

KELOWNA BONE

& JOINT HEALTH

Anterior Cruciate Ligament (ACL) Reconstruction Post Operative Protocol

Date of Surgery:

Findings:

ACL Graft:

- Hamstrings
- Patella Tendon
- Quads Tendon

Implants:

- Metal Button Femur Tibia
- Screw Femur Tibia

Meniscus:

- No Meniscus Tear
- Meniscus Tear resected Medial Lateral
- Meniscus Repaired Medial Lateral

Rehabilitation Protocol:

Phase I:

0-8 Weeks

GOALS:

- 1) Control Swelling
 - a. Elevate knee
 - b. Ice knee for 15 minutes of every hour, or use an ice-compression device
 - c. Push knee down while sitting to activate quads
- 2) Early Range of Motion
 - a. Move leg as much as tolerated
 - b. Rest with leg straight to achieve full extension (**do not** rest with knee slightly bent with pillow under knee).
- 3) Protect Graft
 - a. Use crutches until walking normally. Weight bearing allowed. Crutches are for balance and support. Switch to single crutch or cane when walking more normally
 - b. Avoid activities that risk falling or twisting.

EXERCISES:

- Heel slides
- Quadricep sets and isometrics at 0°, 60° and 90°
- Patellar Mobilization
- Gastroc/Soleus Stretching (Non-weight bearing to avoid knee hyper extension)

Progress exercises as tolerated (between 4-6 weeks depending on patient progress):

- Wall slides 0-45°, progress to mini-squats
- Hip adduction, abduction and extension
- Stationary Bike (begin with high seat, low tension to promote ROM and progress to single leg)
- Bridging
- Calf Raises
- Balance exercises (ie. Single leg balance, wobble board)
- Hamstring curls (only after 6 weeks if hamstring graft)
- Aquatic therapy
- Restore normal gait
- Gastroc/Soleus stretching (weight-bearing)
- Proprioception
- Squats (1/4, double leg, progress to single leg)

Phase II:

2-4 months

Criteria for advancement to Phase II

- Full range of motion

GOALS

- 1) Improve strength, endurance and proprioception of lower extremity, prepare for functional activities
- 2) Avoid over-stressing the graft fixation
- 3) Protect the patella-femoral joint

EXERCISES

- Continue flexibility exercises as appropriate for patient
- Stairmaster (avoid hyperextension)
- Nordic Track
- Advance closed kinetic chain strengthening (one leg squats, leg press 0-45°, step-ups begin at 2" and progress to 8", lunges, etc.)
- Progress proprioception activities (slide board, use of ball, racket with balance activities, etc.)
- Progress aquatic program to include pool running, swimming (no breaststroke)
- Start walk/Jog progression at approximately 3 months

Phase III:

4-6 months

Criteria for advancement to Phase III

- Full pain-free range of motion
- No evidence of patellofemoral joint irritation
- Strength and proprioception approximately 70% of uninvolved leg

GOALS

- 1) Progress strength and power
- 2) Progress proprioception
- 3) Prepare for return to functional activities

EXERCISES

- Continue to progress flexibility and strengthening program
- Initiate plyometric program as appropriate for patient's functional goals
- Functional progression, including but not limited to
 - Forward/Backward running, ½, ¾, full speed
 - Cutting, cross-over, carioca, etc
 - Sport specific drills

Phase IV:

6 months onward

Criteria for advancement to Phase IV

- Necessary strength, endurance, ROM and proprioception to safely return to work/functional activities/athletics
- No patellofemoral or soft tissue complaint

GOALS

- 1) Return to functional activities/work/athletic safely
- 2) Maintenance of strength, endurance and proprioception

EXERCISES

- Gradual sports/functional/work activity participation
- Continue with strength, power and proprioception training while returning to functional/sporting activities
- Teaching of neuromuscular control and proper movement patterns

EDUCATION ON INJURY PREVENTION (Reinjury, or injury to other leg)

- Dynamic warm up (before every practice and game)
- Continue with exercise promoting neuromuscular, proprioception, agility and strength
- Proper movement patterns (avoiding hip adduction, knee valgus, and ankle eversion)
- Landing patterns: land with deep hip and knee flexion (avoiding flat foot and extended knee)
- FIFA 11+ warm up exercises for prevention of ACL injury