Posterior Cruciate Ligament Rehabilitation Protocol

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

General Precautions:
1. Early activity following PCL repair can lead to increased laxity. The focus of this rehab protocol is on slow progressions of ROM, especially flexion.
2. Since the graft is usually tensioned between 70° and 90° of flexion and greater angles of flexion stretch the graft, flexion is limited beyond this range for 2-4 weeks.
3. No activation of the hamstring (to minimize posterior tibial shear force and PCL load) until 6-8 weeks after surgery.
4. Resisted knee extension may be performed with minimal posterior shear force between 60° and 0°.

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
- Improve ROM per precautions
- Restore patellar mobility
- Good quadriceps contraction
- Ambulating PWB with crutches with knee brace locked

Phase I Treatment:
- Change dressing at 1st P.T. visit
- NMES
- Quad sets
- SLR
- Patellar mobilizations
- IFC and cryotherapy
- HEP: QS, SLR, patellar mobilizations

Phase II: Maximum Protection (wks 2-4)
Goals:
- Full extension
- Flexion to 60 deg (week 2)
- Flexion to 90 deg (week 4)
- SLR without extension lag

Phase II Treatment:
- Patellar mobilizations
- Portal/incision mobilization as needed
- SAQ 30°-0°
- Supine knee flexion holding tibia forward
- Prone knee flexion (therapist assisted). 0-60°
- Stationary bike for ROM (easy)
- Gait training PWB with crutches
Phase III: Late Protection Phase (wks 5-10)
Goals:
- Flexion to 110 deg (wk 6)
- Normal gait without crutches
- Increase strength of lower extremity
- Retrain balance/proprioception

Phase IV: Functional Rehab (wks 12-15)
Goals:
- Pain free AROM to within 10° of uninvolved
- Progress exercise intensity and duration
- Exercises more sport specific
- Get fitted for a functional brace (if appropriate)

Phase V: Return to activity (week 16)
Goals:
- Full ROM (compared to opposite side)

Phase VI: Return to sport transition
Goals:
- Return to sport at 6-7 months post-op with functional brace for up to 18-24 months from date of surgery

Running progressions:
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

Phase III Treatment:
- Stationary bike – easy
- Begin closed chain if good quad control:
  - wall sits, wall squats 0-45°
- SAQ/LAQ 60-0°
- Theraband exercises for hip abduction, adduction, flexion
- Heelraises with weight
- Cardiovascular equipment: elliptical, stairmaster/stepper

Phase IV Treatment:
- 0-90° hamstring exercises against gravity
- Progress all cardio activity
- Make balance activities more sport specific
- ROM as needed

Phase V Treatment:
- Initiate running progressions with functional brace (see note)
- PRE hamstring curls 0-90°
- Transfer to fitness facility (if all milestones met)

Phase VI Treatment:
- Proprioceptive, dynamic balance, functional activities
- Slow to fast
- Low to high force
- Controlled to uncontrolled

Progress to next level of running 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

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