

Sports Medicine Division

POSTERIOR CRUCIATE LIGAMENT (PCL) RECONSTRUCTION REHABILITATION PROTOCOL

The following is a protocol for postoperative patients following PCL reconstruction. The primary goal of this protocol is to protect the reconstruction while steadily progressing towards and ultimately achieving pre-injury level of activity. Please note this protocol is a guideline. Patients with additional surgery (i.e. collateral ligament repair, meniscal repair) will progress at different rates. Achieving the criteria of each phase should be emphasized more than the approximate duration. If a patient should develop an increase in pain or swelling or decrease in motion at any time, activity should be decreased until problems are resolved.

PHASE I: 0-2 WEEKS POSTOPERATIVE

GOALS:

- AAROM 0-45 degrees
- Good quad control

AMBULATION, DRESSING, AND BRACE USE

Dressing – POD 1: Debulk dressing, TED Hose in place

– POD 2: Change dressing, keep wound covered, continue TED Hose

– POD 7-10: Sutures out, D/C TED Hose when effusion resolved

Brace x 3 months – Locked in extension x 8 weeks

Crutches – Partial weight bearing (PWB) in brace

EXERCISES:

AAROM – 0-45 degrees

Patellar mobilization (teach patient)

Calf pumping

Passive extension to 0 degrees, no hyperextension

– Calf (not heel) on bolster or prone hangs with tibia supported

Electrical stimulation in full extension with quad sets

Quad sets, Co-contractions quads / HS

Straight leg raise (SLR) x 4 on mat in brace (parallel bars if poor quad control)

Ice Pack with knee in full extension after exercise

PHASE II: ~2-4 WEEKS POSTOPERATIVE

GOALS:

- AAROM 0-45 degrees
- No extensor lag

AMBULATION AND BRACE USE

Brace x 3 months – Locked in extension x 8 weeks

Crutches – PWB in brace

EXERCISES:

Continue appropriate previous exercises

AAROM – 0-60 degrees

No Hamstring curls or Stationary bike x 8 weeks

Scar massage when incision healed

SLR x 4 on mat in brace – Add light weight above knee if good quad control

Double leg heel raises in brace (supported in parallel bars)

Weight shifts, Mini squats 0-30 degrees, in brace (supported in parallel bars)

Stretches – AT, hip flexors, ITB

– Hamstring with leg supported in brace

PHASE III: ~4-6 WEEKS POSTOPERATIVE

GOALS:

- AAROM 0-60 degrees
- No effusion

AMBULATION AND BRACE USE:

Brace x 3 months – Locked in extension x 8 weeks
Crutches – PWB in brace
Continue appropriate previous exercises
AAROM by patient 0-60 degrees
No Hamstring curls or Stationary bike x 8 weeks
Multi-angle Co-contractions quads / HS at 0, 20, 40, 60 degrees
SLR x 4 on mat, out of brace, no weights

PHASE V: ~6-8 WEEKS POSTOPERATIVE

GOAL: AAROM 0-90 degrees

AMBULATION AND BRACE USE:

Brace x 3 months – Locked in extension x 8 weeks
Crutches – Weight bearing as tolerated (WBAT) in brace

EXERCISES:

Continue appropriate previous exercises and the following ex without brace
AROM, AAROM 0-90 degrees
No Hamstring curls or Stationary bike x 8 weeks
SLR x 4 on mat with light weight below the knee
SAQ – 0-30 degrees over bolster with light ankle weights
Double leg heel raises
Wall squats 0-45 degrees
Leg press 0-45 degrees with resistance no more than ¼ body weight
Forward, retro and lateral step downs in parallel bars (small step)
Proprioceptive training – Single leg standing in parallel bars
– Double leg BAPS in parallel bars
Elliptical trainer – No resistance

PHASE VI: ~8-12 WEEKS POSTOPERATIVE

GOALS:

- AROM 0-110 degrees
- Normal gait

AMBULATION AND BRACE USE:

Brace x 3 months – Open to available range
Crutches – D/C when gait is normal

EXERCISES:

Continue appropriate previous exercises
AROM, AAROM 0-110 degrees
Forward, retro and lateral step downs – medium step
Single leg heel raises
Leg Press – 0-60 degrees with resistance up to ½ body weight
Hamstring curls – 0-60 degrees, with ankle weights prone or in standing
– Progress to weight machine, 0-60 degrees (up to ¼ body weight)
Hip weight machine x 4 bilaterally
LAQ 0-60 degrees over bolster or side of mat with ankle weights
Proprioceptive training – Single leg BAPS, ball toss and body blade
Stationary bike for ROM – No resistance
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Treadmill – Forwards and backwards walking
Elliptical Trainer with minimal resistance
Pool therapy – Walking / running (no kicking)

PHASE VII: ~3-4 MONTHS POSTOPERATIVE

GOALS:

- Full ROM
- Walk 2 miles at 15 min/mile pace

AMBULATION AND BRACE USE:

D/C ROM brace
Functional brace per surgeon

EXERCISES:

Continue appropriate previous exercises with progressive resistance
PROM, AAROM, AROM to regain full motion
Leg press 0-90 degrees with resistance as tolerated
Hamstring curl weight machine 0-90 degrees with low weight and high reps
Knee extension weight machine through full range with resistance as tolerated
Fitter
Slide board

Stationary bike – Progressive resistance and time

Elliptical trainer for progressive resistance and time

Treadmill – Walking progression program

Pool therapy – Swimming laps

PHASE VIII: ~4-6 MONTHS POSTOPERATIVE

GOAL: Run 2 miles at easy pace

EXERCISES:

Continue appropriate previous exercises

Agility drills / Plyometrics

Sit-up progression

Treadmill – Running progression program

Quad stretches

Transition to home / gym program

Return to all activities at 9 months post op.

No contact sports until 9 months post-op