JAYSON LIAN, MD ACL RECONSTRUCTION WITH UNSTABLE MENISCUS REPAIR | REHABILITATION PROTOCOL

Orthopedic Surgery – Sports Medicine
Los Angeles Orthopedic Surgery Specialists | 818-703-3333 | laorthos.com

Autograft | Bone-Patellar Tendon-Bone • Quadriceps Tendon

WEIGHT BEARING	BRACE	ROM	GOALS	TREATMENT	CLINICAL MILESTONES
PHASE I — Weeks 0–6 (Pre-op to Post-op / Protection)					
• NWB w/ brace locked 0° (Wks 0–6) • Heel-touch WB only if intolerable	• Locked 0° (Wks 0–6) • Unlocked for PT only • Remove for sleeping • D/C when quad control establishe d	• 0–70° (Wks 0–2) • 0–90° (Wks 3–6) • No WB w/ flexion >70° • Avoid hyperflexion	• Wound healing • Protect meniscus repair • Quad activation • Decrease effusion • Restore full extension • Normalize patellar mobility • Initiate proximal strengthening	• Ice, compression, elevation • Electrical muscle stimulation / scar mobilization • Quad sets, heel slides, SLR (brace in full ext.) • Patellar mobilizations / active-assisted ROM • Quad/hamstring/glute isometrics • Hip abduction/adduction; side-lying hip/core • NO isolated hamstring activation x6 wks • Core and upper-body strengthening	• Trace effusion • Good quad set & patellar mobility • Pain-free at rest • AROM 0–90° • Single limb stance
PHASE II — Weeks 6–10 (Progressive Weight-Bearing)					
• Begin 25% BWB at Wk 6 • Advance 25% every 4–5 days • Target FWB by Wk 8 • Normalize gait	• Wean locked → unlocked → no brace • as quad control & gait normalize • Progress to CKC	• Flexion to 130° (until 4 mo PO) • CKC flexion <40° • Avoid hyperflexion	• Achieve FWB • Normalize gait on flat ground • Trace to no effusion • Neuromuscular re-ed of quads • Tolerate 25 min standing/walking	• Pain management & effusion control • Progressive balance training per WB status • Mini squats & step-ups (CKC <40°) • Toe/calf raises; stationary bike (no resistance) • Leg press CKC <40°; ROM & flexibility • 4-way hip; clamshells; cardiovascular training • Core and upper extremity strengthening	• FWB with normal gait • AROM 0–120-130° • Good quad recruitment • SLR without lag • Normal patellar mobility
PHASE III — Weeks 10–15 (Endurance Phase)					
• Full	• None	• Flexion to 130° (until 4 mo PO) • CKC <70° with all activity • No deep squat/cross-leg sitting <4 mo • Avoid tibial rotation (Wks 8–12) • Avoid pivoting	• Increase endurance and neuromuscular control • Normalize knee ROM • Improve bilateral stance stability • 90-sec SL squat hold at 45° flexion • Exercise: 3 sets x 15–25 reps, 30–60 sec rest	• Progress Phase II exercises • Double-leg squats (CKC <70°) • Static and dynamic lunges • Leg press 0–90°; lateral step-ups/step-downs • Hamstring curls and SLR • Proprioception / SL balance — progress difficulty • Stationary bike w/ resistance • Stair master / elliptical; swimming, Nordic Track • Initiate running program	• 90-sec SL squat hold at 45° flexion achieved • Minimal to no effusion • Full ROM achieved • Normalized gait on all surfaces • Tolerates 25 min continuous cardiovascular activity

JAYSON LIAN, MD ACL RECONSTRUCTION WITH UNSTABLE MENISCUS REPAIR | REHABILITATION PROTOCOL

Orthopedic Surgery – Sports Medicine
Los Angeles Orthopedic Surgery Specialists | 818-703-3333 | laorthos.com

Autograft | Bone-Patellar Tendon-Bone • Quadriceps Tendon

WEIGHT BEARING	BRACE	ROM	GOALS	TREATMENT	CLINICAL MILESTONES
PHASE IV — Weeks 16–21 (Strength Phase)					
• Full	• None	• Flexion to 130° (until 4 mo PO) • CKC <90° until Wk 20 • No deep squat/cross-leg sitting <4 mo • Avoid pivoting	• Increase unilateral strength and power • Equal hip strength bilaterally • Quad index >80% • Y-Balance anterior reach: <8 cm deficit • Exercise: 3 sets x 8–12 reps, 2–3 min rest	• Single-leg squats • Single-leg deadlifts • Step-ups/step-downs • Multidirectional lunges • Stationary bike with resistance • Continue running program progression • Isokinetic and endurance exercises	• Quad index >80% • Y-Balance anterior reach: <8 cm deficit • Equal hip strength bilaterally • Minimal to no pain with activity • Isokinetic quad strength <20% contralateral deficit
PHASE V — Weeks 22–28 (Return to Activity, 5–7 Months)					
• Full	• None	• Full • No deep squat until 6 mo PO • Avoid hyperflexion	• Increase power and endurance • Return to skill activities • Prepare for full unrestricted activities	• Progress Phase IV exercises • Jogging/running progression (Wk 22–24) • Plyometrics: double-leg to single-leg jump training • Agility drills; sport-specific drills • Wk 22: jumping | Wk 24: sprinting/backward running • Wk 26: cutting/pivoting as tolerated • FSA at 26 wks for competitive athletes	• Full confidence in knee • Pain-free at 6 months • Satisfactory clinical exam • Functional testing 90%+ contralateral • Isokinetic testing 90%+ contralateral • Y-Balance anterior reach: <5 cm deficit • Y-Balance composite: >94%
PHASE VI — >7 Months (Return to Sport)					
• Full	• None	• Full	• Gradual return to sports participation • FSA completion and MD clearance	• Sport-specific agility/change-of-direction drills • Ladder drills; lateral hops w/ and w/o resistance • Progressive cutting activities • Advance plyometrics as tolerated • Maintenance program: strength and endurance • Full unrestricted sport after clearance	• Cleared by MD / FSA completed • Full confidence in knee • No pain with sport activity • Quad index >90% • SL hop series >90% • Vail Sport Test >46/54

UNSTABLE (Root/Radial) MENISCUS REPAIR MODIFICATIONS: NWB x6 weeks PO. ROM restricted 0–70° (Wks 0–2), 0–90° (Wks 3–6), 0–130° (Wks 7–Month 4). No hyperflexion until 4 months PO. No isolated hamstring activation x6 weeks.

** NWB x6 wks PO | ** CKC <40° Wks 6–10 | ** CKC <70° Wks 10–14 | ** CKC <90° Wks 14–20 | ** No deep squatting/cross-leg sitting x4 months | ** Avoid tibial rotation: 8–12 wks PO | ** Avoid pivoting: until Phase IV

** No isolated hamstring activation x6 weeks | ** ROM restrictions may be modified based on intraoperative findings | Please fax progress notes to the treating surgeon

*** FSA (Functional Sports Assessment) highly recommended at ~26 weeks post-op for competitive athletes. Quad index >90%, SL hop series >90%, Vail Sport Test >46/54 required for clearance.