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ACL repair

Provider	Comments
Dr Antoine	Dressing change should happen post op day one in PT. Patients will be braced post op. The brace will be set at full range of motion and exercises can be done out of the brace. Brace should be discontinued when there is good quad control and proper gait per therapist decision following minimal brace period. Patients with meniscus repairs will have a brace set at 0-90 degrees for 4-6 weeks post op.
Dr Chi	<p>For ALL BVU surgeons: Dressing change: All dressings to be removed except steri-strips. Steri-strip only replaced if wet and not clinging. No other dressing is necessary. Therapist can cover with band-aids if therapist wishes to. Brace may or may not be present. Will need good quad control to remove brace at therapist discretion unless written in op note otherwise.</p> <p>Patient should be able to do at least 20 reps of 4 inch forward step down before doing walk/jog or starting jumping progression. Patient is only cleared for return to sport when: 1. Strength of operated leg is 90% of unoperated leg (can be measured by step downs) 2. Pass Jump Test 3. Pass Noyes Hop test: 3 of 4 tests with 90%, except Dr. Chi who wants 4 of 4 tests.</p>
Dr. Anderson	
Dr. Lyons	
Dr Honari	
Ho	Same as above for the rest of BVU Ortho

Dr Mapes	<p>Dressing change done by Orthopedics. Start PT within first week of surgery. Brace used during ambulation until they have sufficient Quad function to walk without a limp. Can be WBAT with a meniscal repair but restrict flexion to no more than 90 degrees, and will use a brace for 6 weeks.</p> <p>No water activities until 6 weeks post op.</p>
Dr Miller	<p>Dressing change done by Orthopedics. Start PT after first post op visit. Brace used during ambulation until they have sufficient Quad function to walk without a limp. Can be WBAT with a meniscal repair but restrict flexion to no more than 90 degrees, unless otherwise noted in chart.</p>
Dr Osgood	<p>Start PT 1 weeks post op after 1st post op Ortho visit. Dressing change done by Ortho. Hinged brace with full Range of Motion for 6 weeks. If Meniscal repair: TTWB in brace for 4-6 weeks with ROM limited from 1-30 degrees.</p>

GROUP HEALTH COOPERATIVE

Physical and Occupational Therapy: ACL Protocol

Adopted: 7/1987

Revision Dates: 8/88, 1/90, 6/93, 3/99, 7/02, 1/06, 7/07, 3/12

Last Revision: Consolidated CSC and BVU protocols.

Time Frame	Day 1	Week 1	Week 2	Week 3	Week 4
See MD comments, surgical report and Referral for changes to protocol					
Gait	Crutches weight bearing as tolerated or as physician orders.*	*Patient must continue to use crutches until quad control is achieved and there is no limp or as physician orders. Patients with a meniscus repair will be touch weight bearing for 4-6 weeks.			Full Weight Bearing
ROM goals (no restrictions)		0 - 70°	0-110 degrees	0-120 degrees	0 - 130°
Leg exercises	1. Straight leg lifts front, back, side; 20-50 reps. 2. Assisted leg extension on back or stomach with towel under ankle. 15 minutes. No overpressure. 3. Knee bending sitting or lying on back 4. Ankle/foot range of motion	1. Same as day 1. 2. Double leg squats to 60 deg flexion with weight bearing as tolerated. Knee does not get locked in extension. 3. Prone knee bend to include rectus femoris stretch. 4. Knee bending/flexion -to be done 2-4x/day 5. Quad Set with small towel roll at knee -Hold 5-10 seconds	1. Double leg squats to 60° flexion with weight bearing as tolerated with light tubing 2 minutes. 2. Linebacker squat -- 2 minutes (wider stance, center of gravity more posterior) 3. Knee flexion sitting against light tubing; 20 to 50 reps. 4. Assisted leg extension as day 1. 5. Total Gym/Shuttle -Double leg progress to single leg 6. Body Blade/Basketball dribble 1-2 minutes	1. Same as week 0 to 2. 2. Double leg squat, weight bearing as tolerated x 20 plus. 3. Bridge weight bearing as tolerated; 20-50 reps. 4. Seated toe/heel out; toes together/heels out; heels together/toes out 20 reps-- don't force. 5. Plantar flexion/inversion with tubing; 20-50 reps. 6. Standing calf raise weight bearing as tolerated x 20	1. Same as week 3. *weights added to mini squats and linebackers (also in week 6) 2. Weight shifting side/side and forward/back 3. Ball Push 4. Prone rectus femoris stretch -5 x 30 seconds 5. Gait training on treadmill
Brace	**See MD Comments, Surgical Report or Referral				
Aerobic Activity/Sport		*Well-leg bike/row up to 15 minutes.	* Upper body weights *If patient has gotten 115 degrees of knee flexion and does not have significant swelling, it is ok to do bilateral stationary bike with low resistance. 15-20 minutes		* Bilateral bike @ high RPM x 10 minutes or as tolerated. * Walking in water. * Ok for Elliptical Trainer
PT Treatment	* Ice * Edema reduction techniques	* Ice * Edema reduction techniques	* Ice * Edema reduction techniques * Patellar mobilization if needed	* Posterior mobilization - if needed * Friction massage at patellar tendon may begin gently if needed	* Thorough gait eval. That addresses feet, shoes, biomechanics, existing orthotics or need for orthotics.

