



Post-Operative Rehabilitation Protocol Following ACL RECONSTRUCTION WITH ALLOGRAFT

This protocol is to provide the therapist and patient with guidelines for the post-operative rehabilitation course after ACL reconstruction using allograft tissue. Because allograft tissue incorporates more slowly than autograft, this protocol follows a more conservative timeline for weight bearing, loading, and return to cutting/pivoting activity. It should serve as a guideline based on the individual's physical exam/findings, progress to date, and the absence of post-operative complications. If the therapist requires assistance in the progression of a post-operative patient they should consult with the specific surgeon. Progression to the next phase is based on Clinical Criteria and/or Timeframes as appropriate.

Phase I – Immediate Post-Operative (Weeks 0-2):

Goals:

- Protect the graft and fixation
- Control pain, swelling, and inflammation
- Restore full passive knee extension (0°)
- Regain quadriceps activation/control
- Independent with brace, crutches, and home exercise program

Weight Bearing / Brace / Crutches:

- Toe-touch weight bearing (TTWB) for the first 2 weeks
- Use of crutches for the first 2 weeks – wean per physician direction as quad control, gait, and weight-bearing status allow
- Brace locked in full extension for ambulation and for sleeping
- Brace may be unlocked for wide-open ROM during the day while seated/resting; remains locked for all standing and ambulation during this phase

Precautions:

- No active hamstring contraction against resistance
- No pivoting, twisting, or cutting
- No open-chain resisted knee extension

Weeks 0-2:

- Cryotherapy for pain and swelling control
- Ankle pumps
- Quad sets
- Heel slides / passive and active-assisted knee flexion as tolerated
- Patellar mobilization
- Straight leg raises (SLR) once quad set demonstrates good quality (no extension lag)
- Passive knee extension stretching to achieve full extension

- Gait training with crutches, TTWB, brace locked in extension – crutches used for the first 2 weeks
- Edema control: elevation, compression, cryotherapy

Phase II – Early Strengthening and ROM (Weeks 2-6):

Goals:

- Progress weight bearing to full weight bearing (FWB) as tolerated
- Wean off crutches
- Achieve full active and passive ROM
- Normalize gait pattern
- Improve quadriceps and hamstring strength

Precautions:

- Avoid aggressive open-chain hamstring loading
- No running, jumping, cutting, or pivoting
- Brace may be discontinued for ambulation per surgeon protocol, typically weeks 4-6

Weeks 2-4:

- Progress weight bearing from TTWB to WBAT per physician; discontinue brace locking for ambulation once quad control and extension are adequate
- Continue ROM exercises to achieve full flexion and extension
- Stationary bike for ROM and early conditioning once flexion allows
- Closed kinetic chain exercises: mini-squats, leg press (limited range), step-ups (low height)
- Balance and proprioception – double leg stance progressing to single leg stance
- Continue cryotherapy as needed

Weeks 4-6:

- Discontinue crutches once gait is normalized and quad control is adequate
- Progress closed kinetic chain strengthening
- Initiate light hamstring curls (progressive resistance as tolerated)
- Continue balance/proprioceptive training
- Elliptical trainer once full ROM and adequate strength allow

Phase III – Advanced Strengthening (Weeks 6-12):

Goals:

- Full, pain-free ROM
- Progressive restoration of quadriceps, hamstring, and hip strength
- Improve neuromuscular control and dynamic balance
- Initiate straight-line low-impact conditioning

Precautions:

- No cutting, pivoting, or lateral agility drills
- Avoid high-impact loading until adequate strength and control are demonstrated

Weeks 6-8:

- Progress closed kinetic chain strengthening (squats, leg press, lunges) through fuller range
- Initiate hip strengthening in all planes (abduction, extension, external rotation)
- Core and trunk stabilization exercises
- Continue proprioceptive training – unstable surfaces, single-leg balance progressions
- Pool therapy/aquatic conditioning if available

Weeks 8-12:

- Progress to more dynamic strengthening – step-downs, single-leg squats, lateral step-ups
- Initiate straight-line jogging progression once criteria met (full ROM, minimal effusion, quad strength $\geq 70\%$ of uninjured side, normal gait)
- Continue hip/core strengthening
- Begin light plyometric education (double-leg landing mechanics) without high-intensity loading

Phase IV – Running and Neuromuscular Control (Months 3-6):

Goals:

- Progress straight-line running program
- Build strength symmetry between limbs
- Develop advanced neuromuscular control and landing mechanics
- Prepare for sport-specific movement patterns

Precautions:

- NO cutting or pivoting activities until 6 months post-op
- No sport-specific agility, lateral cutting, or pivoting drills during this phase

Months 3-4:

- Progress straight-line running distance/speed as tolerated
- Double-leg plyometrics: jump/land mechanics, box drops, squat jumps
- Progressive resistance training – squats, deadlifts (as appropriate), leg press
- Continue hip and core strengthening
- Single-leg strength and balance progression

Months 4-6:

- Progress to single-leg plyometrics (hops, bounds) in straight planes only
- Continue strengthening program with emphasis on quadriceps/hamstring ratio and limb symmetry
- Sport-specific conditioning in straight lines (no cutting/pivoting)
- Initiate functional testing preparation (single-leg hop tests, isokinetic strength testing if available)

Phase V – Return to Sport (6+ Months):

Goals:

- Achieve $\geq 90\%$ limb symmetry index on functional hop testing and quadriceps/hamstring strength testing
- Demonstrate sound landing/cutting mechanics without compensation

- Gradual, criteria-based return to cutting, pivoting, and sport-specific activity
- Full return to sport per physician clearance

Criteria to initiate cutting/pivoting activity (no earlier than 6 months post-op):

- Full, pain-free ROM
- Quadriceps and hamstring strength $\geq 90\%$ of uninvolved limb
- $\geq 90\%$ limb symmetry index on single-leg hop testing
- No effusion or instability with activity
- Demonstrates good landing/cutting mechanics on video/clinical assessment

6+ Months:

- Initiate progressive agility drills – shuttle runs, figure-8s, cutting, and pivoting once criteria above are met
- Sport-specific drills and non-contact practice participation
- Gradual return to full, unrestricted sport participation per physician and functional testing clearance

*This protocol is designed to be administered by a licensed physical therapist and/or certified athletic trainer.
Please do not hesitate to contact our office should you have any questions concerning the rehabilitation process.*