

Postoperative ACL Quadriceps Tendon Reconstruction with/without Anterolateral ligament reconstruction Rehabilitation

*Because this procedure only requires harvest of a portion of the quadriceps tendon rehabilitation can begin with minimal soft tissue limitations. Watch for excessive quadriceps pain with exercises, however immediate weight bearing and flexion range of motion have no real restrictions.

*In patients who have ALL reconstruction, watch for early ITB pain and limitations with flexion

PHASE I (PREOPERATIVE)

Restoration of ROM both active and passive
Reduced knee swelling
Reduced knee pain
Weight bearing status
Weight bearing as tolerated, crutches as needed
Exercises
Extension stretching (heel props, towel stretch, prone hangs)
Flexion exercises (heel slides, supine flexion hangs)
Straight Leg Raise x 4
Quadriceps sets
Hamstring sets
Leg press
Mini squats
Step downs

PHASE II (DAYS 1-14)

Goals:

Restoration of ROM both active and passive
Full extension and 90° flexion by end week 1
Full extension and 110° flexion by end week 2
Reduced knee swelling
Reduced knee pain

WB status:

Weight bearing as tolerated, crutches as needed or none at all
Full weight bearing with no antalgic gait by 3 weeks

Exercises

Extension- focus on term extension days 1-7 (heel props, towel stretch, prone hangs)
Flexion exercises (heel slides, supine flexion hangs) as tolerated
Straight Leg Raise x 4- minimal extensor lag by 2 weeks
Quadriceps sets in full extension with or without electrical stimulation
Hamstring sets
Ankle pumps
Weight shifting as tolerated

Standing terminal knee extension (Knee lockouts)
Cryotherapy for edema and effusion

PHASE III (WEEKS 2-4)

Goals

- Restoration of ROM both active and passive
- Maintain full weight bearing
- Improve balance and proprioception
- Minimize knee swelling
- Minimize knee pain

Weight bearing status

- Full weight bearing with no antalgic gait by 3 weeks- open brace as quad fxn improves
- D/c brace when quad control is good or excellent as determined by 10 straight leg raises

Exercises

- Previous exercises
- Isometric quadriceps sets against resistance at 0°, 90° and 60°
- Closed kinetic chain squats or leg press bilateral 0-60°
- Stationary bike with gradual increase in resistance
- Step-downs
- Leg press
- Mini squats
- Calf raises bilateral
- Band exercises (lateral walking, monster walks)
- Single leg balance drills
- Bilateral single plane balance board
- **dry needling and modalities over ALL if patient continues to have pain/limits with flexion

PHASE IV (WEEKS 4-12)

*PRECAUTION - Graft at weakest point during this period. No impact loading activities such as jumping, running, pivoting, or cutting.

Goals

- Maintenance of ROM both active and passive
- Full bilateral equal flexion and extension
- No knee pain or swelling- minimal ALL and ITB pain
- Preparation for activities

Exercises

- Previous exercises
- Calf raises bilateral progressing to unilateral
- Squats and leg press 0-60° bilateral progressing to unilateral
- Lunges 0-60°
- Balance board multiple planes bilateral progressing to unilateral
- Single leg balance eyes open/eyes closed
- Ball toss while in single leg stance
- Sports cord resisted walking
- Single leg deadlift
- Core strengthening
- Alter G treadmill intervals

PHASE V (WEEKS 12+)

Goals

- Maintenance of ROM both active and passive
- Full bilateral equal flexion and extension
- No knee pain or swelling
- Preparation for activities

Exercises

- Previous exercises
- Calf raises unilateral
- Progressive resistance for squats, leg press and lunge
- Continue core exercises
- Advance hamstring exercises
- Advanced balance exercises
- Start functional drills such as ladder drills, carioca at weeks 10-12

12 weeks +

- Mini-jumping exercises progressing to hopping
- Perturbation exercises on balance board
- Increase speed of functional drills
- Functional activities such as jump shot, kicking soccer ball, ect.
- Begin progressive running program

Weeks 12-24

- jumping in forward plane
- cutting
- plyometrics
- sport specific activities
- DonJoy brace for patients returning to contact sports at 18-20 weeks

Criteria for Return to Activity

- Restoration of ROM (Full extension and 130° flexion)
- Equal motion bilaterally
- Normal gait
- Negative Lachman's test with excellent stability
- Single leg stance without assistance > 30 seconds
- Ability to bilaterally squat to 60° with equal weight bearing
- Minimal pain and swelling
- 80% bilateral symmetry and with reported norms on scores on functional tests
- **MUST PASS FUNCTIONAL TEST TO RETURN TO PLAY****