

Tibial Spine (ACL Avulsion) Fracture Fixation Rehabilitation Protocol

Colby Wollenman, M.D.

Patient: _____ **DOS:** _____

Surgeon Parameters

Fixation: ☐ Suture ☐ Screw	Flexion limit 0–45° for _____ wks (default 2)	Brace locked for walking _____ wks (default 6)
Other Precautions:		

Parameters above are patient-specific and supersede the general timeframes below. **Fracture healing is the rate-limiting factor, but stiffness (arthrofibrosis) is the most common complication: the fixation is protected for 6 wks while motion starts early and is pushed after 2 wks.** After 6 wks, follow Dr. Wollenman's ACL Reconstruction protocol from Phase 2, at the faster pace below. Therapist to use clinical judgment to individualize exercise selection and pace within each phase.

Phase	Goals	Precautions	Treatment Focus
Phase 1 Weeks 0–6	Goals - Protect the fixation; control pain and effusion - Full extension from day 1 - Flexion 45° wks 0–2 → 90° by wk 4 → ≥120° by wk 6 - Quad activation; SLR without lag	Precautions - WBAT with crutches; brace locked in extension for walking and sleep per parameters above - Flexion limit per parameters above, then progress as tolerated — do not hold motion back - No resisted open-chain knee extension - No running, jumping, pivoting, or PE - Flexion <90° at 6 wks → contact the surgeon promptly	Treatment Focus - Quad sets, SLR in the brace; NMES - Heel slides within the limit, prone hangs, patellar mobilization - Bike without resistance for ROM after wk 2 - Hip, core, and calf work
► Advance to Phase 2 when: ≥6 wks, radiographs reviewed by the surgeon, full extension, flexion ≥120°, SLR without lag.			
Phase 2 Weeks 6–12	Goals - Brace and crutches off; normal gait - Full ROM - Closed-chain strength - Single-leg balance	Precautions - No running, jumping, or pivoting - Open-chain knee extension 90–45° from wk 8, full arc from wk 12	Treatment Focus - Squats 0–90°, leg press, step-ups, bridges - Bike, elliptical, pool - Single-leg balance; hip and core strengthening
► Advance to Phase 3 when: full symmetric ROM, effusion ≤ trace, quad LSI ≥70%, single-leg squat to 45° with good control.			
Phase 3 Weeks 12–18	Goals - Begin running at ≈12–14 wks once criteria are met - Strength LSI ≥80% - Sound landing mechanics	Precautions - Running only with quad LSI ≥70%, full ROM, and no effusion - No cutting, pivoting, or sport	Treatment Focus - Walk–jog progression - Double-leg plyometrics; ladder drills - Progressive single-leg strength
► Advance to Phase 4 when: quad and hamstring LSI ≥80%, running 20 min without pain or effusion, good landing mechanics.			
Phase 4 Weeks 18–24	Goals - Agility, cutting, and single-leg plyometrics - Strength and hop LSI ≥90% - Sport-specific training	Precautions Return to sport is criteria-based and not before ≈5 months	Treatment Focus - Change-of-direction and reactive agility - Single-leg plyometrics - Sport-specific drills; strength and hop testing
► Full Release (typically 5–6 months / 20–24 wks): full ROM, no effusion, stable Lachman, strength and hop LSI ≥90%, sport-specific progression completed, cleared by physician.			

Thank you for taking care of our patient.

This protocol serves as a general guideline and outline only. Our team defers to the clinical judgment and expertise of the treating physical therapist to make appropriate adjustments and modifications based on the individual patient's presentation, progress, and response to treatment. For any questions regarding this protocol, please contact Dr. Wollenman directly at (561) 215 – 0184.