



Bucket Handle Meniscus Repair

Post-Operative Rehabilitation Protocol

0-6 weeks

- NWB for 6 weeks
- Active/Passive ROM: 0-90°
- Patella mobilization
- SLR supine with brace locked at 0 degrees
- Quad Sets with brace locked at 0 degrees
- Heel Slides
- Ankle pumps

6-8 weeks

- Transition to WBAT with brace unlocked
- Discontinue crutches when gait is normalized and non-antalgic
- Discontinue brace once good quad control
- Wall sits to 90 degrees

8-12 weeks

- WBAT without brace
- Full ROM
- Progress with closed chain exercises
- Lunges from 0-70 degrees
- Leg press 0-70 degrees
- Proprioception exercises
- Begin Stationary Bike

12-16 weeks

- Progress Strengthening exercises
- Single leg strengthening
- Begin jogging and progress to running
- Sports specific exercise

Weight Bearing Status

NWB x 6 weeks

Brace Settings

Locked straight x 6 weeks when ambulating or sleeping. Otherwise open brace once good quad control

ROM Restrictions

Full PROM beginning POD 1



Exercise	Week																
	1	2	3	4	5	6	7	8	9	10	12	16	20	24			
Initial Exercises:																	
ROM Goals	0-90°		0-125°			Progress to full											
Flexion/extension, heel slides	[Green bar from week 1 to 12]																
Patella/Tendon mobilization	[Green bar from week 1 to 8]																
Quad Series	0° ISOs, SLR			60° ISO			70-30° arc-resisted			Full arc resisted							
Hamstring series/ strength progression	No isolated, resisted HS						ISOs, hip based			Knee-based resisted arc							
Sit and reach for hamstrings (no hyperextension)	[Green bar from week 1 to 8]																
Ankle Pumps	[Green bar from week 1 to 9]																
Crutch weaning	NWB					[Green bar from week 6 to 9]											
Heel prop knee extension stretch	[Green bar from week 1 to 7]																
SLR (w/ brace until quad control restored)	[Green bar from week 1 to 6]																
Toe and heel raises	[Green bar from week 7 to 12]																
Balance series	[Green bar from week 7 to 24]																
Weight-bearing Strength Exercises:																	
Double knee bends	NWB					[Green bar from week 6 to 12]											
Leg Bridges (2 → 1 leg)	NWB					[Green bar from week 6 to 10]											
SLS Balance progressions	NWB					[Green bar from week 6 to 12]											
Squat/Leg press (ISO → reps, 2 → 1 leg) (max 70°)	NWB					0-45°			0-70°			Max 70°					
Step-up/Lunge Progressions (Max 70°)	NWB					ISOs			0-70°			Max 70°					
Dead Lift (2 → 1 leg)	NWB					[Green bar from week 6 to 12]											
Sports Test exercises	NWB					[Green bar from week 6 to 20]											
Cardiovascular Exercises:																	
Bike with both legs-no resistance	NWB					[Green bar from week 6 to 8]											
Bike with both legs- resistance	NWB					[Green bar from week 6 to 12]											
Aqua jogging	NWB					[Green bar from week 6 to 12]											
Treadmill-walking (no limp)	NWB					[Green bar from week 6 to 12]											
Swimming with fins-light flutter kick	NWB					[Green bar from week 6 to 12]											
Elliptical Trainer	NWB					[Green bar from week 6 to 12]											
Stair stepper	NWB					[Green bar from week 6 to 12]											
*Cardio Exercises	Must tolerate daily walking with no limp & no significant increase in pain/swelling prior to initiating WB cardio (walk, elliptical, stepper)																
Agility Exercises:																	
Running Progression	NWB					[Green bar from week 6 to 20]											
Initial-Single Plane	NWB					[Green bar from week 6 to 20]											
Advance-Multi Directional	NWB					[Green bar from week 6 to 20]											
Functional Sports Test	NWB					[Green bar from week 6 to 20]											
High Level Activities:																	
Golf Progression	NWB					[Green bar from week 6 to 20]											
Outdoor biking, hiking, running	NWB					[Green bar from week 6 to 20]											
Return to Full Sport at 7-9 months post-op	[Green bar from week 6 to 20]																

Adapted from post-operative protocol created by Howard Head Physical Therapy, Jill Monson, PT, OCS and Jon Schoenecker, PT, OCS, CSCS



Quad Series:

- Quad sets (5 sec hold) also quick contractions (NMES to supplement)
- Prone quad sets
- SLR with no extension leg
- Progression of Quad Strengthening (WB exercises at 6 weeks)
 - LAQ in safe range -no added resistance to begin
 - Once weight bearing tandem stance TKE with 5 sec hold
 - Isometric wall sit
 - SLR with resistance
 - Step up progression
 - Squat progression
 - Leg press progression
 - Lunge progression

Hamstring Series:

- Hamstring stretching (supine/prone)
- Hamstring set (heel dig)- contract hamstring with knee flexed pressing heel into the floor (5 sec hold)
- Hamstring curls
- Progress to resisted hamstring curl

Sport Test Exercises:

- Goals: impact training and introduction of directional drills
- Double leg squat jumps
- Box jumps
- Speed skaters
- Double leg jumps for height and distance progress to single leg as tolerated
- Blaze pod change of direction drills

Further Clarifications and Considerations

- May begin to implement BFR as early as 1 week into post-op period
- Functional Sports Test: Baseline completed at 7 months post-op with subsequent test at 9 months



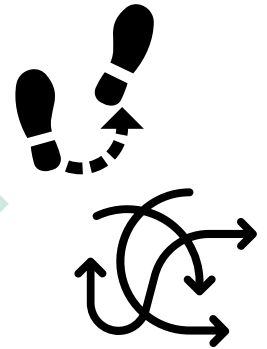
Return to Running Criteria

- Trace effusion, flexion within 5 degrees of contralateral side
- LSI on anterior reach Y balance test $\geq 90\%$
- LSI on quadriceps torque output on isometric measurement $\geq 75\%$
- 12" SL squat tolerance
- Able to walk > 1 mile with no limping or pain
- Able to "hop" with UE assist on operative leg 5 times without pain or compensation
- SL balance with eyes closed 30 seconds without loss of balance



Return to Agility/Change of Direction Criteria

- Return to running criteria listed above met
- No effusion
- Full ROM
- Quad LSI on isokinetic $\geq 85\%$
- Hamstring LSI on isokinetic $\geq 85\%$
- LSI on anterior reach Y-balance $\geq 95\%$
- SL hopping pain-free and effusion free



Return to Sport Criteria

- In order to test must demonstrate full AROM, no pain, no/trace effusion, 5/5 strength, negative lachman and pivot shift, LSI $\geq 95\%$ hamstring curl and leg press
- Quadricep strength $\geq 95\%$ of contralateral side (< 2cm of atrophy)
- Able to perform single leg squat with correct form
- LSI SL hop $\geq 95\%$
- Y-Balance $\geq 95\%$ (mean of 3 trials in anterior, posterolateral, posteromedial /100)
- Vertical jump test, single leg hop distance, and timed single leg hop over 20 -feet $\geq 90\%$ of contralateral side

