IDAHO SPORTS MEDICINE INSTITUTE
1188 University Drive • Boise, Idaho 83706 • (208) 336-8250 • fax 345-9514
PT (208) 345-4446 • PT fax 395-8292 • www.idsportsmed.com

ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION
General Rehabilitation Guidelines

DO NOT PERFORM ANY ACTIVITY UNTIL INSTRUCTED. THE FOLLOWING GUIDELINES ARE TO BE INDIVIDUALIZED FOR EACH PATIENT.

Home Exercise Program: (done 1-2 X/ day through 2 months post-op):

- Passive ROM—work for full extension and full flexion (unless limited by meniscal repair) at least twice daily. Emphasize full extension, including hyperextension, equal to the other knee
- Patellar mobilization—medial, superior, inferior glides and lateral tilt done with the quads relaxed.
- Isometrics/ Exercises—quad sets, knee squeezes, straight leg raises, short arc/terminal extensions (done with no resistance below the knee), hamstring sets, resisted plantar flexion, seated and/or standing quad sets with surgical tubing resistance behind the knee
- Gait training—with crutches, weight bear as tolerated, using a heel-toe gait and working for full extension of the knee. Crutches may be discontinued (unless otherwise instructed) as soon as patient has good muscle tone, motion, and can walk without a limp. To help with gait, practice marching in place, in front of a mirror, or holding on to a counter, and practice balancing on one (the injured) leg.
- I.C.E.S.—Ice, compression, elevation, and support. Continue use of the Breg unit or ice as needed, especially after exercises, at the end of the day, or whenever you've overdone it. Ice with the leg elevated (from the heel, not just from the knee) and work the ankle a bit to help reduce swelling. Wear the ace wrap whenever you are up.

Sports Therapy: (three times a week, either in clinic, home, or health club)

- Continue isometrics, straight leg raises, short arcs, with emphasis on quad contraction and control—use biofeedback or NMS as needed to facilitate VM.
- PRE's:
  - Leg press/shuttle—not to exceed 90 degrees of flexion
  - Hamstring curls through the full ROM (unless limited by meniscal repair)—double and single leg. If hamstring autograft repair used, resistance should be kept light/relatively pain-free.
  - Quadriceps/extensions from 90 degrees to 40 degrees: double and single leg as tolerated—eccentrics as indicated. If patellar tendon autograft used for repair, resistance will need to be kept light to avoid straining extensor mechanism.
  - Calf raises—double and/or single leg
- Functional exercises
  - Short squats—adding dumbell and barbell weight as tolerated
  - Standing knee extensions with tubing (placed behind the knee)
  - Step ups, step overs, step downs—front, side, back
  - Progress gait training to stepping over "hurdles" 2-6" high, treadmill work, etc.
  - Balance work
  - Proprioceptive/functional training
- Aerobic exercise
  - Stationary cycling (unless limited by meniscal repair)—may cycle outside when ROM is adequate and WB status allows. Use no toe clips for 4-6 weeks
  - Stairmaster
  - Elliptical trainer
  - Treadmill walking on incline
  - Swimming—no frog or vigorous flutter kick, walking in pool OK

4-6 Weeks Post op:

- For meniscal repairs, with MD approval, may discontinue ROM limits
- Progress PRE's and functional exercises as tolerated
- Begin sport cord training—forward, backward, lateral and ½ circle shuffle
- Add single leg/bench squats as tolerated
- More advanced balance training

2 Months Post op:

- Begin to work full ROM on quads
  - SLR's with ankle weights
  - SAQ's with ankle weights
  - Lighter resistance for extensions, work through full (or patellar-protective if needed) ROM. Only increase resistance if full extension can be achieved.
- May begin isokinetic training (especially at higher speeds) through full ROM
- Begin more negative work in preparation for running
- Lunges (short)—front, side, walking,
- Step-unders(limbo under shoulder-high bar or cord)
- "Run" on shuttle (alternate easy hops)
- Quick feet drill (step up/down rapidly on 4-6" step)
- Jump-downs (off 4-6" step)
- Fast lateral shuffle with sport cord
- Jump rope
- **Note – with meniscus repairs, no pre-running until 3 months**.

3 Months Post op:

- May begin running if OK'd by MD—if swelling is gone, motion and tone are acceptable, a progressive running program may be initiated. If available, begin with short uphill runs (30-50 yards at moderate speed, walking back down). Start with 6-10 uphill runs. If no pain or swelling, begin running on a flat surface. Start with six to ten 30-50 yard repeats at moderate speed. If no pain or swelling, increase to 6x100 yards. Progress to 8x100, and then 10x100 yards as pain/swelling allows. Once able to run 10x100, you can work on increasing speed (up to 85% of full speed), decreasing rest intervals, or increasing distance. No hard stops or cuts until 5 months.
- Running program progression depends on patient' goals and status of the knee joint.
- Continue with PRE's and functional training.
- May discontinue the home exercises

4 to 5 Months Post op:

- Begin increasing running speed up to 95% of full speed. Endurance athletes can start to increase running distance beyond 2 miles (if the knee tolerates).
- Continue with PRE's and functional training
- Biodex strength test / Sportsmetrics Jump Test

5 Months Post op:

- May begin early phase agility training
- Continue PRE's and functional training

6 Months Post op:

- Continue PRE's and functional training
- May begin controlled sport-specific agility drills
- Start Sportsmetrics Jump training Phase I (Depending on sport)

6 to 12 Months Post op

- May begin progressive return to sports as directed by MD
- Continue PRE's (for as long as you wish to remain active)