



ACL Reconstruction Protocol
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PHASE ONE (WEEKS 1-3)

- 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 0-150 degrees.
 - Eccentric quad 40-100 degrees
 - Front step downs if strength allows
 - Lateral step overs
 - Stair stopper 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 patella-femoral pain
 - Walk stairs using both legs equally
 - Confident, smooth gait pattern
- Exercises: (Goals for number of reps listed)
 - Increase weight to 5-10 pound 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 (WEEK 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 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.