

POSTOPERATIVE ACL RECONSTRUCTION REHABILITATION PROTOCOL

WEEK 0 - 2 (PHASE 1)

Goals

- ✓ Protect the graft and ensure wound healing
- ✓ Control inflammation and swelling
- ✓ Initiate early mobilization and weight bearing
- ✓ Edema Control
- ✓ Use of long knee brace to maintain 0° extension
- Straight leg raises flexion, abduction and extension with brace locked in full extension
- Gluteal sets, Hamstrings sets, Ankle Toe pumps, Static quads, Knee abduction
- Ice pack with knee in full extension after exercise
- Patellar mobilizations(Stretch in all 4 direction- superior, inferior, medial and lateral)
- Quad isometrics(hold for 10 sec, 10 repetitions), Prone leg hangs
- Weight bearing on walker/crutches as tolerated with brace on.
- Avoid jogging, running, cross-legged sitting, deep squatting and any contact sports activity for at-least 8-10 months post-op

WEEK 2 - 6 (PHASE 2)

Goals

- ✓ No active knee extensor lag with proper patella-femoral stability
- ✓ Progression of weight bearing with gradual weaning off assistive device and brace
- ✓ Achieve around 0-135° of active range of motion at end of 6 weeks and maintain upper body strength
- ✓ Moderate functional independence
- Use hinged knee brace with open patella for all activities except walking where long knee brace is to be used until 4th week post-op.
- Start gentle heel slides in supine lying
- Start prone knee bending for Hamstring strengthening.
- Active knee flexion to be encouraged at-least 90 degree at the starting of 2nd week
- No active extension allowed. It should be done passively with help of unaffected leg.
- Quad isometrics(hold for 10 sec, 10 repetitions)
- VMO strengthening exercises
- Stick aided full weight bearing with long knee brace till 4th week and after that with hinged knee brace till 6th week with heel-toe pattern.

WEEK 6 - 12 (PHASE 3)

Goals

- ✓ Enhancement of Endurance and Cardiovascular fitness
- ✓ Strengthening of lower extremity muscles and maintaining upper body strength
- ✓ Ensure Proper and efficient Gait Pattern with excellent patella-femoral stability
- ✓ Completion of closed chain kinematic exercises independently
- ✓ Proprioception and Balance Restoration.
- ✓ Full independence in ADLs
- Stationary bike for hip and knee muscle strengthening
- Discard stick for ambulation
- Treadmill walking for proper and efficient gait pattern
- Sit to stand with gradual decrease in height along with stretching of gastrocnemius and soleus and resistance band exercises are to be done
- Use of thera-band for quads and hams strengthening in Closed kinematic chain
- Proprioceptive and Balance Training and Exercises and its progressions
- Emphasis on enhancement of eccentric contraction and eccentric control of knee
- Wall squats to 90°, leg presses; dynamic step lunges and lateral and frontal stair step up- step down

3 MONTHS - 1 YEAR (PHASE 4)

Goals

- ✓ Continue to improve Balance and Proprioception using closed kinetic chain, coordination and incoordination exercises.
- ✓ Continue to maintain quadriceps strength and hamstring flexibility
- ✓ Safe and gradual return to athletic participation.
- ✓ Maintenance of strength, endurance, and function.
- ✓ Proprioceptive and Balance Training and Exercises and its progressions
- ✓ Avoid jogging, running, cross-legged sitting, deep squatting and any contact sports activity for at-least 8-10 months post-op
- ✓ Progression of ambulation on uneven surface and stairs(both ascend and descend)
- ✓ Emphasis on enhancement of eccentric contraction and eccentric control of knee Continue closed kinetic chain exercise progression.
- ✓ After 3-6 months, continue exercises as advised above with gradual progression of thera-band resistance
- ✓ After 6 months brisk walking can be started along with other exercises prescribed by the physiotherapist
- ✓ After around 9-10 months, brisk walking can be progressed to jogging in supervision of the physiotherapist
- ✓ After 11 months, jogging can be progressed to running with controlled time duration and controlled speed in supervision of the physiotherapist.
- ✓ Sport-specific functional progression, which may include but is not limited to
- Slide board,
- Figure-of eight , Jumping, Plyometric, Hurdle Jumping, Agility drills
- Star Excursion and other advanced proprioceptive exercises
- After 1 year back to sports with functional knee brace for at-least next 1 year especially for contacts sports like football, kabaddi, rugby among others

