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ACL RECONSTRUCTION PROTOCOL

(* If a mensical repair is also performed, flexion should be limited to <90 degrees and no weight bearing until 6 weeks post-op unless otherwise specified)

PHASE	GOAL	EXERCISE/METHODS
Phase 1 Preoperative	Decrease swelling Restore full ROM	Cold therapy with elevation (10-15 min) Extension: prone hangs or heel props (7-10 min)
	Normalize gait	Weight bearing as tolerated with brace Treadmill: forward/backward (5-10 min)
	Normalize strength	Closed chain: leg press, total gym (10-50 deg), toe raises Open chain: Quad machine (90-30 deg), hamstring machine 4-way SLR. All exercises 3-5 sets, 12-15 reps Electrical stimulation for VMO PRN
	Maintain aerobic fitness	Low-impact activities (bike, treadmill walking)
	Home program	Ice/elevation: 20 min on/60 min off Passive extension/flexion activities Lower extremity strengthening as indicated All activities 3-4 times/day or as indicated
Phase 2 Postop 7-14 days	Control swelling	Ace wrap with elevation-ankle pumps (20 min)
	Restore ROM 0-90	Extension: heel props (7-10 min) Flexion: heel slides (7-10 min) *Avoid prolonged lying with pillow under knee*
	Control swelling	Ace wrap with elevation-ankle pumps (20 min) Treadmill: forward/backward (5-10 min) Calf, hamstring, hip flexor stretching (3 times, 30 sec hold) *emphasize heel to toe gait*

Normalize gait
Weight bearing as tolerated with brace locked in full extension
(No weight bearing if meniscus was repaired)

Increase strength
Ice/elevation: 20 min on/60 min off
Passive extension/flexion activities
Lower extremity strengthening as indicated
All activities 3-4 times/day or as indicated
Avoid prolonged lying with pillow under knee

Phase 3
Postop Wk 2-5

Control swelling
Full passive knee extension and flexion (0-125 by 4 wks) (*if meniscus repaired) flexion should be <90 until 4-6 wks)

Ice PRN. Ace wrap PRN.
Extension: prone hangs or heel props (7-10)
Flexion: wall slides, heel slides, active assist flexion, bike (7-10 min)

Normal ambulation
(with meniscus repair, start at 4-6 wks)

Treadmill: forward/backward (5-10 min)
Increase grade with treadmill as tolerated
Calf, hamstring, hip flexor stretching (3 times 30 sec hold)

Pain-free strengthening

Closed chain: leg press (10-50), Total gym level (4-5)
Push FROM without pain hamstring stretch, 4-way SLR, Toe raises, step ups, mini squats
All exercises 3-5 sets, 12-15 reps
*Implement within pain free ROM once normal gait and effusion control are achieved
HS curls start at - 2 weeks for bone-patella-bone grafts and 4 weeks for HS grafts.

Initiate proprioception exercises (pain-free)

*BAPS (start with ball 1 sitting and progress to standing - 3-4 min)
*Double leg stand with rebounder
*Single leg stance/grid exercises (lunges, reaches) with eyes open/eyes closed
*Standing 4-way hip theraband exercises
*Lateral treadmill walking both directions
*Implement once patient is able to ambulate normally without pain (3-5 min)

Phase 4
Postop
Wk 6-12

Criteria for progression to Phase 4
No effusion, painless full ROM, minimal crepitus. Score greater than 80
On Lysholm with no locking or instability

Improve aerobic level of fitness

Painfree low impact activity (bike, treadmill walking, stepper on own) 3-4 times per week, 20-30 minutes
Trampoline hopping bilaterally progressing To jogging, then single leg hopping (10 min)
Fitter with ski poles progressing to no ski poles (7-10 minutes) BAPS - single leg
Body blade Proprioceptive Star Exercises [8-12 weeks]
*Week 10 - Light double leg hopping (multi-directional), lateral shuffles

Improve proprioception

*Only if all previous activities were completed without pain or increased swelling

Improve Strength

Total gym level 8-10 without pain, leg press (10-50), toe raises, step ups
Hamstring machine, 4-way SLR
All exercises 3-5 sets, 12-15 reps
Mini squats, Partial lunges,
single-leg toe raise

**Phase 5
Postop
Wk 13-24**

Improve aerobic level of fitness
(Usually 3-4 months)

Painfree low impact activity (bike, treadmill walking, stepper on own) 3-4 times per week, 20-30 minutes

Improve strength

Closed chain: leg press (10-50 deg),
Toe raises. Total gym level 8-10 without pain. Open chain: Quad machine (90-30 deg),
Hamstring machine. All exercise's 3 sets 15-20 each

Implement running program if indicated
(Usually around month 4-5)

Walk/jog cycles
3-5 min warm-up (walk)
*10-30 sec jog/60 sec walk for 10-20 min
3-5 min cool-down (walk)
*increase jog time and decrease walk time based upon patient response.

Implement sport specific activity
(Usually month 6-12)

*Progression program of strength training
And agility/speed drills
*Program should be based upon specific patient needs.