

**GARRETT COUNTY ORTHOPAEDICS**

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**Anterior Cruciate Ligament (ACL)**

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**Medial Collateral Ligament (MCL) Reconstruction**

***Quad HS, BTB and Allograft Reconstructions***

**PHASE I: Hospital d/c through Week 12 – PROTECTION PHASE**

**PT Sessions:** Determined by physical therapist

**Ambulation:**

1. TTWB with crutches for 1<sup>st</sup> 6 weeks then allow WBAT
2. D/C crutches when satisfactory quad strength (30 SLRs w/o lag)

**Brace:**

1. Ambulate with hinged ROM brace locked at 0° flexion until quads strong enough to prevent knee from giving-way
2. Once quads strong allow ambulation with brace unlocked (full flexion)

**Exercise:** *(followed by 20 min ice with towel under heel cord – full extension)*

1. Quadriceps E-stim x 15 min (muscle re-education)
2. Quad sets x 100, SLR x 10
3. Heel slides x 30
4. Prone hangs 5-10 min
5. Calf / ankle pumps with tubing
6. Gentle hamstring (HS) stretching and multi-angle HS isometrics (wait until 6 weeks for resisted HS if HS graft is used)
7. Patellar mobilizations
8. Hip strengthening

**Goals and Criteria for Progression to PHASE II:**

1. Full passive and active ROM and good patella mobility
2. Good quad control (< 5° extensor lag)
3. Pain under control and minimal effusion

**PHASE II: Week 12 through Week 18 – STRENGTHENING PHASE**

**PT Sessions:** Directed by physical therapist

**Ambulation:** WBAT w/o crutches

**Brace:** Discontinued after 8 weeks or when:

1. Pt has at least 0-120° AROM
2. Performs single leg balancing for 30 seconds

3. Demonstrates normal gait

**Exercise:**

1. Continue with PHASE I exercises
2. Initiate closed chain strengthening when gait is normal
  - a. mini squats (if no pain or crepitus)
  - b. heel raises and heel to toe rocking
  - c. single leg press 25% of body wt
  - d. AVOID active, open-chain quad extension
3. Initiate cardiovascular exercise
  - a. stationary bike for ROM (low resistance, seat high)
  - b. treadmill walking – forward
  - c. elliptical trainer
4. Proprioception drills:
  - a. single body blade
  - b. BAPS board (progress through levels w/ eyes open & closed)
  - c. plyoback training
5. Aquatic (pool) therapy
  - a. pool walking – forward and lateral
  - b. flutter kicks (knee remains extended)
  - c. weightless jogging

**Goals and Criteria for Progression to PHASE III:**

1. Full AROM (95% strength of uninjured knee)
2. Normal quad and HS control; no quadriceps extension lag
3. Minimal pain; no effusion
4. Normal patellar mobility
4. Normal gait without crutches
5. Stair ambulation w/ minimal difficulty (no sensation of giving-way)

**PHASE III: Week 18 through Week 24 (6 mo) – ADVANCED STRENGTHENING PHASE:**

**PT sessions:** Directed by physical therapist

**Brace:** low profile ACL sports brace to be worn during weight-bearing exercise

**Exercise:**

1. Continue with PHASE II exercises
2. Muscle strengthening
  - a. Leg press progression up to 50% of body weight (single leg)
  - b. Quad and HS strengthening – exercise to muscle failure
3. Cardiovascular exercise:
  - a. Retro-walking on treadmill (2mph @ 1% grade – progress prn)
  - b. Add resistance to stationary bike at 60 RPM (if no pain / crepitus)
  - c. Jogging (50-75% normal pace) on level surfaces – progress prn
  - d. *No cutting, jumping, twisting, or contact sports*
4. Advanced pool therapy
  - a. Treading water
  - b. Kickboard swimming
  - c. Pool running, shuffling, and carioca
  - d. Modified aquatic sports

**Goals and Criteria for Progression to PHASE IV:**

1. Jogging for 20 min at normal pace w/o pain, swelling, giving-way
2. No effusion

**PHASE IV: Week 24 through Week 30 –BASIC FUNCTIONAL TRAINING:**

**PT sessions:** Directed by physical therapist

**Brace:** low profile ACL sports brace to be worn during weight-bearing exercise prn

**Exercises:**

1. Continue with PHASE III exercises with increasing weight
2. Progress leg presses up to 75% of body weight
3. Begin leg extension machine from 90-45° only (if no pain or crepitus)
4. Agility and advanced proprioception exercises
5. Jumping / hopping progression
6. Jogging (100% normal pace) & Directional running (50-75% speed)

**Goals and Criteria for Progression to PHASE V:**

1. Jogging for 20 min at normal pace w/o pain, swelling, giving-way
2. No effusion

**PHASE V: Week 30 - 9 Months + -- ADVANCED FUNCTIONAL TRAINING**

**When rehabilitation goals are met**

1. Initiate straight line running when walk & slow jog is normal
2. Functional hop test as appropriate when running is normal
3. Functional progression to cutting and jumping
3. Begin full body weight. plyometrics prn
4. Return to sports prn when full strength and agility achieved  
*(Low-profile ACL sports brace when required by surgeon)*

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