



OSTEOCHONDRAL ALLOGRAFT/AUTOGRAFT TRANSPLANTATION REHABILITATION GUIDELINES

Dr. Ed Tingstad

825 SE Bishop Blvd Suite 120 Pullman, WA 99163 (509) 332 2828

PHASE 1: Immediate Post-Op (Surgery – 6 Weeks)			
Goals	<input type="checkbox"/> Protection of the post-surgical knee <input type="checkbox"/> Restore normal knee range of motion and patellar mobility <input type="checkbox"/> Eliminate effusion <input type="checkbox"/> Restore leg control		
Crutches	<input type="checkbox"/> <u>Weeks 1-3</u> : Non-weight bearing (use crutches) <input type="checkbox"/> <u>Weeks 4-6</u> : Touchdown weight bearing 25% <input type="checkbox"/> 0-6 Weeks: locked extension lock splint brace		
Cryotherapy	<input type="checkbox"/> Cold with compression and elevation <input type="checkbox"/> First 24 hours: ice every hour for 25 minutes <input type="checkbox"/> After 24 hours: ice 3 times daily for at least 15 minutes		
Exercises	ROM	<input type="checkbox"/> <u>Weeks 1-2</u> : 0-90 <input type="checkbox"/> <u>Weeks 3-4</u> : 0-110 <input type="checkbox"/> <u>Weeks 5-6</u> : 0-125 <input type="checkbox"/> Beginning week 4: use contralateral leg to create ipsilateral passive range of motion and swimming	<input type="checkbox"/> Knee extension on a bolster <input type="checkbox"/> Prone Hangs <input type="checkbox"/> Supine wall slides <input type="checkbox"/> Assisted heel slides <input type="checkbox"/> Continuous passive motion machine
	MUSCLE ACTIVATION	<input type="checkbox"/> Quadriceps firing <input type="checkbox"/> Straight leg raises <input type="checkbox"/> 4-way leg lifts in standing with brace on <input type="checkbox"/> Patellar mobilizations <input type="checkbox"/> Soft tissue mobilizations	
	CARDIOVASCULAR	<input type="checkbox"/> Upper body circuit training or upper body ergometer	
Progression Criteria	<input type="checkbox"/> 6 weeks post-operative <input type="checkbox"/> Have met the goals of phase 1 <input type="checkbox"/> Trace to no effusion <input type="checkbox"/> Full knee extension		



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PHASE 2: Weeks 7 – 12		
Goals	<ul style="list-style-type: none"> <input type="checkbox"/> Single leg stand control <input type="checkbox"/> Normalize gait <input type="checkbox"/> Good control and no pain with functional movements 	
Crutches	<ul style="list-style-type: none"> <input type="checkbox"/> Begin progressive weight bearing as tolerated with axillary crutches and no brace 	
Precautions	<ul style="list-style-type: none"> <input type="checkbox"/> Minimize post-activity swelling <input type="checkbox"/> Avoid loading knee in deep flexion angles <input type="checkbox"/> No impact activities until 12 weeks post surgery 	
Exercises	MUSCLE ACTIVATION	<ul style="list-style-type: none"> <input type="checkbox"/> Weight shifting <input type="checkbox"/> Increase pool program – gait drills and initiation of protected weight bearing strengthening <input type="checkbox"/> Double leg balance and proprioceptive drills <input type="checkbox"/> Stationary bike <input type="checkbox"/> Protected weight bearing hip and core strengthening <input type="checkbox"/> Quadriceps strengthening – closed chain exercises short of 60 degrees knee flexion
	CARDIOVASCULAR	<ul style="list-style-type: none"> <input type="checkbox"/> Non-impact endurance training, swimming, deep water run, upper body circuits
Progression Criteria	<ul style="list-style-type: none"> <input type="checkbox"/> Normal gait <input type="checkbox"/> Full range of motion <input type="checkbox"/> Minimal effusion <input type="checkbox"/> Ability to carry out functional movements without unloading affected leg <input type="checkbox"/> Single leg balance greater than 15 seconds 	



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PHASE 3: 4 Months Post-Op		
Goals	<input type="checkbox"/> Good control and no pain with sport and work specific movements	
Precautions	<input type="checkbox"/> Post-activity soreness should resolve within 24 hours <input type="checkbox"/> Avoid post-activity swelling <input type="checkbox"/> Avoid knee pain with strengthening	
Exercises	MUSCLE ACTIVATION	Functional leg strengthening <ul style="list-style-type: none"> <input type="checkbox"/> Squats <input type="checkbox"/> Lunges <input type="checkbox"/> Step backs <input type="checkbox"/> Retro step ups <input type="checkbox"/> Single leg leg press Single leg balance and proprioception progression <ul style="list-style-type: none"> <input type="checkbox"/> Hip and core strengthening <input type="checkbox"/> Mini band drills <input type="checkbox"/> Physio ball
	CARDIOVASCULAR	<input type="checkbox"/> Non-impact activities: stationary bike, elliptical, Nordic track, swimming
Progression Criteria	<input type="checkbox"/> Dynamic neuromuscular control with multi-plane activities, without pain or swelling	



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PHASE 4: 6 Months Post-Op		
Goals	<input type="checkbox"/> Good control and no pain with sport and work specific movements, including impact	
Precautions	<input type="checkbox"/> Post-activity soreness should resolve within 24 hours <input type="checkbox"/> Avoid post-activity swelling <input type="checkbox"/> Avoid knee pain with impact	
Exercises	MUSCLE ACTIVATION	<input type="checkbox"/> Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to the other and then 1 foot to the same foot <input type="checkbox"/> Movement control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane <input type="checkbox"/> Sport/work specific balance and proprioception <input type="checkbox"/> Stretching for patient specific muscle imbalances
	CARDIOVASCULAR	<input type="checkbox"/> Replicate sport or work specific energy demands
Return to Moderate Impact Sport Criteria (Jogging, Aerobics)	<input type="checkbox"/> 8 months post-surgery AND good dynamic neuromuscular control with multi-plane activities, without pain or swelling	
Return to High Impact Sport Criteria	<input type="checkbox"/> 10 months post-surgery AND good dynamic neuromuscular control with multi-plane activities, without pain or swelling	