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Combined ACL and PCL Reconstructions
Post-Operative Rehabilitation Protocol
Illinois Bone & Joint Institute

The intent of this protocol is to provide the clinician with a guideline for the postoperative rehabilitation course of a patient that has undergone arthroscopically assisted ACL reconstruction with allograft or autograft. This protocol is by no means intended to be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam/findings, individual progress, and/or the presence of post-operative complications. If a clinician requires assistance in the progression of a post-operative patient they should consult with the referring surgeon.

Phase 1: **Time Frame:** 0-1 week

Immobilization/Restrictions: Weight bearing as tolerated in knee brace locked in extension. Crutches should be use for the first week or two for assistance until patient has regained good quad control. Remove brace for rehab exercises. Wear brace at night locked in extension for first week. No restrictions on ROM with the exception of meniscal repairs. In the setting of a meniscal repair limit flexion to 90° of knee flexion.

Exercises: VMO quad sets with biofeedback, straight leg raises, gentle patellar mobilization/scar mobilization, Theraband ankle exercises, EMS (especially if patient unable to do initial quad sets or independent SLR), prone extension, gastroc/hamstring stretching, manual/self ROM. Closed chain exercises only. Initial focus is regaining terminal extension, flexion to 90°.

Phase 2: **Time Frame:** 2 weeks

Immobilization: WBAT in knee immobilizer locked in extension. Knee immobilizer may be unlocked for ambulation when adequate quad control is obtained. Remove brace at night. Patient should be single crutch weight bearing if needed for assistance with ambulation.

Exercises: Continue as above. Isotonic hip abduction/adduction and leg curl, mini squats 0-30°, wall squats 0-30°, posterior tibial glide joint mobilization at 30° and 90° if ROM problem persists especially in extension, bicycle ROM ½ arcs progressing to full ROM. Closed chain only.

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Phase 3: **Time Frame:** 3 weeks

Immobilization: D/C brace and crutches if ambulating without a limp at end of 3rd week.

Exercises: Continue as above, heel walking/toe walking, balance and proprioception training on flat terrain, reformer single leg press, PROM/AROM full extension equal to opposite side and flexion to 120° sitting. Upon obtaining 110° flexion proceed with prone ROM. Isotonic terminal knee extension, low resistance and high repetitions.

Phase 4: **Time Frame:** 4-6 weeks

Immobilization: None

Restrictions: PROM/AROM full extension to 135° seated, prone full extension to 120°. After 6 weeks, patient should have between full extension and 135° of flexion, good patellar mobilization, normal WB and gait, minimal pain and swelling. Biofeedback can be included in closed chain activities.

Exercises: Continue isotonic program, treadmill forward and backward walking, trampoline single leg standing, balance board with lateral and AP tilt, weight shifting (modified lunge to 30° flexion) forward, backward, sideways. Continue biofeedback and CMO re-education, aggressive soft tissue and patellar mob, post-tibial glides. Interval stationary bike program.

Phase 5: **Time Frame:** 6-12 weeks

Goal: Restore normal knee function and progress to return to sport or return to work.

Restrictions: No specific restrictions. Advance progressively while avoiding pain. If the patient develops pain they are to return to earlier stage of rehabilitation. Patient should obtain full ROM between 8-10 weeks. AROM seated and prone should be continued for 6-8 months to allow full harvest site tissue maturation.

Exercises: Continue as above. Isokinetics limited range 90-45°, high speed above 150 to 180° at 10 weeks if painfree and no patellofemoral problems. Isotonic squats with Smith machine bar weight only (feet forward, tibia perpendicular), lunges, stairmaster, sport cord walking (forward, backward, sideways), trampoline (single leg bouncing, stepping high knee, weight shifting forward, sideways, diagonally.

Phase 6: **Time Frame:** 12-16 weeks

Goal: Restore normal knee function and progress to return to sport or return to work.

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Exercises: Continue as above. Isotonic terminal knee extension with low resistance and high repetition, theraband slow running low intensity, controlled slow forward and backward jogging on level surface, trampoline jogging, low intensity impact activity (patient should have full ROM and absence of pain) double leg, sideways, forward jumping; running on spot, functional closed chain evaluation; isokinetic evaluation at 15-16 weeks.

Phase 7:

Time Frame: 16-20 weeks

Goal: Restore normal knee function and progress to return to sport or return to work.

Exercises: Continue as above. Running program if 70% quad strength per Biodex tests and asymptomatic. Sport specific activity, plyometrics medium to high intensity (broad jump, single leg jump, vertical jump), isokinetic evaluation and functional evaluation on a monthly basis until discharge from formal medical care. Patient will be discharged to a home program from PT at 20 weeks.