

Anterior Cruciate Ligament Rehabilitation Protocol

** It is important to understand that all time frames are approximate and that progressions should be based on individual monitoring as well as type of surgery.

Precautions/concomitant surgeries:

- 1. Posterolateral corner instability. Maintain tibial ER during all weight-bearing and non- weight bearing activities in early post-op period.
- 2. Meniscal Repair: No weight-bearing for 4 weeks
- 3. Chondroplasty: Restricted weight-bearing for 4 weeks
 No weight-bearing exercises for 4 weeks
- 4. MCL Injury: Restrict motion to sagittal plane until week 4-6 to allow healing of MCL
 Maintain tibial IR during all PREs in early post-op period to decrease stress on MCL

Phase I: Post- operative (wk 1)

Goals:

- Protect graft
- Restore normal ROM
- Restore normal patellar mobility
- Begin re-education of the quadriceps
- Weight bearing as tolerated with crutches unless specified by M.D.
- Decrease joint effusion
- Change dressing at 1st P.T. visit
- Brace locked at 0° at all times except when performing ROM exercises
- WBAT with crutches (may vary if meniscal repair)
- Quad sets
- NMES of quads if poor QS
- SLR in all planes when no ext. lag
- Ankle pumps
- Passive knee extension to 0 deg
- Heels slides into flexion (A/AAROM)
- Patellar mobility

Phase II: Maximum Protection (wks 2-4)

Goals:

- Protect graft
- Control Pain
- Regain Quad control
- Decrease joint effusion
- Obtain full knee extension
- Knee flexion 120° by (wk 2-3)
- Ambulate without crutches (wk 2-3)
- Ambulate with brace unlocked (as soon as patient has good quad control)
- Ambulate without knee brace (wk 4-5)
- Cryotherapy
- IFC as needed
- Patellar mobility
- Heel slides
- BAPS: sitting in all directions
- Seated/standing heel raises
- Prone hangs (emphasize full extension)
- Stationary Bike (wk 2) no resistance

Phase II Treatment:

Phase I Treatment:

Phase II (continued)

- Treadmill ambulation (fwd/retro) (**wk 3**)
- CKC Exercises: Total gym: bilateral minisquats, progress to single leg squats when patient demonstrates good quad control
- Single leg step-ups (fwd/lateral) when patient can perform single leg minisquats on total gym
- Stairmaster (**wk 3-4**)
- Single leg balance (stable to conforming surfaces)

Phase III: Late Protection (wks 4-8)

Goals:

- Protect Graft
- Ambulate FWB without crutch/brace
- Ambulate without a limp
- AROM : 0-130 deg (**wk 6**)
- Increase strength of lower extremity
- Re-train balance/proprioception

Phase IV: Functional Rehab (wks 8-16)

Goals:

- Full knee AROM
- Exercises more sport specific
- Improve quad/hamstring strength
- Get fitted for a functional brace (if appropriate)

Phase V: Return to Activity (Wk 16-36)

- Return to sport at 6 to 7 months post-op with use of a functional knee brace for up to 18-24 months from date of surgery
- SLR in 4 directions (consider concomitant injury). Add weight when patient correctly performs 3 sets of 10-15 without lag

Running Progressions:

Phase III Treatment:

- Progress calf and hamstring stretching
- Continue ROM as needed
- Progress step-ups fwd and lateral
- Progress balance and proprioception (limit knee twisting)
- Progress quad PREs from 90° to 40°
- Theraband exercises for hip: flex, ext, add, abd
- Heel raises with weight
- Progress cardiovascular exercises: bike, Stairmaster, elliptical machines

Phase IV Treatment

- Discontinue ROM if appropriate
- Add quad stretching if needed
- Quad PREs 90° to 30°
- Progress all cardio activity
- Make balance activities more sport specific
- Slide board (**wk 10**)
- Resisted ambulation in 4 directions (**wk 10**)
- Start treadmill jogging (**wk 12**)
- Start low impact plyometric program (**wk 14**) if no pain or swelling is noted and patient can demonstrate good quad strength
- Begin low impact agility drills: jump rope, lateral shuffles, cariocas (**wk 16**)

Phase V Treatment

- Progress running program from strait to cutting patterns
- Progress agility program more sport specific
- Progress plyometric program

1. Treadmill walking
2. Treadmill walk/run intervals
3. Treadmill running
4. Track: run straits, walk turns
5. Track: run straits and turns
6. Run on road

*Progress to next level when patient is able to perform activity for 2 miles without increased pain or effusion. Perform no more frequently than every other day. Do not progress more than 2 levels in a 7 day period.

*** Developed and approved by Rolando Izquierdo, M.D. (Updated March 2016)**