

Brandon Beamer M.D - *Orthopedic Sports Medicine Specialist*

5317 Golden Foothills Parkway
El Dorado Hills, CA 95762

Ph: 530-344-2070 / Fax: 530-748-0332 / www.brandonbeamermd.com



Notes:

**This protocol is designed to serve as a guide for the rehabilitation process. It is not intended to supersede clinical judgment and decision making. Progression through each phase is designed to allow for maximal tissue healing of repaired tissues and is based on scientific evidence and clinical experience*

Estimated Return to Sport / Work:

Manual: Initiate scar mobilization^{1,5,7,17,19,22,24}
Modalities: Continue PRN^{27,28,29,30,31}
CV Exercise: Biking
Walking on treadmill

Criterion for Progression:

- 1) Minimal to no effusion/edema**
- 2) ROM equal to opposite LE**
- 3) Full patellar mobility**
- 4) Ambulate on level surfaces with normal gait**

Phase III – Tissue Remodeling/Hypertrophy Phase (6-12 weeks)

- Goals:**
- 1) Full knee AROM^{5,7,17,19,22,24}
 - 2) Normalize eccentric quad control^{10,11,20,26}
 - 3) Strength progression^{10,11,20,26}
 - 4) Begin jogging progression

ROM: ROM to full ROM^{5,7,17,19,22,24}
Exercise: Advanced Strength/Proprioception/Balance^{4,15,20,26}
Begin agility progression^{4,15,20,26}
CV Exercise: Elliptical
Jogging Progression

Criterion for Progression:

- 1) No pain or edema/effusion**
- 2) Full ROM**
- 3) 20 reps to 60 degrees single limb squat with eccentric control and good lower extremity alignment**
- 4) Quad strength >80% of uninvolved LE (10RM single leg press or isokinetically if available)**
- 5) Jogging without pain or antalgic gait**
- 6) Normal clinical exam**

Phase IV – Sport Specific Training (weeks 8-12)

- Goals:**
- 1) Begin sport specific drills^{4,15,20,26}
 - 2) Normalize neuromuscular control^{4,15,20,26}
 - 3) Normalize jumping/landing mechanics if indicated^{4,15,20,26}
 - 4) Prepare for return to sport

Exercise: Advance agility progression^{4,15,20,26}
Begin plyometric progression^{4,15,20,26}
Progress on running progression/sport-specific training

Criterion for Return to Sport: (Recommend combination testing of strength, agility, and power according to available resources/clinic setting)

- 1) No pain or swelling**
- 2) Quad strength > 90% of uninvolved (10RM leg press or isokinetic testing)¹²**
- 3) IKDC (MCID 6.3 @ 6mo; 16.7 @ 12 mo)^{2,4,5,16}**
- 4) Confidence Question¹⁷**

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Arthroscopy

Weight Bearing

- NWB x _____ wks/days
- TDWB x _____ wks/days
- PWB _____% x _____ wks/days
- WBAT
- Brace Locked in Ext x _____ wks/days

Brace

Brace : _____ wks/days

With Sleep: _____ wks/days

ROM

- Full ROM
- Locked full ext x _____ wks
- Locked at _____° x _____ wks
- ROM limits
- _____° to _____° x _____ wks
- _____° to _____° x _____ wks
- _____° to _____° x _____ wks
- _____° to _____° x _____ wks

CPM

- _____° to _____° x _____ wks
- 30-70° ↑10°/d @ dir
- None

Precautions

Phase I – Tissue Protection/Healing Phase (0-2 weeks)

- Goals:**
- 1) Reduce pain^{11,18}
 - 2) Reduce effusion^{1,5,7,11,17,19,22,24}
 - 3) Minimize scar adhesion formation^{1,5,7,17,19,22,24}
 - 4) Achieve full knee extension ROM^{5,7,17,19,22,24}
 - 5) Facilitate quadriceps activation^{5,10,11,12,17,18,24}

ROM: PROM/AAROM/AROM (per MD limits)^{5,7,17,19,22,24}

Bike: Rocking to full revolution as ROM allows

Exercise: Quad Isometrics^{5,10,11,12,17,18,19,22,24}

SLR – 3 way (flex/abd/ext)^{2,5,7,10,16,20,21}

Clamshells²¹

Bridging/Hamstring Setting²¹

Heel raises

1/3 arc squats /Leg Press (70-0 degrees)^{5,7,10,11,18}

Balance board/perturbation training^{4,15}

Manual: Patella Mobilizations^{1,3,5,7,17,19,24}

Patellar tendon Mobilizations^{1,3,5,7,17,19,24}

Extension with Overpressure^{5,7,17,19,22,24}

Modalities: Functional Electrical Stimulation

Cryotherapy^{27,28,29,30,31}

Gait Training/Cone Walking¹⁴

Criterion for Progression:

- 1) *Voluntary quadriceps isometric contraction*
- 2) *No extensor lag with SLR*
- 3) *Good patellar mobility*
- 4) *Knee ROM full knee extension equaling opposite LE to functional knee flexion*

Phase II – Tissue Proliferation Phase/Progression Phase (3-5 weeks)

- Goals:**
- 1) Pain and edema control^{1,5,7,11,17,18,19,22,24}
 - 2) Improve knee ROM^{5,7,17,19,22,24}
 - 3) Strength progression – develop functional quad control^{5,10,11,12,17,18,24}
 - 4) Achieve normal gait¹⁴

ROM: PROM/AAROM/AROM (progression to R=L)^{5,7,17,19,22,24}

Bike for ROM

Exercise: Squats/Leg press to 100^{7,10,11,18}

Closed chain Terminal Knee Extension (stand)^{5,7,10,11,18}

Calf raises

Weight Shifting/Balance/ Perturbation Training^{4,15}

Single leg bridge²¹

Step ups, Step Downs, Lateral Step Downs^{5,7,10,11,26}

Incline walking on treadmill^{5,7,10,11,18}

Retrowalking on treadmill