

University Orthopedics, Inc.
Sports Medicine Division

ANTERIOR CRUCIATE LIGAMENT (ACL) POST-OP REHABILITATION PROTOCOL

The following is a protocol for postoperative patients following ACL reconstruction. The primary goal of this protocol is to protect the reconstruction while steadily progressing towards and ultimately achieving pre-injury level of activity. Please note this protocol is a guideline. Patients with additional surgery (i.e. collateral ligament repair, meniscal repair) will progress at different rates. Achieving the criteria of each phase should be emphasized more than the approximate duration. If a patient should develop an increase in pain or swelling or decrease in motion at any time, activity should be decreased until problems are resolved.

PHASE I: 0-2 WEEKS POSTOPERATIVE

GOALS:

- Progressive decrease in swelling
- AROM: 0 – 100 degrees
- Prevent post-op knee stiffness
- Independent SLR without an extensor lag
- WBAT with crutches and brace

ACTIVITIES:

PROM/AAROM/AROM for knee flexion/extension

Heel props, prone hangs, towel extensions for extension

Heel and wall slides for flexion, prone knee flexion

Isometrics

Quad sets (0 degrees knee flexion)

Hip adduction (0 and 45 degrees knee flexion)

Hamstring sets (45 degrees knee flexion)

Straight leg raises

All 4 planes

With immobilizer until able to SLR

without extensor lag

Gait training

WBAT with crutches and immobilizer until able

to ambulate with quad control

Pre-gait activities

Proprioception

Weight shifting with UE support

B/L heel raises

Standing hip flexion with WB quad set

Patella mobilizations

Modalities and rest to control pain and inflammation

PHASE II: ~2-4 WEEKS POSTOPERATIVE

GOALS:

- Continued progressive decrease in swelling
- Full AROM knee flexion and extension
- Independent ambulation without gait deviation

ACTIVITIES:

AROM/AAROM/PROM to maintain full knee extension and progress flexion

Functional strengthening

OKC exercises: SLR (all 4 planes, progressive resistance), prone ham curls (knee 2" off table, light theraband resistance), SAQ extensions at 90 – 30 degrees

CKC exercises: Wall sits (30 degree forward lean, squeezing ball), ¼ squats, 2" – 4" step-ups

Stationary bike (no resistance)

Gait training / Proprioception

Treadmill: Retro-walking and forward walking

Heel and toe walking

Sidestepping

"Cup-walking": walking and

sidestepping over 16 oz. plastic cups

Standing hip and knee flexion

Unilateral heel raises

Modalities as needed to control pain and inflammation

PHASE III: ~4-8 WEEKS POSTOPERATIVE

GOALS:

- Swelling <1 cm at knee joint line
- Symmetrical prone ROM
- Pain free 6" step down with good eccentric control

ACTIVITIES:

Progressive functional strengthening
Multi-hip/cable column for hip strengthening
Prone hamstring curls with progressive resistance
Squats with minimal resistance (standing on theraband and/or light barbell)
Lunges
4" – 6" step-ups, step-downs
Single leg press (<25% BW @ 4 – 6 weeks. <50% BW @ 6 – 8 weeks post-op)
Stationary bike, treadmill
Stairmaster (approximately 6 weeks post-op if no patellofemoral symptoms)
Proprioception
BAPS, Rocker board
Unistands (floor and mini tramp)
Maintain full ROM
Modalities as needed to control pain and inflammation

AT THIS POINT, SOME PATIENTS MAY HAVE USED UP THEIR ALLOWABLE BENEFITS FROM THEIR INSURANCE COMPANY. HOWEVER, THIS DOES NOT MEAN THE PATIENT IS DONE WITH THEIR REHABILITATION. THE THERAPIST WILL WORK WITH THE PATIENT TO HELP SET UP A PROGRESSIVE HOME EXERCISE PROGRAM IF IT IS NECESSARY. IT IS RECOMMENDED THE PATIENT JOIN A

PHASE VI (6 Months – 9 Months)

CRITERIA FOR RETURN TO SPORTS (APPROXIMATELY 6 - 9 MONTHS POST-OP):

1. Pain free
2. Symmetrical ROM
3. No effusion
4. Quad Index > 90%
5. Single leg press equal bilateral with 1 rep max test
6. Jogging 2 miles pain free
7. Functional hop testing 90% of non-involved extremity
8. Y-Balance Test: composite score > 90%
9. Functional bracing discussion
10. Discussion with patient about confidence to RTS

HEALTH CLUB/GYM AT THIS POINT TO MAXIMIZE REHAB POTENTIAL.

PHASE IV: ~8-12 WEEKS POSTOPERATIVE

GOALS:

- Pain/effusion free
- Symmetrical ROM
- Single leg press 70% of noninvolved extremity with 1 rep max
- Girth within 2 cm of non-involved extremity

ACTIVITIES:

Advanced CKC strengthening:
Leg press (unilateral and bilateral)
Squats: bilateral with barbell, unilateral with theraband
Lunges: backward, side and traveling lunges; lunges with plyoball overhead
Bike, stairmaster with progressive increase in resistance
Proprioception:
"Plus" outline on mini tramp and/or floor:
Jumping (approximately 12 – 16 weeks post-op)
Hopping (approximately 16 – 20 weeks post-op)

PHASE V: 12 Weeks to 6 Months

Average person and recreational athlete:

At 50% of normal function.
Continue with a strengthening program a minimum of 3 times per week for 6 months
Recreational athlete should also participate in some light agility training to prepare for return to sport phase of rehab.

High-level athlete:

Progressive running program if the above criteria have been met. Cross train biking and pool activities.
Focus on progressive strengthening, running, plyometric and pre-sport activities for preparation for the return to sport phase of rehab.