

ACL RECONSTRUCTION

REHAB PROTOCOL | CATHERINE A. LOGAN, MD, MBA, MSPT
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RESTRICTIONS:

Weight bearing
 As tolerated

BRACE SETTINGS:
 Locked for ambulation
 until control is established

ROM: No restriction, as
 tolerated

EARLY RECOVERY STAGE: WEEK 0 TO 6

GOAL

Protect surgical wound and graft. Focus is on motion and quad activation.

Begin PT 1-3 days after surgery, continue 2 to 3 times/week.

Do **NOT** rest with a pillow under your knee

*2-week MD follow-up @ Dr. Logan's clinic &
 6-week MD follow-up @ Dr. Logan's clinic*

Follow up:

2 weeks
 6 weeks
 3 months*
 4 months*
 6 months*
 9 months*
 1 year*

Exercise	Frequency	Criteria for Advancement	Progression
Flexion/Extension (supine wall slides)	5 min 3-5x daily	Continue through Phase I	
Flexion/Extension (seated)	5 min 3-5x daily	Continue through Phase I	
Patella Mobilizations	5 min 3-5x daily	Continue through Phase I	
Quadriceps Sets (+ biofeedback as able)	10 second holds, 20 second rest - Repeat 10 reps 3x daily	Ability to demonstrate a strong quadriceps contraction that locks the knee in terminal extension	1. Terminal Knee Extension 2. Straight Leg Raises (SLR)
Hamstrings Sets	10 second holds, 20 second rest - Repeat 10 reps 3x daily	Proper form during exercise without fatigue at end of sets	Standing Leg Curls 10-20 reps, 3x daily
Sit + Reach Stretch	30 second holds, 3x per day	Full terminal knee extension	Supine Hamstrings Stretch with towel
Ankle Pumps	5 min 3-5x daily	Continue through Phase I	
Balance Series: Weight Shifts	2-5 minutes 3-5x daily	Fully weaned from crutches, normalized gait	Single Leg Stance w/ brace 15-30 seconds, 3-5x daily
Open Chain Hip Lifts: Hip extension and abduction with brace	10-20 reps 3x daily	Proper form during exercise without fatigue at end of sets	Hip extension and abduction with brace, add light tubing
Cardiovascular Training			
Bike with well leg; Biking with both legs (no resistance) may begin week 2 .			

QUICK TIPS

The use of ice/compression reduces need for narcotics post-op
 Early emphasis on full passive extension & gentle patellar mobility

PHASE II: MUSCULAR ENDURANCE WEEK 7 TO 12

GOAL

Increase muscular endurance. PT 2 times per week.

3-MONTH MD FOLLOW-UP @ DR. LOGAN'S CLINIC WITH EXERCISE TESTING

Exercise	Frequency	Criteria for Advancement	Progression
Flexion/Extension (supine wall slides)	5 min 3-5x daily	Continue through Phase II	
Flexion/Extension (seated)	5 min 3-5x daily	Continue through Phase II	
Patella Mobilizations	5 min 3-5x daily	Continue through Phase II	
Straight Leg Raise (SLR) (+ biofeedback as needed)	10 second holds, 20 second rest - Repeat 15-25 reps, 3x daily	Ability to demonstrate a strong quadriceps contraction that locks the knee in terminal extension during all reps	Add ankle weight to SLR
Standing Leg Curls	20-30 reps 3x daily	Proper form during exercise without fatigue at end of sets	Standing Leg Curls with tubing or ankle weight
Supine Hamstrings Stretch with towel	30 second holds 3x daily	Continue through Phase II	
Balance Series: Single Leg Stance without brace	30-60 seconds 3-5x daily	Proper form without loss of balance and without upper extremity support	+ Add ball toss + Add tap & reach
Open Chain Hip Lifts: Hip extension and abduction with brace, with light tubing/cords	15-25 reps 3x daily	Proper form during exercise without fatigue at end of sets	Increase tubing thickness/ advance color level
Double Knee Bends	15-25 reps 3x daily	Proper form during exercise without fatigue at end of sets	Add Dumbbells to Double Knee Bends
Double Leg Bridges	15-25 reps 3x daily	Proper form during exercise without fatigue at end of sets	Place resistance tubing around pelvis to add challenge during lift
Reverse Lunge with Static Hold	15-25 reps 3x daily	Proper form during exercise without fatigue at end of sets	Add Dumbbells to Reverse Lunge with Static Hold
Cardiovascular Training			
Bike with both legs, with resistance; Incline treadmill up to 7% (begin week 9), Swimming with fins (begin week 9)			

PHASE III: MUSCULAR STRENGTH WEEK 12 TO 18

GOAL

Increase muscular strength. PT 2 times per week.

