Connecticut Orthopaedics

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

Anterior Cruciate Ligament (ACL) Reconstruction
With Meniscus Transplant
Post-Operative Protocol

Phase I – Maximum Protection
Weeks 0 to 6:

- Brace – 0-90 x 6 weeks
  - Recommend locking in extension for sleep
- Non-weight bearing with two crutches for 6 weeks
- Limit knee flexion to 90-degrees for 3 weeks; allow 90-120 degrees between 3 to 6 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

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

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

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

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.)

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Weeks 10 to 12:

Exercise progression

- Outdoor biking
- Lunge progression (retro, walk and split) as indicated
- 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.
- Begin light plyometric drills, progress from bilateral to unilateral
- Begin linear jogging – week 16
- Progress to lateral and rotational stresses at 18 weeks
- Multi-directional drills at 18-20 weeks

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