



REHABILITATION FOLLOWING ACL RECONSTRUCTION PROTOCOL

IMMEDIATE POST OPERATIVE PHASE Week 1:

WEEK 1: Knee immobilizer locked in extension. WBAT with bilateral crutches.

Exercises:

- Ankle Pumps
- Passive knee extension to zero
- Straight leg raises
- Quad sets, Glut sets
- Hamstring Stretch
- Multi-angle isometrics at 90 and 60 degrees (for quads)
- Knee Extension 90-40 degrees
- Heel Slides

Ice and Elevation – Ice 20 minutes out of every hour and elevate with knee in extension

WEEK 2: Knee immobilizer locked in extension during ambulation and unlocked for sitting etc.,

Weight bearing – Two crutches, weight bearing as tolerated

Range of Motion – Patient out of brace 4-5 times daily to perform self ROM

Exercises:

- Multi-angle isometrics at 90 and 60 degrees (for quads)
- Knee Extension 90-40 degrees
- Intermittent Rom exercises continued
- Patellar mobilization
- Ankle Pumps
- Straight leg raises (multi-plane)
- Standing weight shifts and mini squats [(90-30) ROM]
- Hamstring curls
- Continue quad sets/glut sets

Ice and Evaluation – Ice 20 minutes of every hour and elevate with knee in extension

Exercises:

- Knee Extension 90-40 degrees
- Intermittent PROM exercises
- Patellar mobilization
- Ankle pumps
- Straight leg raises (multi-plane)
- Standing weight shift and mini squats (0-30)
- Passive knee extension to 0 degrees
- Hamstring curls
- Proprioceptive and balance activities

MAXIMUM PROTECTION PHASE Week 3:

Criteria to Enter Phase II:

1. Quad Control (ability to perform good quad set and SLR)
2. Full passive knee extension
3. PROM 0-90 degrees
4. Good patellar mobility
5. Minimal effusion
6. Independent ambulation with one or two crutches

Goals:

- Absolute control of external forces and protect graft
- Nourish articular cartilage
- Decrease fibrosis
- Stimulate collagen healing
- Decrease swelling
- Prevent quad atrophy

Goal:

- Prepare patient for ambulation without crutches

Brace: Knee immobilizer locked in extension during ambulation only, unlocked for self ROM (4-5 times)

daily)

Range of Motion: Self ROM (4-5 times daily), emphasis on maintaining zero degrees passive extension

Exercises:

- Muscle stimulation to quadriceps during quadriceps exercises
- Multi-angle isometrics at 90, 60, 30 degrees
- Leg raises (4 planes)
- Hamstring curls
- Knee extension 90-40 degrees
- Mini squats (0-40) and weight shifts
- PROM 0-105 degrees
- Patellar mobilization
- Hamstring and calf stretching
- Proprioception training
- Well leg exercises
- PRE Program – start with 1lb, progress 1lb per week

Swelling control – Ice, compression, elevation

Week 4: Discontinue locked brace. Brace opened 0-125 degrees for ambulation.

Range of Motion: Self ROM (4-5 times daily), emphasis on maintaining zero degrees passive extension.

Full weight bearing - No crutches

Exercises:

- Same as week two
- PROM 0-115 degrees
- Bicycle for ROM stimulus and endurance
- Leg press (0-60)
- Elliptical

CONTROLLED AMBULATION PHASE Week 5-6:



Goals: Control Forces during walking, Full ROM

Brace: Discontinue Brace

Range of Motion - Self ROM (4-5 times daily), emphasis on maintaining zero degrees passive extension.

Exercises:

- Same as week three
- PROM 0-130 degrees
- Initiate step-ups (start with 2" and gradually increase)
- Increase closed kinetic chain rehab.
- Increase proprioception training

MODERATE PROTECTION PHASE Week 7-12:

Goals:

- Protect patellofemoral joint's articular cartilage
- Maximal strengthening for quads, lower extremity

Exercises:

- Emphasize eccentric quad work
- Continue closed chain exercises, step-ups, mini squats, leg press
- Continue knee extension 90-40 degrees
- Hip abduction/adduction
- Hamstring curls and stretches
- Calf raises
- Bicycle for endurance
- Pool running (forward/backward)
- Walking program
- Stairmaster

LIGHT ACTIVITY PHASE Month 2 ½ -3 ½

Goals:

- Development of strength, power, and endurance
- Begin to prepare for return to functional activities

Jogging at 12 weeks post-op

Exercises:

- Continue strengthening exercises
- Initiate plyometric program
- Initiate running program
- Initiate agility drills
- Sport specific training and drills

RETURN TO ACTIVITY PHASE Month 3 ½ - 4 ½

Goals:

- Achieve maximal strength and further enhance neuromuscular coordination and endurance

Tests – Isokinetic test prior to return, KT 2000 test, functional test

Exercises:

- Continue strengthening program
- Continue closed chain strengthening program
- Continue plyometric program
- Continue running and agility program
- Accelerate sport specific training drills

FOLLOW-UP:

6 month follow-up

Isokinetic Test
KT 2000 Test
Functional Test

12 month follow-up

Isokinetic Test
KT 2000 Test
Functional Test