Activities:**
 - May initiate light short distance throwing (NO pitching), Free throws
 - May initiate light golf program (chipping/putting)

3 Months Post-op

- **Straight ahead running**
 - Start with 100 yds at half speed on soft level surface
 - Add 100 yds every other day
 - Work up to 1 mile or 1760 yds
- **Gentle lateral movements:**
 - Defensive slide
 - Floor ladder
 - Figure 8's
 - Carioca's
- **Transverse plane movements:**
 - Pivots
 - Steps with rotation
- **Low level plyometrics:** stationary jumps, hops, skipping rope. Refer also to MAO plyometric program
- Golf and Outdoor bike

6 Months Post-op

- **Cutting drills**
- **Advance sport specific drills:**
 - Soccer: Hard kicks if surgery leg is kick leg, do not plant on surgery leg
 - Basketball: lay ups and jump shots, no scrimmaging or one on one
 - Softball/Baseball: Throwing, hitting, running bases
 - Racquet sports: low level hitting against backboard
- **Increase running program**
 - Speed
 - Rounded turns
 - Backpedal
 - Low level direction changes
- **Aggressive agility drills:**
 - Jump
 - Hop

- Plyometric activities
- **Teach deceleration and injury prevention techniques:**
 - Rounded turn
 - Bent knee landings
 - 3-step stops

Patient progression during the time frames along with general modality and exercise choice is left up to the discretion of the treating therapist. If you have any questions regarding this protocol, please contact (316) 630-9300.