Phase I – Maximum Protection (0 to 3 weeks)

0-3 weeks:
* Ice and modalities to reduce pain and inflammation
* Use crutches non-weight bearing for 6 weeks
* Initiate patella mobility drills
* Begin full passive/active knee range of motion exercises
* Quadriceps setting focusing on VMO restoration
* Multi-plane open kinetic chain straight leg raising
* Gait training with crutches (NWB)

Phase II – progressive Stretching and Early strengthening (weeks 3 to 6)

Week 3-6
* Continue non weight bearing
* Maintain program as outlined in weeks 0-3
* Continue with modalities to control inflammation
* Initiate global lower extremity stretching program
* Begin stationary bike and pool exercise program (when incisions healed)
* Implement reintegration exercises emphasizing core stability
* Closed kinetic chain multi-plane hip strengthening on uninvolved side
* Manual lower extremity PNF patterns
* Proprioception drill emphasizing neuromuscular control
* Multi-plane ankle strengthening

Phase III – Strengthening and Proprioceptive Phase (Weeks 6-10)

* Modalities as needed
* Continue with Phase II exercises as indicated
* Begin partial weight bearing at 25% of body weight and increase by 25% approximately 3 days.
  May progress to one crutch at 7.5 weeks as tolerated, gradually wean off of crutches by week 8-9

Weeks 9 to 10
* Normalize gait pattern
* Advanced stationary bike program; begin treadmill walking and elliptical trainer; avoid running
  and impact activity
* Initiate Closed kinetic chain exercises progressing bilateral to unilateral
* Initiate proprioception training

**Phase IV – Advanced Strengthening and Initiation of Plyometric Drills (Weeks 10 to 20):**

Weeks 10 to 16:
* Initiate gym strengthening – beginning bilateral progressing to unilateral
  leg press, heel raises, hamstring curls, squats, lunges, knee extensions (30° to 0° progressing to full range as PFRarthrokinematics normalize)

Weeks 16 to 20:
* Continue with advanced strengthening
* Begin functional cord program
* Begin pool running program progressing to land as tolerated

**Phase V – return to Sport Functional Program (Weeks 20 to 24):**
* Follow-up examination with physician for progression to this stage
* Implement sport specific multi-directional drills and bilateral plyometric activity progressing to unilateral as tolerated
* Continue with aggressive lower extremity strengthening, cardiovascular training and flexibility
* Sports test for return to play