SPECIALTY ORTHOPAEDICS

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ACL Rehabilitation Protocol

The following are guidelines for the post-operative rehabilitation of an individual who has underwent an ACL reconstruction. This schedule will vary from patient to patient based on individual tolerance. This guideline is intended to be administered by a licensed physical therapist and/or certified athletic trainer. If there are any questions concerning the rehabilitation, please don't hesitate to call our office.

MAJOR OBJECTIVES:

- 0˚ of extension should be reached as soon as possible.
- 120˚ of flexion should be reached by the end of 3 weeks.
- Symmetrical knee flexion should be reached by end of 6 weeks.
- Full resisted extension is allowed 6 weeks from the date of surgery.
- The post-op brace is needed for 4-6 weeks. It should be **locked in extension** for all ambulation for the first 2-3 weeks (until you demonstrate good quadriceps strength). After the 2-3rd week, it should be **unlocked for ambulation**. The stop on the brace shall remain at 90˚ through the entire time the brace is worn.
- As gait and quadriceps strength improve, the patient is allowed to ambulate at home without the brace. ***It should always be worn when outside the home***.

Initial Post-Operative Phase

Day 1

- Immediate full weight-bearing as tolerated with crutches and brace locked in extension
- Cold wrap or ice over your surgical bandage 6x/day for 15 minutes at a time
- Use the CPM, if you received one, for 4-6 hours a day
- Start quad sets as soon as possible (Hold for 10 seconds, do 25 reps 4x/day)

Days 2-7

- ROM goal by day 7 is 0-90˚
- Continue with CPM use 4-6 hours/day
- When out of CPM, emphasis is on **full extension**. Keep the knee straight. Place a rolled towel behind your ankle to help maintain extension.
- Continue with quad sets as above
- Start straight leg raising in the brace **ONLY IF** you are able to keep the knee perfectly straight (perform 20 reps 3x/day)

Days 7-14

- ROM goal by day 14 is 0-105˚
- Physical Therapy is initiated 7-10 days following surgery
- Begin wall slides, heel slides and AAROM to increase knee flexion
- Initiate prone hangs if full extension is not reached
- Use modalities to control inflammation
- Begin patellar mobilization (move the kneecap side-to-side, and up and down) once the incisions are healed and minimally tender to touch

<u>Controlled Activity Phase</u>

2-8 weeks

- ROM goal by end of 4th week is 0-120˚
- ROM goal by end of 6th week is for symmetrical knee flexion (make side-to-side comparison)
- Emphasis on closed-chain exercises, beginning as tolerated. Including but not limited to: step-ups, ¼ squats, wall sit at angles above 45˚ and standing terminal knee extension with the theraband behind the back of the knee
- Discontinue crutches as gait pattern improves (focus on quadriceps contraction and full knee extension during heel strike and stance phase of gait)
- Begin manual resistance for hamstrings and quadriceps. For quadriceps, limit ROM 90˚ to 30˚ flexion. Full ROM resistance is to be done for the hamstrings.
- Begin quad isotonics, 90˚ to 30˚ with weight on the proximal tibia until 6 weeks post surgery
- Stationary bike may be initiated after 2 weeks **ONLY IF** knee flexion is equal or more than 110˚
- Begin full extension with resistance at 6 weeks with weights at the ankle

8-16 weeks

- Start aerobic exercises at 12 weeks such as, Stairmaster/Nordic Trac/Ellipitical
- Jogging and slide board exercises typically begin at 10-12 weeks
- Straight in-line running by 4 months with minimal pain and swelling
- Continue with manual resistance through full ROM
- Initiate isokinetic exercises if available
- Initiate ACL Prevention Protocol (PEP) www.aclprevent.com
- **No pivoting or jumping maneuvers**
- At 3 months, isokinetic test at 90-180-240˚/second. If involved leg is 75% or greater as compared to un-operated leg, functional training can be started.

Return to Activity/Sports

4-6 months and beyond

- Begin proper plyometric and agility activities
- Initiate closed chain strengthening exercises
- Teach proper landing techniques, especially in female athletes (controlling valgus may initially be a challenge and unilateral hops should not be performed until this is achieved)
- Begin sports specific activities
- Initiate sprints and cutting drills at 6 months
- Single leg hop test to check for deficiencies in neuromuscular control

Criteria for Return to Practice

- Functional hop testing at least 90% of uninvolved
- Satisfactory performance with clinic based return to sport testing
- Minimal symptoms with testing without increased joint effusion
- **Patient must be cleared by physician for return to practice!**

Progression of Sport Activities

- Slow progression into practices
- Start with simple straight plane drills
- Progress to diagonal drills, then change of direction/cutting and pivoting
- Non-contact progressing to contact drills

Criteria for Return to Play

- Satisfactory performance with on-the-field sport specific testing
- Satisfactory performance with fitness testing
- Minimal symptoms with testing without increased joint effusion
- **Patient must be cleared by physician for return to play!**