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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 rough 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:

- 6 months
- 12 months
- 18 months
- 24 months
- _____

Manual: Initiate scar mobilizations^{39,40}
Modalities: Continue PRN
CV Exercise: Biking
Aquajogging

Criterion for Progression:

- 1) Minimal to no edema/effusion
- 2) ROM 0-135 degrees
- 3) Full patellar mobility
- 4) Ambulate on level surfaces without brace with quad control

Phase III – Tissue Remodeling/Hypertrophy Phase (7-16 weeks)

Goals: 1) Full knee AROM
2) Improve eccentric quad control
3) Strength progression
4) Begin light jogging by week 12

ROM: ROM to full ROM
Exercise: Squat (0-100 degrees)^{10,14,19-21}
Single Leg Squats¹⁰
Advanced Proprioception/Balance Activities
CV Exercise: Elliptical
Jogging Progression (week 12)

Criterion for Progression:

- 1) No pain or edema/effusion
- 2) Full ROM
- 3) 20 reps to 60 degrees single leg 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 16-) [See Estimated Return to Sport]

Goals: 1) Begin sport specific drills – no cleats or contact
2) Normalize neuromuscular control
3) Normalize jumping/landing mechanics if indicated
4) Prepare for return to sport

Exercise: Begin agility progression (week 16)
Begin plyometric progression (week 20)
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)³

- 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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ACL Autograft Reconstruction

Weight Bearing

- NWB x _____ wks
- TDWB x _____ wks
- 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 2 weeks
(per tolerance)
0-135 x 4 weeks

Precautions

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

- Goals:**
- 1) Reduce pain
 - 2) Reduce effusion
 - 3) Minimize scar adhesion formation
 - 4) Achieve full knee extension ROM
 - 5) Facilitate quadriceps activation

ROM: PROM/AAROM/AROM (0-MD prescribed limit)^{1,2,9,41}

Bike: Rocking for ROM⁴

Exercise: Quad Isometrics^{11,12}
SLR – 3 way (flex/abd/ext)^{11,12}
Clamshells/Reverse Clamshells⁷⁻⁹
Bridging/Hamstring Isometrics⁷⁻⁹

Manual: Patella Mobilizations^{38,39}

Extension with Overpressure^{2,39}

Modalities: Functional Electrical Stimulation²⁹⁻³²
Cryotherapy^{33,34,36}

Criterion for Progression:

- 1) Voluntary quad isometric contraction
- 2) No extensor lag with SLR
- 3) Good Patellar Mobility
- 4) Knee ROM 0-90 degrees by week 2

Phase II – Tissue Proliferation Phase/Progression Phase (3-6 weeks)

- Goals:**
- 1) Pain and edema control
 - 2) Improve knee ROM
 - 3) Strength progression – develop functional quad control
 - 4) Achieve full terminal knee extension with normalized gait

ROM: PROM/AAROM/AROM (progression to 0-MD limit)

Bike for ROM

Gait Training/Cone Walking^{17,18}

Exercise: Open Chain Knee Ext 90-40 deg (LAQ)¹⁰⁻¹⁴
Open Chain Knee Flex 0-90 deg (stand/prone)
Calf raises
Weight Shifting
Balance Board¹⁵
Wall sits (60 degrees)
Mini squats (0-50 degrees)^{10,14,19-21}
Shuttle Leg Press (70-0 degrees)^{10, 14, 19-21}
Step ups, Step Downs, Lateral Step Downs^{22,23}
Perturbation Training²⁴⁻²⁵
Retrowalking (Treadmill)^{27,28}