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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 (7-12 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}
ROM: Full ROM^{5,7,17,19,22,24}
Exercise: Squat (0-100 degrees)^{5,7,10,11,20,26}
Single Leg Squats^{10,11,20,26}
Advanced Proprioception/Balance Activities^{4,15,20,26}
Jogging Progression
CV Exercise: Elliptical, bike, treadmill

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) Normal clinical exam

Phase IV – Sport Specific Training (weeks 9-12)

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: Begin agility progression (week 9)
Begin plyometric progression (week 9)
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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Arthroscopic Debridement/Synovectomy

Weight Bearing

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

Brace

Brace : _____ weeks

With Sleep: _____ weeks

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

Recommended Clinical Guidelines

ROM:

0-110 x 2weeks^{5,7,17,19,22,24}

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: Emphasis on full extension^{5,7,17,19,22,24}
PROM/AAROM/AROM (0-110)^{5,7,17,19,22,24}

Exercise: Bike: Rocking to full revolution without resistance

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

Open chain Knee Extension 30-0^{5,7,10,11,18}

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

Clamshells²¹

Hamstring Isometrics in knee extension with ball^{5,7,24}

Manual: Patella Mobilization^{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^{5,10,11,12,17,18,24}

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

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 110 degrees flexion by week 2

Phase II – Tissue Proliferation Phase/Progression Phase (3-6 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 (progress Knee Flexion to R=L)
Bike for ROM: progress resistance as tolerated

Gait Training/Cone Walking¹⁴

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

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

Calf raises

Weight Shifting/balance board/Perturbation Training^{4,15}

Single leg bridge²¹

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

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

Retrowalking on treadmill