

**Toribio T. Natividad M.D.**

**Fellowship Trained in Sports Medicine**

**Multiple Ligament Injury Rehabilitation**

**(ACL, PCL, +/- MCL, LCL, or PLC)**

The goals of this protocol are to protect the reconstruction while preventing knee stiffness. So early Passive ROM exercises are very important but in addition, preventing excessive anterior and/or posterior tibia translation is also very important.

Goals:

Full knee ROM – all ROM exercises must be performed in the prone or side lying position for the first 6 weeks 50% WB in Brace and crutches for first 6 weeks.

Pain/Edema reduction.

Begin and Enhance normalization of quad recruitment.

Prevent anterior/posterior translation and tibia rotation.

1 – 42 days post op (6 weeks post op)
 Modalities as needed.

Brace locked at 0° for the first 2 weeks. Can be unlocked only for Prone ROM exercises by ATC for PT.
Brace at 0-90° if able to tolerate from weeks 2-6.

Teach partner to perform Home Stretching Exercises 2-3x’s daily.

ROM Ex’s:

In prone position or side lying only, grip the heads of the gastroc /soleus group and maintain neutral pressure proximally to the tibia while flexing the knee

 Advance ROM as tolerated.

 Begin patella mobilizations.

 Scar management

Quad sets/SLR in brace at 0° (assist patient with this exercise until solid quad contraction developed, prevent posterior sag) 10x10 3x’s/daily, may use ankle weights as they will increase anterior translation.

No hamstring isometrics for seven weeks.

Seated calf ex’s.

Time Modulated AC (a.k.a. Russian Stim) in full extension.

Teach Quad ex’s for home program.

PT visits 2x/week for first month.

2 weeks post op

 Cont. as above

Stationary Bike to increase ROM, start with high seat and progress to normal height when able, resistance as tolerated.

3 weeks post op

 Cont. as above

 Leg press with both legs

 Leg extensions with anti shear device or cuff weights progress weight as tolerated, keep resistance proximal

6-8 weeks post op

 Cont. as above

 May begin aquatic therapy emphasizing normal gait, marching forwards/backwards

 Begin weaning crutches, D/C brace and normalize gait mechanics

 Full WB as tolerated

 ROM – prone flexion 120° or more, and advance to full ASAP

 Treadmill walking – forwards and retro

 Closed and Open Chain Tubing ex’s

 Single leg stands for balance/proprioception on Airex pad on trampoline

 Chair/Wall squats-keep tibia perpendicular to floor

10 Weeks post op

 Cont. as above

 All ex’s should be on affected leg only at this time

 ROM should be progressing, if not contact doctor

 Stairmaster

 Slide Board—start with short distance and progress as tolerated

 Filter

 Versa Climber

 Nordic Track and Elliptical Trainers

 Cable Column ex’s—retro walking, lateral stepping, NO cross over stepping or shuffling

 Standing leg curls with cuff weights or seated leg curls with NK table at 5lbs max

 Advance strengthening for quads as tolerated

12 Weeks post op

 Cont. as above

 Advance hamstring strengthening into prone position

 Assessment of jogging on treadmill

 Lateral Movement supervised by ATC o PT

 Stepping, shuffling, hopping, carioca

 Isokinetic Ex’s 180,150, 120, 90, 60°/sec 8-10 reps each speed and down spectrum

13—24 Weeks post op

 Cont. as above

 Plyometrics—low intensity vertical and lateral hoping to begin with, use both feet and move to one foot, ASAP

 Volume for plyometrics ( this is not conditioning exercise but a strengthening one) for rehabilitation

 40-60 for contacts/session for beginners

 60-80 for contacts/sessions for intermediate

 80-100 + foot contacts/sessions for advance

 If plyometrics exercise intensity is high the volume must be decreased, give ample recovery time between sets

 2-3 sessions a week preferably on weight lifting days

 Initiate sport specific activities under supervision by ATC or PT

24 Weeks post op (6 month+)

 Cont. as above

 Emphasize strength and power development

 Running and sport specific drills under ATC or PT supervision

 Isokinetic test for Quad strength difference 15% and unilateral Hamstring Quad strength ratio of 65% or better

Cont. strength testing monthly until patient passes then perform functional testing

Functional testing is appropriate for people returning to advanced recreational activities or sports