



CONCORD ORTHOPAEDICS

ACL REPAIR HAMSTRING, PATELLAR TENDON, ALLOGRAFT OR AUTOGRAFT Rehab Protocol # 12 Peter G. Noordsij, M.D.

For patients with MCL involvement, the protocol remains the same as for post ACL repair with the exception of the need to avoid any valgus stress on the knee for 4 weeks post op.

Key time frames to consider for ACL graft healing:

- Weeks 0 – 1: Graft is at its strongest
- Weeks 6 – 7: Graft is structurally at its weakest
- Weeks 7 – 8: Patellar tendon graft is completely re-vascularized
- Weeks 8 – 18: Tissue remodels to partially resemble the ACL in regards to collagen arrangement and vascularity
- 1 – 2 Years: The graft reaches 30 – 50 % of the strength of a normal ACL

PHASE I

POST OP WEEKS 0 – 2 - GOALS

- Patient will achieve 100 degrees of flexion and full extension by post op week 2
- Patient will be able to complete all transfers (i.e. bed, tub/shower, car)
- Patient will be able to ambulate with appropriate assistive device with correct technique within weight bearing precautions
- Patient will be independent with initial quad strengthening and ROM HEP
- Patient will avoid active terminal knee extension

POST OP WEEKS 0 – 2 - IMMOBILIZER AND CRUTCH USE

- Patient no longer needs to sleep with immobilizer unless specified by physician
- For patellar tendon grafts, crutches are used with immobilizer, if knee feels unstable. If knee is stable (i.e. SLR without quad lag) then just crutch use would be appropriate
- For autograft, wean off crutches at 3 weeks post op without immobilizer or until good quad control
- For allograft and hamstring repairs, crutches are used without immobilizer
- Brace should be used at physicians discretion, may require immobilization brace for 2 – 3 weeks
- Ambulation initially, PWB or per physicians discretion

POST OP WEEK 1 - TREATMENT

- Control swelling (ice, elevation, ankle pumps, e-stim)
- Quad and glute sets, SLR, prone hangs
- Patellar mobs
- Supine wall slides
- Gait training
- ROM
- E-stim for VMO recruitment, biofeedback, co-contractions
- Initiate SLR with support

POST OP WEEK 2 - TREATMENT

- Mini squats
- Scar massage once incision is healed
- Standing and seated hamstring curls
- SLR prone, supine and sideling – avoiding adduction with MCL
- Heel raises
- Stationary bike
- PRE's with SLR, may still need to support distal LE to avoid quad lag
- ROM
- Leg press (10 – 80 degrees)

PHASE II

POST OP WEEKS 3 – 6 - GOALS

- Patient will achieve 0 – 120 degrees of ROM
- Patient will be able to ambulate independently on level surfaces. Stairs, curbs, inclines with assistive device up to 50 % WB by 4 weeks post op, or per physicians discretion
- Patient will tolerate ambulation up to 30 minutes to complete household and community activities (i.e. shopping, meal prep, etc.)

POST OP WEEKS 3 – 6 - TREATMENT (exercises may vary based on WB status)

- Brace per physicians discretion
- ¼ squat with tubing
- Heel raises with weights
- Bicycling for aerobic conditioning
- Step ups, progressive height
- Balance, single limb, unidirectional balance board
- Swimming, flutter kick only
- Stair climber, using small steps

POST OP WEEKS 5 – 6 - TREATMENT

**Graft most vulnerable during weeks 5 – 7. Avoid cutting movements that will increase shear force

- Multidirectional balance board, single limb (BAPS)
- Slide board
- Proprioceptive exercises
- Derotational brace, per physician discretion
- May jog with toes on ground using sports cord (patellar tendon graft only)

PHASE III

POST OP WEEKS 7 – 12 - GOALS

- Patient will achieve 0 – 135 degrees of knee ROM, or symmetric with uninvolved side
- Patient will be able to ambulate with normal WB and gait pattern
- Patient will be able to squat to retrieve objects from the floor and low shelves
- Patient will be able to perform job duties that require bending at the knees, squatting, climbing and walking
- Patient will be independent with full HEP per protocol

POST OP WEEKS 7 – 12 - TREATMENT

- Exercises are progressed at the discretion of the physician and P.T. relative to protocol and physical demands of the patients activities
- Brace is utilized per physicians discretion
- Exercises continue as in phase II with the addition of agility and coordination drills
 - Lunges, straight and diagonal
 - Lateral shuffles
 - Rope jumping, hopping
 - Braiding
 - Straight ahead jogging (walk – jog progression)

PHASE IV

POST OP 12 WEEKS – 6 MONTHS - GOALS

- Patient will be able to return to sports and recreational activities with manageable symptoms and with physician approval

POST OP 12 WEEKS – 6 MONTHS - TREATMENT

- Plyometrics
- Sport specific agilities
- Cutting progression
- Isokinetic testing at 16 weeks