



ACL Rehab Guidelines

(Hamstring Tendon Autograft)

Procedure:

- Anterior Cruciate Ligament is replaced with harvested sections of the distal Semitendinosus and Gracilis muscles from the posterior medial thigh.

Precautions:

- Avoid isolated terminal knee extension against resistance from 60-0° for 4 months, this may stretch the graft before it is healed. Avoid hyperextension of the knee past neutral.
- The harvested tissue requires 12 weeks before it begins to grow its own blood supply. Aggressive strain on the graft should be avoided until after 12 weeks.

Phase 1: weeks 1 – 6

GOALS: Restore ROM, limit muscle weakness, and restore normal walking without a limp.

- Crutches and PWB on surgical leg until muscle control is restored. (Usually 1-2 weeks)
- Initially (1-2 weeks), use brace at all times. Brace should be locked in full extension when sleeping or lying down. Unlocked from 0° - 90° when sitting or walking. After 2 weeks brace can be adjusted to allow for flexion as obtained in therapy.
- Instruct in application of ice and encourage use for 15-20 min. every 3-4 hours during the day. *If pain catheter in place, avoid placing ice over flow valve.*
- Initiate home exercise program.
 - Limit active hamstring exercises for the first 2 weeks to prevent strain on the harvest site. (No hamstring restrictions with a patellar tendon graft.)
 - Begin quadriceps/hamstrings co-contraction isometrics in 30-45° flexion. Restrict full knee extension isometric quad contractions and SLR's for the first 4 weeks.
 - Begin hip and ankle stretches and AROM, patellar mobilizations, knee flexion and extension stretching, and weight shifting side to side and forward and backward. Seated BAPS board may be used.

- Initiate multi-plane straight leg raises in a standing position, heel raises, and toe raises.
- Week 3 – 4: Advance WB on operative leg as tolerated and discontinue the use of crutches when appropriate.
 - Add stationary bike for ROM. May begin partial squats.
 - Once full active extension is reached, D/C use of brace at night as long as full extension is achievable each morning.
 - Start WB exercises including wall sits.
 - Four week knee flexion goal is 120°.
 - Initiate gentle hamstring stretching.
- Week 5 – 6: Brace can be D/C at 6 weeks with goal of full ROM.
 - Continue with balance and proprioception training, begin single limb balance with knee flexed 20-30°, BAPS balance board (2 legged), and lateral step-ups (2' and 4').

Phase 2: weeks 7 - 16

GOALS: Full ROM, strength 50-60% of normal, normal jogging pattern.

- Continue to progress strengthening, balance, and proprioception program. Maintain terminal knee extension precautions.
- Progress aerobic conditioning using the following: stairmaster, stationary bike, elliptical trainer, treadmill, and aquatic therapy.
- Weeks 12 – 16: Start slow straight jogging without fast starts or stops, and without cutting or sudden turns. Start level surface double and single leg jumping and hopping, and carioca.

Phase 3: weeks 16 >

GOALS: Return to 80% of normal strength, hamstring to quadriceps strength to 0.7, return to normal running pattern.

- Continue with comprehensive strengthening program, flexibility exercises, and cardiovascular endurance exercises.
- Can initiate low level plyometric training: Box jumps, single/double leg bounding, and rope skipping.
- May begin Jog/Run program.
- Rehab program should be sport or work specific.

Phase 4: 6 - 9 months

- Return to contact and pivot sports. If returning at 6 months, discuss with surgeon whether or not a functional knee brace should be used.