OrthoCarolina

EXCELLENCE
IN ORTHOPEDICS

Posterior Cruciate Ligament Reconstruction Protocol

The posterior cruciate ligament, or PCL, is one of the major stabilizing ligaments in the knee joint. Damage to this ligament can result in "giving way" or buckling of the knee and a progressive loss of function. Surgical reconstruction of the ACL is often required in order to restore normal function.

The PCL is commonly reconstructed using an achilles tendon allograft. The graft is secured in the femoral tunnel with an interference screw and in the tibial tunnel with the washerloc system. Due to the potential posterior tibial shear stresses placed on the graft by contraction of the hamstrings, active and resistive knee flexion exercises are avoided for the first 8 – 10 weeks post-op.

Guidelines

1. Wear brace for 6 – 8 weeks
2. TTWB 0 - 4 weeks, PWB 4 – 6 weeks, FWB at 6 - 8 weeks.
3. If PCL is reconstructed in combination with the lateral collateral ligament and/or posterolateral corner, delay protocol by 2 – 4 weeks and avoid varus stresses.

Post-Op Protocol

0 - 4 Weeks

- **Wear brace at all times.**
- ROM 0-90°
- CPM at home.
- Ankle pumps and quad sets initiated immediately post-op
- Ambulate TTWB with 2 crutches and brace unless otherwise instructed by the physician.
- Use ice and elevation to decrease pain and swelling (4-5x/day).

1. Straight leg raises in all planes (NO abduction if LCL or posterolateral corner reconstructed)
2. Open chain gastroc/soleus stretching and strengthening
3. Hamstring stretching
4. E-stim or biofeedback to quads
5. Knee extension isometrics (< 70°)
6. Multi-hip machine
7. Patellar mobilizations
8. PROM within ROM limitations
9. Bike for ROM within ROM limitations

Developed in conjunction with the physicians at OrthoCarolina

4 - 8 Weeks

- At 4 weeks, PWB with crutches and brace unlocked
- Wean from brace and crutches at 6 weeks, discontinue by 8 weeks
- PROM 0 - 120^{O}

1. Knee extension PRE's (0 – 90^{O})
2. Anterior lunge weight shifting
3. Squat weight shifting
4. Progress to bike endurance training

8 - 12 Weeks

- Full weight bearing
- Emphasize proper lower extremity biomechanics

1. Leg press
2. Progress squats toward single leg as strength and motor control improve
3. Static and dynamic balance progressions
4. Progress to dynamic lunges in all 3 planes
5. Begin cardiovascular training on bike, elliptical machine, etc.
6. Begin hamstring curls as symptoms allow (standing curls with ankle weights for the first 1 – 2 weeks, then progress to machine)

12 – 16 Weeks

- Full ROM
- Emphasize proper frequency, duration and intensity of training
- Continue to emphasize proper lower extremity biomechanics

1. Begin supervised interval running program on treadmill (e.g. 1, 1.5, 2 minute intervals)
2. Isokinetic strength training. Begin with higher speeds (>120^{O}/sec)
3. Increase intensity of cardiovascular and endurance training (e.g. bike sprints)

16 - 24 Weeks

- Painfree running by 18 - 20 weeks
- Equal strength bilaterally by 20 – 24 weeks

1. Begin light plymetric training
2. Progress to speed training, sprints, etc.
3. Progress to agilities as lower extremity biomechanics and motor control allows.

6 – 9 Months

- Begin sport-specific activities
- Perform isokinetic (60, 180, 300^{O}/sec), KT-1000, functional and subjective rating testing
- Functional testing may be delayed if patient has complaints of pain or swelling, has deficits >15% documented by isokinetic testing, or A-P displacement is significant
- Return to sports based on test results and MD evaluation