

Sports Rehabilitation & Performance Center Anterior Cruciate Ligament Reconstruction Guidelines© *

The following ACL reconstruction guidelines were developed by the Sports Rehabilitation and Performance Center staff at Hospital for Special Surgery. Progression is both criteria-based and patient specific. Phases and time frames are designed to give the clinician a general sense of progression. Concomitant procedures such as additional ligament reconstruction, meniscal repair and articular cartilage procedures may alter the guideline.

Follow physician's modifications as prescribed

POST – OPERATIVE PHASE I (WEEKS 0-2)

GOALS:

- ROM:
 - Full passive extension
 - **Minimum** of 90° knee flexion
- Normalize patella mobility
- Weightbearing:
 - Progressive weight bearing to WBAT
- Control post-operative pain / swelling
- Prevent quadriceps inhibition
- Promote independence in home therapeutic exercise program

Emphasize

- Patella mobility
- Full knee extension
- Improving quadriceps contraction
- Controlling pain/effusion

PRECAUTIONS:

- Avoid active knee extension 40 → 0°
- Avoid ambulation without brace locked @ 0°
- Avoid heat application
- Avoid prolonged standing/walking

TREATMENT RECOMMENDATIONS:

- Towel under heel for knee extension, A/AAROM for knee flexion, patella mobilization, quadriceps re-education (NMES and /or EMG), hip progressive resisted exercises, proprioception training, short crank bike, bilateral leg press (5 – 70°), SLR supine (with brace locked to without brace), SLR all planes, cryotherapy for pain and edema
- Emphasize patient compliance to HEP and weight bearing precautions/progression

MINIMUM CRITERIA FOR ADVANCEMENT TO NEXT PHASE:

- Able to SLR without quadriceps lag
- 0° knee extension, minimum of 90° knee flexion
- Able to demonstrate unilateral (involved extremity) weight bearing without pain

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POST – OPERATIVE PHASE II (WEEKS 2-6)

GOALS:

- ROM 0° - 125°, progressing to full ROM
- Good patella mobility
- Minimal swelling
- Restore normal gait (non-antalgic) without assistive device
- Ascend 8" stairs with good control, without pain

Emphasize

- Normalizing knee ROM and patella mobility
- Minimizing knee effusion
- Normal gait pattern

TREATMENT RECOMMENDATIONS:

- Continue phase I exercises as appropriate
- Advance AAROM knee flexion/extension exercises (emphasize full passive extension), hamstring/calf flexibility, standard bike (if ROM 115°), leg press (80 – 0° arc), mini squats, active knee extension to 40°, proprioceptive training, forward step up program, underwater treadmill (incision benign), open brace (0 – 50°) ambulate with crutches as quadriceps strength improves
- Progress/advance patients home exercise program (evaluation based)

PRECAUTIONS:

- Avoid descending stairs reciprocally until adequate quadriceps control & lower extremity alignment
- Avoid pain with therapeutic exercise & functional activities

MINIMUM CRITERIA FOR ADVANCEMENT:

- ROM 0 → 125°
- Normal gait pattern
- Demonstrate ability to ascend 8" step
- Good patella mobility
- Functional progression pending functional assessment

POST – OPERATIVE PHASE III (WEEKS 6-14)

GOALS:

- Restore Full ROM
- Able to descend 8" stairs with good leg control & no pain
- Improve ADL endurance
- Improve lower extremity flexibility
- Protect patello-femoral joint

Emphasize

- Improving quadriceps strength
- Eccentric quadriceps control

TREATMENT RECOMMENDATIONS:

- Progress squat/leg press program, initiate step down program, advance proprioceptive training, agility exercises, retrograde treadmill ambulation/running, quadriceps stretching
- Emphasize patient compliance to both home and gym exercise program

PRECAUTIONS:

- Avoid pain with therapeutic exercise & functional activities
- Avoid running and sport activity till adequate strength development and MD clearance

MINIMUM CRITERIA FOR ADVANCEMENT:

- ROM to WNL
- Ability to descend 8" stairs with good leg control without pain
- Functional progression pending functional assessment

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POST – OPERATIVE PHASE IV (WEEKS 14-22)

GOALS:

- Demonstrate ability to run pain free
- Maximize strength and flexibility as to meet demands of ADLS
- Hop Test \geq 75% limb symmetry

TREATMENT RECOMMENDATIONS:

- Start forward running (treadmill) program when 8" step down satisfactory
- Advance agility program / sport specific
- Start plyometric program when strength base sufficient

PRECAUTIONS:

- Avoid pain with therapeutic exercise & functional activities
- Avoid sport activity till adequate strength development and MD clearance

CRITERIA FOR ADVANCEMENT:

- Symptom-free running
- Hop Test \geq 75% limb symmetry
- Functional progression pending & functional assessment

POST – OPERATIVE PHASE V RETURN TO SPORT (WEEKS 22 - ?)

GOALS:

- Lack of apprehension with sport specific movements
- Maximize strength and flexibility as to meet demands of individual's sport activity
- Hop Test \geq 85% limb symmetry

TREATMENT RECOMMENDATIONS:

- Continue to advance LE strengthening, flexibility & agility programs
- Advance plyometric program

PRECAUTIONS:

- Avoid pain with therapeutic exercise & functional activities
- Avoid sport activity till adequate strength development and MD clearance

CRITERIA FOR DISCHARGE:

- Hop Test \geq 85% limb symmetry
- Lack of apprehension with sport specific movements
- Flexibility to accepted levels of sport performance
- Independence with gym program for maintenance and progression of therapeutic exercise program at discharge