



These guidelines are intended for Compensation Services and Clinical Staff as general guides for the direction, timing and expected outcomes for post-surgical rehabilitation clients seen through the Visiting Specialists Clinic. Deviations from these guidelines may occur based on the specifics of individual cases and surgeon preference.

Procedure: Anterior Cruciate Ligament Reconstruction

| Phases and Expected Time Lines | Rehabilitation Guidelines | Goals of the phase | Notes |
|---------------------------------------|--|--|--------------|
| Immediate post-op to week 1 | <ul style="list-style-type: none"> • Continuous passive motion machine • Foot and Ankle Exercises • Isometric hamstring exercises (if no meniscal repair) • Quadriceps setting • Weight bearing as tolerated with axillary crutches • Modalities for inflammation, as needed • Educate (re: anatomy, surgery, rehabilitation phases) | <ul style="list-style-type: none"> • Passive ROM: <ul style="list-style-type: none"> • 0°→70° knee ROM | |
| Weeks 1-2 | <ul style="list-style-type: none"> • Hip Active ROM • Patellar mobilizations • Foot and Ankle Exercises • Multi-angle quads sets • Isometric hamstring exercises every 20° in available range • Heel slide with active assisted flexion • Passive knee extension stretching • Modalities for inflammation, as needed • Functional electrical stimulation (for quads control, as needed) • Continue Weight bearing as tolerated – progressing | <ul style="list-style-type: none"> • Active and Passive ROM: <ul style="list-style-type: none"> • At least 0°→90° | |
| Weeks 3-4 | <ul style="list-style-type: none"> • Continue with ROM exercises • Start Closed Kinetic Chain exercises for quads, hamstrings and calf muscles – in gravity eliminated plane or with support • Start stationary bike (avoid hyperextension) • Progress Weight bearing | <ul style="list-style-type: none"> • Active and Passive ROM: <ul style="list-style-type: none"> • 0°→100° | |
| Weeks 5-6 | <ul style="list-style-type: none"> • Continue with ROM and Closed Kinetic Chain exercises as above • Start calf strengthening exercises in weight bearing • By 5-6 weeks – wean off crutches: to full Weight bearing, no aids • Can start pool rehab (no Open Kinetic Chain exercises) | <ul style="list-style-type: none"> • Active and Passive ROM: <ul style="list-style-type: none"> • 0°→110° | |



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| Weeks 7-8 | <ul style="list-style-type: none"> Continue as above Start treadmill (forward) Proprioceptive exercises (start bilaterally and progress to unilateral) Continue with Closed Kinetic Chain exercises – start quads and hamstring exercises in Weight bearing | <ul style="list-style-type: none"> Active and Passive ROM: <ul style="list-style-type: none"> 0°→120° | |
| Weeks 9-10 | <ul style="list-style-type: none"> Continue as above Continue Closed Kinetic Chain exercises – progress Treadmill (start retro) | <ul style="list-style-type: none"> Active and Passive ROM: <ul style="list-style-type: none"> 0°→130° | |
| Weeks 11-16 | <ul style="list-style-type: none"> Continue as above Continue to progress Closed Kinetic Chain exercises Upgrade functional exercises | <ul style="list-style-type: none"> Full Active and Passive ROM Lower extremity strength: near full | |
| Weeks 16+ | <ul style="list-style-type: none"> Continue with ROM, strengthening, endurance and functional activities Consider starting Open Kinetic Chain exercises (to full knee extension) If further conditioning is required, Case Manager will consider referral to Occupational Rehabilitation 1 Program If further conditioning and attention to function/job demands is required, Case Manager will consider referral to Occupational Rehabilitation Program | <ul style="list-style-type: none"> Full lower extremity strength Maximize function | |

Special Considerations:

- Time frames are dependent on what type of graft is used.
- No isolated hamstring strengthening for six weeks with *meniscal repair* (non-WB for 4-6 weeks longitudinal tear; radial tear potentially longer for 6-8 weeks – Physician dependent).
- No isolated hamstring strengthening for 4 weeks with *semitendinosus graft* and until symptoms subside.
- No straight leg raises* in the early rehab phases (due to stresses placed on the patellar tendon and reconstructed ligament through isolated quadriceps contraction).
- Avoid open kinetic chain exercises at end of range extension (30°-40°) for four months post surgery.
- Brace usage at the discretion of the surgeon

Legend of abbreviations:

- ROM: range of motion

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ACL Reconstruction
Post-op Rehabilitation Guidelines**References:**

1. Medcenter One Inc. (Academy of Sports Medicine and Exercise Physiology Services); Bismarck, North Dakota (from the internet)
2. Clinical Orthopaedic Rehabilitation. Ed.: S. Brent Brotzman; Mosby-Year Book, Inc., 1996
3. Shelbourne KD, Nitz P: Accelerated rehabilitation after anterior cruciate ligament reconstruction. Am J Sports Med 18(3): 292-99, 1990
4. DeCarlo M, Shelbourne KD, Oneacre K: Rehabilitation Program for Both Knees When the Contralateral Autogenous Patellar Tendon graft Is Used for Primary Anterior Cruciate Ligament Reconstruction: A Case Study. J Orthop Sports Phys Ther, 29(3): 144-153, 1999

Developed by:

The post-operative protocols are based on existing protocols from the Orthopaedic surgeons in the Visiting Specialist Clinic (VSC), amalgamated with protocols identified from a extensive review of current surgical and rehabilitation literature. The VSC surgeons vetted the revised protocols along with a committee comprised of Sports Medicine, Occupational Medicine, Psychiatrist physicians, Client Services Manager and both clinical and administrative physiotherapists within the Board. As well, representatives from Physiotherapy Association of BC have reviewed these protocols.