GEOFFREY S. VAN THIEL, MD/MBA
Assistant Professor - Rush University Medical Center
Team Physician - US National Soccer Teams
Team Physician - Chicago Blackhawks Medical Network - Ice Hogs

www.VanThielMD.com - VanThielMD@orthoillinois.com
Fax: (815) 381-7489 – Phone: (815) 381-7365

SPORTS MEDICINE SURGERY – HIP ARTHROSCOPY
Follow us on Twitter and Facebook: @VanThielMD & Facebook.com/VanThielMD
– Cutting edge information on the arthroscopic treatment of the hip, knee and shoulder –

REHABILITATION PROTOCOL

PCL Reconstruction Protocol

Precautions:

- **Brace locked at 0 degrees extension for first week**
- **No open chain hamstring strengthening or stretching**

Phase I (1 day – 5 weeks post op)

- Wound care/edema: monitor for signs of infection, eliminate effusion
- Gait: Foot flat weight bearing with crutches and brace locked in ext
- Modalities:
    - NMES to quads for activation is trace or poor
    - Prn for pain and inflammation (ice, IFC)
- ROM: Prevent from tibial sagging and stress on PCL
    - Patellar mobilizations
    - 0-90 degrees flexion
    - Restore knee ext range of motion
    - avoid prone hangs secondary to hamstring guarding
    - flexion ROM using gravity for assistance
- Strengthening:
    - Multi-angle quad sets
    - Open chain active knee ext against gravity per quad control
    - Straight leg raises - NOT hip ext secondary to hamstring restrictions
    - Hip and ankle AROM with knee in 0 deg ext
- Rehab Goals:
    - Restore knee extension
    - Eliminate effusion

- Restore leg control

Phase II (5 -10 weeks post op)

- Gait/Brace:
  - WBAT with crutches and brace unlocked
  - DC brace 6-8 weeks and wean from crutches based on quad control and balance and normalize gait
- ROM: 0-120 degrees flexion – avoid hyperflexion and prone hangs
- Strengthening: **5-7 weeks**
  - Wall slides and partial squats to 60 degrees
  - Leg press to 60 degrees
  - Standing TKE
  - Uniplanar balance board/proprioceptive based activities
  - Hip and core strengthening – add in hip ext SLR per patient tol.
  - Single leg balance and control
  - Step ups/downs
  - NO hamstring open chain isometric or concentric strengthening or aggressive stretching

    8-10 weeks:
  - Stationary Bike
  - Leg press to 90 degrees flexion
  - Continue balance and proprioceptive activities
  - Preliminary functional testing
  - Stair master
- Rehab Goals:
  - Single leg stand control
  - Normalize Gait
  - Good quad control and no pain with functional movements

Phase III (10 weeks + post op)

- Strengthening: Progress strengthening as tolerated
  - Low load hamstring strengthening
  - Closed and open chain quad strengthening – multi-plane
  - Non impact balance and proprioceptive drills
  - Impact control exercises 2 feet, progress to 1 foot
  - Sport specific balance and agility drills
  - Light plyometrics
  - Double and progress to single
  - Running/Agility drills as allowed per physician
- Functional Testing: less than 25% deficit for a non-athlete, less htan 20% for an athlete
- Rehab Goals:
  - Good control and no pain with functional movmenets
  - Good control and no pain with agility and low impact multi-plane drills
  - Ability to land from a sagittal, frontal and transverse plane lead with good control and balance

Adapted From:
1.) Brotzman SB, Wilk KE. Clinical Orthopedic Rehabilitation Second Edition. Philadelphia: Mosby; 2003.
2.) Kisner C, Kolby LA. *Therapeutic Exercise: Foundations and Techniques*, *3rd Edition*. Phildelphia: F.A. Davis Company; 1996.

3.) Wilk KE, Reinold MM, Andrews JR. Anterior Cruiciate Ligament and Posterior Cruciate Ligament Combined Reconstruction Surgery Rehablitation Surgery. Winchester, MA: Advanced Continuing Education Institute, 2004.
4.) Sherry M. UW Health Sports Rehabilitation. Rehabilitation Guidelines for Posterior Cruciate Ligament Reconstruction. 2013.