

ACL Reconstruction Protocol

Phase One (weeks 1-3)

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Goals:

- Restore full passive knee extension
- Diminish joint swelling and pain
- Restore patellar mobility
- Gradually improve knee flexion
- Re-establish quad control
- Restore independent ambulation

Weight Bearing:

Two crutches, WBAT. The doctor or therapist will instruct the patient to discontinue the crutches when the patient can walk without them and the knee has stabilized sufficiently. Goal is to discontinue use by day 10-14 post op.

Knee brace or immobilizer:

All WB is done in the knee brace. The brace may be removed for exercise, icing and when bathing. Sleep with the brace on until full extension has been achieved and the patient can perform SLR's. The doctor or therapist will allow the patient to stop using the brace when their gait is good and the leg is strong enough to perform a SLR independently.

Ice and Elevation:

Ice for 10 min. every hour and elevate with knee in full extension.

Exercises:

Week 1: Active and passive knee flexion (goal of 90 degrees by day 5)

- Ankle pumps
- Quad sets
- Hamstring stretching
- Passive extension and extension with over-pressure (goal of 0 degrees to 5-7 degrees of hyper-extension)
- Patellar mobs
- SLR for flexion, abduction, adduction and extension
- Standing weight shifts

Week 2 Continue week 1 exercises. PROM 0-100 this week.

- Heel slides
- Knee extension 90-40 degrees
- Ball squeezes
- Prone flexion AROM
- Leg Press 0-60 degrees
- ½ squats 0-40 degrees
- Front and side lunges
- HS curls in standing
- Bike if ROM allows

Week 3 Continue all exercises as in week two. PROM 0-105 degrees.

- Eccentric quad 40-100 degrees
- Front step downs if strength allows
- Lateral step overs
- Stair stepper if available

Phase two (weeks 4-6)

Goals:

Maintain knee ROM 0 to 135 degrees or better
Improve LE strength
Minimal to no full joint effusion
No joint line or patello-femoral pain
Walk stairs using both legs equally
Confident, smooth gait pattern

Exercises:

(Goals for number of reps are listed)
Increase weight to 5-10 pounds for SLR in all planes and prone knee flexion
Wall slides x 50
Heel raises x 50
Standing TKE against resistance x 30 with black band
Forward and lateral step ups x 30 at 8 inch height
Theraband heel drags x 30
Resisted Heel slides into extension x 30
Single leg balance 60 sec. EO and then EC
Leg Press progressing range to 0- 100 degrees x 30 with 50% weight
Bike x 15-30 min. then increase resistance

Phase three (weeks 7-12)

Goals:

No restrictions on ADL's
Normalize LE strength
Improve neuromuscular control

Exercises:

Continue Phase 1 exercises of SLR in all planes in prone flexion . These may be discontinued when able to do 30 reps with a 10 pound weight.
Continue Phase 2 exercises of heel raises and mini squats with a goal of 30 reps one legged
Increase leg press to 100% body weight
Linebackers x 50
Weight swings x 10 min. at 90 degrees of knee flexion during
Resisted walking x 2-5 min. each of 4 directions
Gym machines (stair stepper, elliptical, TM, Nordic track, etc.) 3 x/week x 20 min. goal if available to use
Running basic running program at week 12 when leg strength, full knee ROM, no swelling are present and gait is normal with full knee extension. Refer to running schedule.
No running until week 16 with a revision ACL.

Phase four (weeks 13-24)

Goals:

Advance agility and power training
Achieve normal activities on irregular surfaces
Tolerate running for 20 min.
Prepare to resume sports through progressive functional training
No swelling/effusion as progressed into phase 4 of rehab.

Exercises:

To be done 3x/week with a warm up period of jogging or biking
Continue Phase 2 and 3 exercises but note the following:
Knee Bends- discontinue when able to do 30 reps, single leg

Heel raises- discontinue when able to do 30 reps, single leg
Leg Press- continue on one leg until able to control resistance equal to 100% BW in both push and pull
Supported hopping 2 foot then 1 foot- goal of 2 x 30 sec. side to side and front to back
Unsupported square hopping- 15 sec. on/ 15 sec. off for up to 5 min.
Unsupported diagonal hopping- 15 sec. on/ 15 sec. off for up to 5 min.
Straight line hopping FW/BW 15 sec. on/ 15 sec. off up to 5 min.
Zig Zag hopping FW/BW 15 sec. on/15 sec. off for up to 5 min.
Single leg hopping for the previous 4 exercises
Landings- FW/BW and to each side x 5-10 landings each. 2 inch progressing to 10 inch
Resisted jogging- FW/BW, shuffles and karioka for eccentric work x 2 min. each
Running in patterns (figure 8 and z running)

This protocol provides the clinician with general guidelines for the rehabilitation of the patient undergoing ACL reconstruction surgery.

Questions regarding the progress of a specific patient are encouraged, and should be directed to Twin Cities Orthopedics Rehabilitation Department at 952 442-8201 or to rehabprotocols@tcomn.com.