

Exercises	Precautions											
	1(1-7)	2-3 (8-21)	4 (22-28)	5 (29-35)	6 (36-42)	7 (43-49)	8 (50-56)	9-11 (57-77)	12 (78-84)			
<b>Phase 1 Initial Hip Exercises</b>												
<b>Begin all exercises with first P.T. Appointment</b>	X											
<b>Perform with Bilat LEs 3 x 10 x 10 sec hold each 3x/day</b>	X											
<u>Isometric:</u> gluts, quads, hams, hip abd, add (provide verbal + tactile cues) kegels, trans abdominal (draw belly button in), core stabilizations	X	X										
A/ROM ankle DF, PF, inv, eve, bilat rotations, toe flex, ext	X	X										
Knee extension over bolster and on bed edge and passive calf stretch (for involved LE)	X	X										Focus on patella-femoral joint
<b>Operative LE P/ROM 3 x 10 each 3x/day</b>												
In supine position with hip/knee in neutral, move LE in a circular motion both directions (hip circumduction see precautions)	X	X	X	X	X							Hip ER = 20° x 3 wks x 3 weeks Hip IR = no limit Hip Flex = 90°
In supine position with hip flex (see precautions) move knee in circular motion (pendulum rotation)	X	X	X	X	X							Same as above
In supine position have a partner bend knee towards chest (see precautions) may increase hip flexion as tolerated after 10 days	X	X	X	X	X							Same as above
In supine position with leg straight, have partner abduct leg	X	X	X	X	X							Hip Abd = 40° x 3 weeks
In prone position with knee bent to 90°, have partner bring ankle away from body hold each for 10 seconds as a gentle stretch	X	X	X	X	X							20° ER x 3 weeks
Stationary bike, upright bikes are tolerated better initially, may be performed at home if bike is available, avoid clipping or strapping in	X	X	X	X	X							20 mins 2x/day, can increase 5 mins every 3 days resistance at week 6
<u>Piriformis:</u> lying on uninvolved side, bottom LE straight and pelvis stacked, bend involved hip to 50° to 70° flexion, lower the involved knee towards the table. Stretch felt in buttock, avoid pinch in groin. <u>Quadriceps:</u> in prone, have partner bring ankle toward buttock, then stab pelvis with other hand, relax LB area, feeling of stretch in front of thigh	X	X	X	X	X							1-2 sets of 10 reps Hold stretches for 10 secs and progress to 30 secs
<u>FABER for ER:</u> in supine, bring involved LE into a "figure 4" position with ankle resting on top of opposite knee (may need to start with ankle resting on shin or inside of leg), gently lower bent knee towards table, it is normal to feel lateral hip discomfort		X	X	X	X							Do not push on knee
<u>General stretching of hip, knee, and calf:</u> may begin to stretch in all directions from this point forward			X	X	X							All to pt's tolerance

<b>Phase 2 Gluteal Progression</b>										
<b>Start all exercise at week 2-3 based on pt progress/proficiency</b>		X								
<b>Perform with operative Leg 3 x 10 once a day</b>		X								
<p><u>Glut Medius</u>: Attempt to initiate glut medius with assisted side lifts in muscle test position, work on eccentrics (negatives) until pt can perform without pelvic compensation</p> <p><u>Straight leg raises (ABD), [glut medius focus]</u>: (see precautions) Lying on uninvolved side, raise top leg up and slightly back without moving the trunk</p> <p><u>Straight leg raises (EXT), [glut maximus focus]</u>: In prone flex involved side knee to 90° or further, lift that knee off the table keeping the knee flexed raise leg 6-8 inches</p>		X								Start only when pt can properly perform without pelvic compensation

