Multiligamentous Knee Reconstruction Rehab Program

General Information

The intent of this protocol is to provide the therapist and patient with guidelines for the post-operative rehabilitation course after multi-ligament knee reconstruction. This protocol is based on a review of the best available scientific studies regarding knee rehabilitation. It is by no means intended to serve as a substitute for one’s clinical decision making regarding the progression of a patient’s post-operative course. It should serve as a guideline based on the individual’s physical exam/findings, progress to date, and the absence of post-operative complications. If the therapist requires assistance in the progression of a post-operative patient they should consult with your surgeon. Progression to the next phase based on Clinical Criteria and/or Timeframes as appropriate.

Pre-operative:

**Brace:** Usually required at all times

**Weight Bearing:** Full, crutches as necessary

**ROM Goals:**

**Extension:** Full  
**Flexion:** 135 degrees

**Therapeutic Exercise:** Learn exercises for post-op regimen.

**Weeks 0 to 4: Advanced Protective Phase:**

**Brace:** Braced in full extension

**Weight Bearing:** Strict Non-Weight Bearing

**ROM Goals:**

**Extension:** Full with posterior leg supported at all times to protect from tibial sag  
**Flexion:** 0 degrees
Therapeutic Exercise:

**Strengthening:**
Quadriceps setting

Three-way leg raises in brace (not flexion)
Functional quadriceps electric stimulation

**Manual Therapy:**
Patellar mobilization
Peri-patellar soft tissue mobilization

**Cryotherapy:** Six to eight times a day for 20 minutes

**Weeks 5 to 8: Early Strengthening:**

**Brace:** Open to 30 degrees week 7,8

**Weight Bearing:** Progress 75% by week 8

**ROM Goals:**

**Extension:** Full with posterior leg supported at all times to protect from tibial sag
**Flexion:** 60 degrees by end of week 6; progressing to 100 degrees by end of week 8

Therapeutic Exercise:

**Strengthening:**
Quadriceps setting
Four-way straight leg raising in brace.
Open chain calf with theraband
**No open chain hamstring strengthening.**

**Manual Therapy:**
Patellar mobilization
Passive knee flexion
Peri-patellar soft tissue mobilization
Prone quadriceps stretching to 60 to 90 degrees

**Weeks 9 to 12: Advanced Strengthening:**

**Brace:** Open to 60

**Weight Bearing:** Full

**ROM Goals:**

**Extension:** Full with posterior leg supported at all times to protect from tibial sag
**Flexion:** Progress to full

**Weeks 9 to 12: Advanced Strengthening Continued:**

Therapeutic Exercise:
**Strengthening:**
- Quadriceps setting
- Four-way straight leg raising in brace.
- Half squats
- Step downs
- Slow progression of multi-plane closed chain exercises
  **No open chain hamstring strengthening**

**Proprioception:** Balance activities

**Core strengthening:**
- Trunk activities
- Conditioning stationary bike

**Manual Therapy:**
- Patellar mobilization
- Passive knee flexion to 125 degrees
- Peri-patellar soft tissue mobilization
- Prone quadriceps stretching to 125 degrees
- Soft tissue flexibility maintenance

**Weeks 12 Plus: Functional Training & Return to Sports:**

**Therapeutic Exercise:**

**Strengthening:**
- Progression of multi-plane closed chain activities
- Proprioception
- Advanced core strengthening

**Conditioning:**
- Stationary bike

***Running straight at 9 to 12 months***

**Note:** Return to sport based on provider team input and appropriate testing.

**NOTE:** A loss of 10 to 15 degrees of terminal flexion can be expected in complex knee ligament reconstructions. This does not cause a functional problem for patients and is not a cause for alarm.