

Washington Sports Medicine Institute
8401 Greensboro Drive, Suite 120
McLean, VA 22102
(571) 899-3590

Camalier Building
10215 Fernwood Road
Bethesda, MD 20817
(301) 530-1010

ACL Rehabilitation Guidelines:

The following is a guideline for post-operative rehab of individuals who have undergone ACL reconstruction using autograft or allograft. This schedule will vary from patient to patient based on individual tolerance. The following are MAJOR OBJECTIVES for this rehab:

1. 0° degrees of extension should be reached as soon as possible
2. 120° degrees of flexion should be reached by the end of 4 weeks.
3. Full resisted extension is allowed at 6 weeks from the date of surgery.
4. The post-operative brace is needed until quad tone returns (patient able to perform straight leg raise). If the patient has had a MENISCAL REPAIR, the brace is needed for 4 weeks postoperatively locked in extension and ROM is limited to 0-90 degrees during that time.
5. 3 months and 6 months post-op, isokinetic testing may be done if available.

WEEKS 0-6

- 2 to 3 visits per week, everyday home program with goals
- Full WB with crutches, may discontinue crutches when full extension and quad control returned
- SLR in brace at 0° until quad control sufficient to prevent distal tibia from dropping then unlock brace
- Brace may be removed for sleeping and exercise after first week.
- Patellofemoral precautions throughout entire rehabilitation
- Prone lying and gentle stretching to achieve full extension or use of bolster under heel
- Quad sets, straight leg raises (full arc quads, no weights) plus electrical stimulation (may increase number of visits if quad inhibited)
- Hamstring isometric sets
- Patella mobilization, especially superiorly, plus cross friction massage – scar management
- Prone knee flexion, heel slides, calf and hamstring stretching, calf pumps, plus ankle and hip ROM
- Icing or cryotherapy 5 times per day and 20 minutes before and after exercises
- Patient should achieve **full hyperextension** within 4 weeks (if not contact Dr. Pandarinath)
- Initiate proprioceptive / balance exercises including single leg stance
- May start weight shifts, treadmill walking (forward and retro), stationary bicycle (no resistance – progress as tolerated)

Washington Sports Medicine Institute
8401 Greensboro Drive, Suite 120
McLean, VA 22102
(571) 899-3590

Camalier Building
10215 Fernwood Road
Bethesda, MD 20817
(301) 530-1010

WEEKS 6-12

- 2 to 3 visits per week, everyday home program with goals
- Continue all exercises as above
- Begin quad exercises including mini squats, wall slide mini-squats, partial arc quads (60 – 90 degrees) and hamstring curls
- Closed chain exercises with tubing etc.
- Toes raises and step-ups / step-downs (progress to full step)
- Progress proprioceptive / balance exercises including single leg stance / wobble board / single leg squats
- If pool available, begin deep water jogging in place
- Should be fully weaned off crutches
- Range of motion should be full by 2 to 3 months, contact Dr. Pandarinath if extension lag or flexion < 125 degrees

MONTHS 3-5

- 1 to 2 visits per week, mostly advanced to home program 5 times per week, must review home program plus goals at each visit
- Continue all exercises as above
- Focus rehab on closed chain exercises
- Begin use of conventional weightlifting equipment (ie. Leg extension machines, smith machines, squat racks etc), start with light weight and high reps and sets and progress towards shorter sets and reps and high weight if hamstring graft or allograft used wait until 8 weeks post op before using leg extension machines
- Assessment of jogging on treadmill
- Plyometrics
 - Low intensity vertical and lateral hopping to begin with, use both feet and move to one foot ASAP
 - Volume for plyometrics (this is not conditioning exercise but a strengthening one) for rehabilitation
 - 40-60 foot contacts/session for beginners
 - 60-80 foot contacts/session for intermediate
 - 80-100 + foot contacts/session for advanced
- If plyometric exercise intensity is high the volume must be decreased, give ample recovery time between sets
- Lateral movements – stepping, shuffling, hopping, carioca
- Isokinetic ex: 180, 150, 120, 90, 60°/sec 8-10 reps each up and down spectrum
- Initiate eccentric quad ex's with manual resistance
- Initiate sport specific activities under supervision of ATC or PT (after 4 months if ready)
- Emphasize plyometrics on single leg for speed and power

Washington Sports Medicine Institute
8401 Greensboro Drive, Suite 120
McLean, VA 22102
(571) 899-3590

Camalier Building
10215 Fernwood Road
Bethesda, MD 20817
(301) 530-1010

MONTHS 5-8

- Daily home program
- Continue all exercises as above
- Progress from slow jogging to full running on even ground.
- No cutting, jumping or pivoting until 6 months
- Running and sport specific drills under ATC or PT supervision
- Isokinetic test – quad strength difference $\leq 15\%$
- Continue strength testing monthly till patient passes then perform functional testing
- Functional testing is appropriate for those intending to participate in advanced recreational activities or sports
 - If patient passes functional testing with scores of 85 % or better perform KT testing
- Refer patient back to doctor with scores prior to clearance for sports activities

MONTHS 8-12

- Continue home program
- Progress to advanced strengthening program
- Continue functional training

Criteria for full return to sports / full activities

- Quadriceps and hamstring strength at least 90% of opposite leg
- One-leg hop test and vertical jump at least 90% of opposite leg
- Jog, full speed run, shuttle run, and figure of 8 running without limp
- Full controlled acceleration and deceleration
- Squat and rise from full squat
- No effusion or quadriceps atrophy