

Anterior Cruciate Ligament (ACL) Reconstruction With Meniscus Repair (Peripheral/Vertical)

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 3-6:

- 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
- Progress as tolerated past 90 degrees of knee flexion

Goals

- Reduce inflammation and pain
- Maintain 0° 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

Phase III – Advanced Strengthening and Endurance Training

Weeks 8 to 10:

Goals

- Full knee range of motion

Exercise progression

- Avoid rotational movements until 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
- Lung progression (retro, walk and split) as indicated
- Swimming freestyle
- Forward/backward elevated treadmill walking
- Deep water pool running progression

Weeks 12 to 14:

Administer preliminary functional test for physician to review

Phase IV – Advanced Strengthening and Running Progression

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