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Time Frame	Week 5	Week 6	Week 7	Week 10	Week 12
Gait	1. Avoid downstairs/inclines 2. Conservative activity; graft weak				
ROM goals (no restrictions)			Full knee range of motion		
Leg exercises	1. Standing: leg supination/pronation (Rotate body to get supination/pronation); 20-50 reps. 2. Weight shift x 20. front to back and side to side. 3. Walking forward and back against tubing two minutes each way. 4. Static balance; 5 x 30 seconds. Balance on l leg. 5. Medial step-ups 6. Standing hip abduction 7. Circle Touch	1. BAPS 2. Dynamic balance beam: Forward, backward and sideways, walking. 3. Weighted squats 10 to 15 reps. 4. Weighted linebacker position. 5. PRE's with hamstrings. Be sure pelvis is stable. Use caution on amount of weight on hamstring graft patients.	1. Step-ups -- forward, back, side. 2. Lunges --multi- directional. 3. Leg presses; 0-90 degrees	1. Lateral steps --wide stance. 2. Wall push - gradual resistance of plantar flexion as needed for functional extension. 3. Anterior/posterior step- downs 4. Carioca (braiding) 5. Mini Trampoline -2 leg, side to side	1. Jumping x 2 minutes. Add jump rope. 2. Side to side jump. It is OK to jump against tubing. 3. Start with double leg jump. Progress to single leg hop or side to side single-leg hop.
Brace					
Aerobic Activity/Sport	* Biking x 30 minutes, high RPM, mild resistance. * Walk 1/2 mile or more as tolerated.	* Stairmaster * Nordic-Trac 10 to 15 minutes. * Walk up to one mile. * Swim with straight leg kick(avoid frog kick). Swimming may begin earlier (when incision healed) if and only if entry into swimming area can be done safely.	* Jog in water * If patient able to do 45 minutes of stationary bike, they may do outdoor bike on level surface.	* Begin slow jog, one mile with 25/75 ratio jog/walk. (on track, each increment is jogged 25%; walked 75%). * Lateral Slider	* Jogging; stay at one mile with 50/50 jog/walk ratio. * Bike sprints/hills
PT Treatment	* Check for appropriate flexion in swing, extension in stance phases and adjust exercise to correct.		* OK to test reaching, lunges (closed chain). See closed chain testing protocol.		* OK to test closed chain jumping. Determine direction tested based on patient's control of leg and need for sport activity.

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Time Frame	Week 14	Week 20 (5 months)	6 Months	9 Months	12 Months
Gait					
ROM goals (no restrictions)					
Leg exercises	1. Same as week 12 2. Free weight partial squat -Good technique 3. Limited arc leg press -low weight/high reps	* Sport specific training * "Shadowing" (Simulated activity) * sports drills	* Isolated extension exercise if necessary or desired by patient.	* Isolated extension exercise if necessary or desired by patient.	* Isolated extension exercise if necessary or desired by patient.
Brace					
Aerobic Activity/Sport	* Jogging; one mile with 75/25 jog/walk ratio.	Jogging; Increase 10% per week up to 2 miles. Then use standard training guidelines to increase distance.		*Pivot sports resumed at 9-12 months if patient has 90% strength of operated over non-operated leg and allowed by MD. Custom brace will be by MD order. Sports include; basketball, soccer, skiing, volleyball, roller blading, snowboarding, tennis and racquet sports.	***Patients with an allograft or an ACL revisions will most likely return to pivot sports at 9-12 months. Patients with a revision will return to sports at 12 months or longer post op for all physicians listed.
PT Treatment	* Ok to test closed chain hopping if it is judged patient has adequate control.	*Continue to do closed chain testing through 9-12 months or discharge at regular intervals (every 4-8 weeks). Goal is involved leg strength @ 90-100% of uninvolved leg strength for return to sports. Note operated/non-operated leg strength in % in the PT Note			