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<b>Phase 2 Gluteal Progression</b>	X											
<u>Rose Wall Slides</u> : Lying on uninvolved side with shoulders, hips, and heels flush up against wall, slowly slide top (involved) leg along wall	X											
<u>Active Prone IR/ER</u> : In prone with involved knee bent to 90°, allow foot to drop out so that the hip is in full IR, actively rotate hip back to <b>NEUTRAL ONLY</b> (see precautions), partner gradually adds resistance to this motion in both directions.	X											
Weight bearing activities begins at 6 weeks post-op but may be delayed until 8 weeks post-op					X							
After WBAT, progression is based on pt progress/proficiency					X							
Perform with operative Leg 3 x 20 once a day					X							
<u>Quadruped Racking</u> : On hands and knees, shift your body weight forward on your arms then back onto your legs, then shift side to side, then shift into diagonal directions (see precautions)					X							Keep shoulders and hips in position and in line and maintain firm abdominal muscles
<u>Standing Hip IR</u> : place knee of involved LE on a stool, rotate hip without moving trunk so that the stool turns (move foot outward from body), progress using a resistance band (see precautions)					X							Begin with least resistance first and progress pt, emphasize correct technique
<b>Phase 2 Bridging Series Exercises</b>					X							
Perform with operative leg 3 x 20 each 1-2 x a day					X							
<u>Double Leg Bridge</u> : In supine with hip and knees bent [hook lying position] place rubber tubing around knees, keep core stable/firm and then slowly raise buttocks and then slowly lower buttocks, (progress to single leg bridging as patient becomes more proficient with technique and coordination and endurance increases)					X							Emphasize firm core, breathing, and correct exercise technique
<u>Bridge on Swiss Ball</u> : In supine place feet up on Swiss ball, keep knees bent and keep core stable/firm, slowly raise buttocks and hold for 5 seconds, then slowly lower buttocks (progress to laying with shoulders on ball and with feet on the floor, keep core stable/firm and then slowly raise buttocks and then slowly lower buttocks then progress to add arm rotations in this position or perform with single leg bridge)					X							Emphasize firm core, breathing, and correct exercise technique
<b>Phase 2 Water Progression</b>					X							If pool is available
Perform 3 x a week for 20-30 minutes					X							Wounds must be completely closed
<u>Water walking</u> : Walk forward, backward, and side-to-side in chest deep water					X							MUST follow weight bearing restrictions
<u>Water Jogging</u> : Jog in place in deep water								X				Impact acts begin at 9 weeks post-op
<u>Swimming</u> : Frog kick as performed in the breast stroke			X									

<b>Phase 2 Gait Progression "crutch weaning" (use 2 crutches)</b>					X					Start when pt becomes WBAT
Perform 3 x 10 each 1-2 x a day					X					
<u>Weight shifting exercises:</u> Focus on avoiding Trendelenburg and/or compensated Trendelenburg gait					X					
<u>Increasing weight bearing:</u> Gradually add 25% weight on surgical leg every 1-3 days until 100%, continue to use both crutches during this period. Avoid early fatigue by taking rest periods, avoid limping and focus on correct walking and weight shifting techniques and proper mechanics.					X					Make sure pt is getting full hip extension.

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<b>Phase 2 Balance Progression</b>					X								
Perform 3 x 10 and hold for 30 seconds 1 x a day					X								
Single leg stance					X								
<u>Dyna-disc</u> : Progress to touching the opposite foot to the ground at 9:00, 10:30, 12:00, 1:30, and the 3:00 o'clock positions					X								Start with poles for support
Add dynamic balance activities as tolerated by the pt					X								Avoid impact activities until 9 weeks post-op
<b>Phase 3 Intermediate Exercises</b>													
<b>Closed Chain and Single Plane</b>					X								For specific questions about running, dance, skating, and golf please review Phase 3
Perform 3 x 20 once a day					X								progressions for potential start times
Weight bearing activities begins at 6 weeks post-op but may be delayed until 8 weeks post-op					X								
<u>Double 1/3 knee bends</u> : In standing with feet shoulder width apart, bend at the knees to 60° of flexion, <b>DO NOT</b> allow knees to go past toes, progress using a sport cord for resistance					X								DO NOT allow knees to go past toes
<b>Phase 3 Advanced Core Progression Exercises</b>					X								
<u>Planks</u> : Lie on either side with knees bent resting on an elbow, slowly lift the hips up in a straight line, then slowly lower hips, progress by performing with legs straight, progress to performing in supine and then in prone					X								Maintain firm abdominal and core muscles while moving
<u>Pilates</u> : (ONLY WITH AN INSTRUCTOR) footwork and skater series, and hip extensions					X								Maintain firm abdominal and core muscles while moving
<u>Side stepping</u> : Place rubber tubing around ankles (progress resistance as pt progresses), bend at knees and sidestep in each direction while maintaining the bent knee position and keeping chest in an upright position					X								Maintain firm abdominal and core muscles while moving
<u>Single 1/3 knee bends</u> : Use the same starting position as the double knee bends but with only the surgical leg, bend knee to 60° of flexion while maintaining a level pelvis AND not letting the knee "fall in" (corkscrew), progress by adding a sport cord for resistance (sports test exercise)					X								Maintain firm abdominal and core muscles while moving
<u>Lateral step downs</u> : (single leg closed kinetic chain exercise)					X								Maintain firm abdominal and core muscles while moving
<u>Balance squats</u> : with one leg behind you on a chair, squat with your opposite leg to 70°, perform with opposite leg on a chair (single leg closed kinetic chain exercise)					X								Maintain firm abdominal and core muscles while moving

