ACL Reconstruction
Rehabilitation Protocol
Dr. Aukerman (Revised 3/22/2018)

ATTENTION PHYSICAL THERAPISTS—STRESS IMPORTANCE OF THE FOLLOWING:

- Place patient in brown compression stocking (20-30 mmHg) at first PT appointment. Wear during daytime only and d/c at night—instruct patient/family member how to don/doff stocking
  - May discharge when no swelling or effusion—typically 3-4 weeks p/o
- Stress early knee extension. Should reach full knee ext by 2 weeks post-op.
- Stress no pillows under popliteal fossa. Always under calf/heel only to progress knee extension.
- All multi-ligament reconstructions on ASA 325 p/o daily X2 weeks unless contraindicated (i.e. Coumadin, Bloodthinners, Allergies)

**Phase 1** (2-4 weeks)  Pgs. 6-10

- D/C crutches 1-7 days
- Work on active and passive range of motion. Full range of motion unless meniscal repair then 0-90 degrees for 6 weeks. Please note, if meniscal root repair, no flexion past 90 deg for 6 weeks.
  - Normal gait with brace on
- Unlock brace 3-14 days
  - good quad set
  - Within 2 degrees of full Ext
  - Wt. bearing control (SLS 5 sec no brace)
  - Dbl mini squat with equal wt. distribution through 30 degrees of flex
- Remove brace 1-4 weeks
  - Normal gait with good quad control
  - Wt. bearing control (SLS 10 sec no brace)
  - No apprehension without brace during walking
  - Progressively work out of brace

**GOALS**

- Eliminate Swelling
- ROM
  - Full Active Ext
    - No prone hangs with additional weight with hamstring graft
  - At least 125 degrees of Flex
  - Patellar Mobs
  - Scar mobilization 4-6 weeks when adequate healing
• **Muscle Activation**
  o Restore weight bearing leg stability
  o Restore ability to lift leg in all directions actively
    ▪ No hamstring sets with hamstring graft until six (6) weeks, then gradually progress hamstring strengthening as tolerated.

• **Core Body Training**

• **Ambulation**
  o Normalize gait pattern with use of crutches and/or brace

**Phase II** (Begins 2-6 weeks post surgery, goals attained in approx. 3-5 weeks) Pgs. 11-15
  • **ROM**
    o Achieve full active knee ROM (equal to uninvolved side)
    o Start stretching program for: Hamstrings, IT Band, Gastroc/Soleus, Hip flexors/Quads
  • **Gait Drills**
    o Performed with slow and controlled motions
  • **Functional Strengthening**
    o Squat, Box steps (back), Stationary lunge
  • **Balance**
    o Increase balance and proprioception in all planes, Progress static to dynamic movement
    o SLS progression
  • **Core Body**
    o Core progression
    o Start Cardio without Ant. Knee pain
    o Start UE strengthening, occupation or sport will determine this section

**Phase III** (Begins 6-8 wks. post surgery, attain goals in phase II prior to beginning) Pgs. 16-21
  • **ROM**
    o Full active ROM is Expected
    o **Dynamic Agility Drills**
      o Develop dynamic flexibility to allow proper alignment during activities of increased speed
      o Progress stride length and velocity as movement control improves
      o Ex: Fwd, Bwd, Side skip, side shuffle, Carioca, start stop, back pedal acceleration, stationary fast feet, tall-fall-run
      o Slide board at 10 weeks
      o Plyosled at 12 weeks with and without meniscal repair
  • **Functional Strengthening**
    o Progress single plane to multi-plane exercises and functional exercises
    o Prior to progression patient must display good alignment and control of multiplanar movements
    o Develop eccentric muscle control
• **Landing and Takeoff Drills (Not until 16 weeks)**
  - Step off 6-10 in. box with Dbl leg land into squat position. When performed consistently, correctly and without pain can progress to single leg landing
• **Exercises:** Step offs, bounce jumps, leap and land, jump stops.
• **Balance**
  - Emphasize balance with postural control and duration in addition to multi-plane movements
• **Core Body**
  - Advance core strengthening
  - Design individualized Cardio and UE strengthening to individuals work/sport

**Phase IV** (Begins 12-16 weeks post surgery) Pages 22-24

* Address confidence in dynamic movements

• **Dynamic Warm up (5-15 minutes)**
  - Same drills as phase III but with larger size and speed of movement
• **Multi-planar Landing Control and Neuromuscular Reaction**
  - Progress from Dbl leg to Single leg impact control *(Not prior to 8 wks)*
  - Progress to cutting and pivoting *(not prior to 8 wks, or completion of Dbl leg progression)*
  - Progress to Jump Program dependent upon strength and physician release
• **Functional Movements and Strengthening**
  - Progress to single leg and multi-planar movements with rotation
• **Advanced Core Strengthening**
  - Progress to include progression of force from upper to lower body and vice versa, as well as, movements of extremities during stabilization

**Phase V Sports Performance and Injury Prevention** Pg 24

• Patient specific exercises for their sport/work demands. This phase is optional
ACL reconstruction—jogging on treadmill starting at **16 weeks** (if strength adequate) and not until **16 weeks** with ACL and Meniscal repair. Progress to running on flat track approximately **16 -20 weeks**.

ACL **16-20 weeks** begin plyometric training.

Strength within 10% of uninvolved before return to sport.

These guidelines are even for the super motivated patient.