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Patient name: _____

Date: _____

**PHYSICAL THERAPY PRESCRIPTION AND PROTOCOL:
Multiple Ligament Injury (ACL, PCL, +/- MCL, LCL, or PLC)**

The goals of this protocol are to protect the reconstructions 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

Phase I (0-6 weeks):

- Modalities as needed
- Brace locked at 0° for the first 2 weeks. Can be unlocked only for Prone ROM exercises by ATC or PT.
- Brace at 0- 90° from weeks 2-6 if patient able to tolerate
- Teach partner to perform Home Stretching Exercises 2 –3x daily
- Range of motion exercises: 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/straight leg raise in brace at 0° (assist patient with this exercise until solid quad contraction developed, prevent posterior sag) 10 sets of 10 3x/daily, may use ankle weights
- No hamstring isometrics for seven weeks
- Seated calf exercises
- Teach Quad exercises for home program
- PT visits 2x/week for first month

at 2-3 weeks post-op:

- Continue as above
- Stationary Bike (WITH BRACE) to increase ROM, start with high seat and progress to normal height when able, resistance as tolerated
- Leg press (WITH BRACE) with both legs

Phase II (6 – 8 weeks):

- Continue as above
- May begin aquatic therapy emphasizing normal gait, marching forwards/backwards
- Begin weaning off crutches, D/C brace and normalize gait mechanics
- Advance to 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 or trampoline
- Chair/Wall squats – keep tibia perpendicular to floor
- Unilateral step-ups – start with 2" height and progress to normal step height as able

Phase III (8-12 weeks):

- Continue as above
- All exercises should be on affected leg only at this time (to minimize side-to-side strength asymmetries)
- Advance ROM without limit (if not progressing, contact doctor)
- Stairmaster
- Slide Board – start with short distance and progress as tolerated
- Versa Climber
- Nordic Track and Elliptical Trainers
- Cable Column exercises – 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

Phase IV (12-16 weeks):

- Continue as above
- Advance hamstring strengthening into prone position
- Assessment of jogging on treadmill
- Lateral movement supervised by ATC or PT
- Stepping, shuffling, hopping, carioca
- Isokinetic exercises 180, 150, 120, 90, 60°/sec 8-10 reps each speed up and down spectrum

Phase V (16 – 24 weeks):

- Continue as above
- Plyometrics – low intensity vertical and lateral hopping 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 foot contacts/session for beginners
 - 60-80 foot contacts/session for intermediate
 - 80-100 + foot contacts/session for advanced
- If plyometric 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

Phase VI (24+ weeks):

- Continue as above

- Emphasize strength and power development
- Running and sport specific drills under ATC or PT supervision
- Isokinetic test for Quad strength difference \leq 15% and unilateral Hamstring/Quad strength ratio of 65% or better
- Continue strength testing monthly until patient passes then perform functional testing
- Functional testing is appropriate for people returning to advanced recreational activities or sports

Frequency: 2-3x per week

Duration: 24-30 weeks

Special instructions: _____

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