4-MONTH MD FOLLOW-UP @ DR. LOGAN'S CLINIC WITH EXERCISE TESTING

Exercise	Frequency	Criteria for Advancement	Progression
Range of Motion (ROM) Maintenance Program, including Patella Mobilizations	5 min, 3-5x daily	Continue through Phase III	
Lower Extremity Stretching Program; assess for individual deficiencies	30 second holds 3x daily	Continue through Phase III	
Balance Series: Single Leg Stance with ball toss	30-60 seconds 3-5x daily	Proper form without loss of balance and without upper extremity support	+ Add surface variation + Add lateral sided tossing
Double Knee Bends with Dumbbells	8-12 reps 1-3 sets	Proper form during exercise without fatigue at end of sets	Add Medicine Ball Toss
Balance Squats (Double Leg)	8-12 reps 1-3 sets	Proper form during exercise without fatigue at end of sets	Add surface variation (Foam, Disc, BOSU®)
Single Leg Deadlift	8-12 reps 1-3 sets	Proper form during exercise without fatigue at end of sets	Add weighted bar or dumbbells
Leg Press (Double Leg)	8-12 reps 1-3 sets	Proper form during exercise without fatigue at end of sets	Leg Press (Single Leg)
Reverse Lunge with Static Hold	8-12 reps 1-3 sets	Proper form during exercise without fatigue at end of sets	Add Dumbbells to Reverse Lunge with Static Hold
Cardiovascular Training			
Bike with both legs with resistance; Incline treadmill up to 7%, Swimming with fins; Running progression (begin Week 16)			

PHASE IV: MUSCULAR POWER + AGILITY WEEK 19 TO 24

GOAL

Increase muscular power, introduce agility skill work. PT 1 to 2 times per week.

6-MONTH MD FOLLOW-UP @ DR. LOGAN'S CLINIC WITH EXERCISE TESTING

Exercise	Frequency	Criteria for Advancement	Progression
Range of Motion (ROM) Maintenance Program, including Patella Mobilizations	5 min 3-5x daily	Continue through Phase IV	
Lower Extremity Stretching Program; assess for individual deficiencies	30 second holds 3x daily	Continue through Phase IV	
Leg Press (Single Leg)	2-6 reps 2-5 sets	Continue through Phase IV	
Balance Squats (Double Leg) with Surface Variation	2-6 reps 2-5 sets	Proper form during exercise without fatigue at end of sets	Add medicine ball hold or toss with surface variation challenge
Lateral Agility with Sport Cord	2-6 reps 2-5 sets	Proper form during exercise without fatigue at end of sets	+ Increase tubing thickness/advance color level + Progress from single plane to multi-directional plane drills
Resisted Forward Leg Drives	2-6 reps 2-5 sets	Proper form during exercise without fatigue at end of sets	Increase tubing thickness/advance color level
High Bench Step Ups	2-6 reps 2-5 sets	Proper form during exercise without fatigue at end of sets	Add Dumbbells to Step Ups
High Double Leg Box Jumps	2-6 reps 2-5 sets	Proper form during exercise without fatigue at end of sets	Add Medicine Ball toss
Cardiovascular Training			
Bike with both legs with resistance; Incline treadmill up to 7%, Swimming with fins; Running progression			

RETURN TO SPORT:

Return to sport should not occur until testing indicates 85% or greater results compared to uninvolved leg

Exercise testing to be performed at Dr. Logan's office at 3, 4, 6, 9 and 12 months.

*Please bring close athletic clothes and shoes for exercise testing

PHASE V: HIGH LEVEL ACTIVITIES, RETURN TO PLAY/SPORTS TESTING WEEK 25+

GOAL

Increase muscular strength. PT 1 per week or bi-weekly.

3, 4, 6, 9 AND 12-MONTH MD FOLLOW-UP @ DR. LOGAN'S CLINIC WITH EXERCISE TESTING

HIGH LEVEL ACTIVITIES:

Phase V activities are individualized to the patient's desired sport and/or activity; however, the fundamental principles of achieving full lower extremity strength comparable to the contralateral extremity, continuing to advance proprioception and balance, and the emphasis on neuromuscular control during power and agility drills remains

RETURN TO SPORT:

Upon achievement of full lower extremity strength, range of motion and proprioception, readiness for return to activity may be determined with functional sport testing. No one single test to determine readiness exists; instead multiple measures will be used at our clinic to assess the athlete's ability to return.