<u>Lunges:</u> (single leg closed kinetic chain exercise)					X						Maintain firm abdominal and core muscles while moving
<u>Reverse Lunges:</u> (single leg closed kinetic chain exercise)					X						Maintain firm abdominal and core muscles while moving
Perform 3 x a week x 15-20 minutes					X						
<u>Elliptical trainer:</u> Begin with minimal resistance and increase intensity over time as tolerated by the patient					X						

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<b>Phase 4 Advanced Exercises</b> <b>Multi-Directional and Plyometric</b>								X		
Perform 10 sets for 1-2 minutes x 3-5 x a week								X		
<b>Plyometrics:</b> Water to dry land progression. Begin in water (chest deep) perform forward bounding and focus on absorption when landing, then progress to dry land plyometrics								X		
Perform 3 x 50 for 3 x a week								X		
Side-to-side lateral agility with a sports cord								X		
Attach a sports cord from the side, with the involved leg facing the cord, step sideways to create tension on the sports cord, from a single knee bend position on the involved side, explode laterally, touching with the noninvolved leg momentarily, before the tension pulls you back, emphasize absorption back onto the involved leg								X		Emphasize absorption back onto the involved leg
Perform 3 sets for 1-2 minute intervals once a day								X		
<b>RUNNING:</b> Expect to have mild limping/discomfort awkwardness- this should go away gradually, common sense dictates that if the limp worsens or if there is pain, ( <b>RUNNING SHOULD STOP</b> ), progress to the next phase each week								X		
Forward/backward running with a sports cord								X		
Shift from one leg to the other leg while running in place without exaggerating the absorption and push off motion, face the sports cord for backwards running								X		
<b>Please refer to Appendix A for the Walk to Run Ratio Table</b>								X		If the limp worsens or if there is pain, <b>RUNNING SHOULD STOP</b> , progress to the next phase each week
<b>Please refer to Appendix A for the Golf Progression Table</b>										Begin golf progression <b>ONLY AFTER</b> 3 weeks of walking and <b>DO NOT</b> carry bag and <b>DO NOT</b> pull a cart

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<b>Phase 5 High Level Activities Return to Sport at 12 Weeks</b>												X	
Initial agility drills: Straight plane agility activities												X	Absorb and push-off smoothly into a back pedal
Chop-Downs												X	
Back pedaling												X	Absorb and push-off smoothly into a back pedal
Jog forward												X	
Stutter step to a stop												X	
<b>Mutli-plane Agility</b>												X	
Z Cuts												X	
W Cuts												X	
Cariocas												X	
<u>Ghiardelli's</u> : Start by crossing the right leg over the iliac crest, swing the left leg out from behind the right leg absorbing and touching the ground with your left hand in one fluid motion, then repeat to the right side												X	
Dr. Carreira leaves the responsibility up to the patient and the coach to continue to progress the training for the specific sport, this includes proper conditioning and sport specific agility activities												X	