Connecticut Orthopaedics

Megan R. Wolf, MD
Sports Medicine/Foot & Ankle

Anterior Cruciate Ligament (ACL) Reconstruction With Meniscus Repair (Peripheral/Vertical)
Post-Operative Protocol

Phase I – Maximum Protection
Weeks 0 to 3:

- Brace – locked in full extension during all ambulation for 3 weeks
  - Can unlock brace to allow 0-90 degrees for unloaded range of motion only
- Use two crutches with touch-down weight bearing (<25% body weight) at all times for 3 weeks
- Limit knee flexion to 90-degrees for 3 weeks

  Goals
  - Reduce inflammation and pain
  - 0 degrees of knee extension

  Exercise progression
  - Quadriceps setting using NMES as needed
  - Emphasize patellofemoral mobilizations
  - Passive/active knee range of motion with 90° flexion limit
  - Quadriceps setting emphasize VMO function
  - Multi-plane straight leg raising
  - Open chain hip strengthening
  - Gait training

Weeks 3 to 6:

- Brace – open 0-90 degrees for ambulation
- Continue using two crutches, with gradual progression of weight bearing
  - Increase WB to FWB over next 2 weeks
  - Progress as tolerated past 90 degrees of knee flexion

  Goals
  - Reduce inflammation and pain
  - 0 degrees of knee extension

Phase II – Progressive Stretching and Early Strengthening
Weeks 6 to 8:

- Discontinue brace

  Goals
  - Full knee extension/hyperextension
  - Gradual progression to full knee flexion
  - No swelling
  - Normal gait

  Exercise progression
  - Continue to emphasize patella mobility
  - Begin bilateral closed kinetic chain strengthening limited range initially
  - Step-up progression
  - Begin stationary bike with light resistance initially
  - Proprioception drills
  - Gait training - normalize gait pattern

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Phase III – Advanced Strengthening and Endurance Training

Weeks 8 to 10:

Goals
- Full knee range of motion

Exercise progression
- Avoid rotational movements for 14 weeks
- Advance stationary biking program (increase intensity)
- Introduce treadmill walking and elliptical trainer
- Begin unilateral closed kinetic chain program
- Gym strengthening progression (leg press above 90-degrees, hamstrings curls etc.)

Weeks 10 to 12:

Exercise progression
- Outdoor biking
- Lunge progression (retro, walk and split) as indicated
- Swimming free style
- Forward/backward elevated treadmill walking
- Deep water pool running progression

Weeks 12-14

Administer preliminary functional test for physician to review

Phase IV – Advance Strengthening and Running Progression

Weeks 12 to 20:

Exercise progression
- Progress resistance with squat and lunge strengthening program.
- May add leg extensions at 30° - 0° (exclude patients with patellar or trochlear groove chondral pathology)
- Basic ladder series
- Lateral lunge progression
- Begin linear jogging
- Basic plyometric box progression – week 16

Criteria to progress to Phase V
- Pass Return to Sport test at >90% (involved vs uninvolved limb)
  - See testing protocol

Phase V – Return to Sport

Weeks 20 to 24:

Exercise progression
- Advance ladder, hurdle and plyo box progressions
- Sport specific field/court drills
- Non-contact drills

Criteria to be released for return to sport
- Follow-up examination with the physician
- Pass return-to-sport functional test at >90% (involved vs uninvolved limb)
  - See testing protocol
- Display symmetry and confidence in high-speed cutting, multi-plane plyometric drills, sprinting and decelerating