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MENISCUS REPAIR POST OPERATIVE PROTOCOL

	Time Frame (Weeks)	Guidelines	Goals
PHASE I	0 to 2	<p>CRUTCHES: 50% partial weight bearing x 2-4 weeks BRACE: Locked 0/0 knee extension for 6 weeks</p> <p>EXERCISE PROGRESSION</p> <ul style="list-style-type: none"> Gait training Extension - heel props for full extension Flexion - off table or wall slides to 90° Quadriceps setting using NMES as needed Multi-plane straight leg raises Bilateral calf raises <p>RECOMMENDED LOAD</p> <ul style="list-style-type: none"> Short but frequent bouts of ROM, quad activation 3+x/day 	<ul style="list-style-type: none"> Reduce inflammation Normalize patella mobility with manual mobilizations Full extension, passive and active Good quadriceps activation No extension lag with straight leg raise 90° flexion limitation x 4 weeks per MD instruction
	2 to 6	<p>EXERCISE PROGRESSION</p> <ul style="list-style-type: none"> Continue with phase I program Extension – continue with heel props or add prone hangs (as needed) Flexion – wall or heel slides with limit per MD Ball bridge and/or isometric hamstring activation Open and closed chain cord kicks as WB allows Proprioception drills as WB allows <p>CARDIOVASCULAR EXERCISE</p> <ul style="list-style-type: none"> Short walks <p>RECOMMENDED LOAD</p> <ul style="list-style-type: none"> Short but frequent bouts of ROM, quad activation 3x/day 	<ul style="list-style-type: none"> Reduce inflammation Full knee extension/hyperextension Good quadriceps control with no extension lag 90° of knee flexion Progress off crutches (per MD)
PHASE II	6 to 12	<p>EXERCISE PROGRESSION</p> <ul style="list-style-type: none"> Flexion – increasing to full as tolerated Partial range squats Step-up progression with gradual increase in step height Multi-plane open & closed kinetic chain hip strengthening Hamstring activation with bridge on floor, ball or box Progress to unilateral heel raise off the floor, then off step Proprioception drills <p>CARDIOVASCULAR EXERCISE</p> <ul style="list-style-type: none"> Stationary biking Treadmill/outdoor walking, focus on proper gait mechanics <p>RECOMMENDED LOAD</p> <ul style="list-style-type: none"> ROM: 2-3x/day Strength: 1x/day open chain; 3x/week closed chain Cardiovascular: 20-30 minutes/day low/moderate intensity 	<ul style="list-style-type: none"> Full knee extension Gradual progression to full flexion Normalize patellofemoral joint and scar mobility Open brace 0-90° x 1 week then D/C brace as quad control permits Normalize gait
PHASE III	12 to 16	<p>MOVEMENT PREP</p> <ul style="list-style-type: none"> Foam roller Controlled movement series <p>EXERCISE PROGRESSION</p> <ul style="list-style-type: none"> Weighted squat progression – gradually increase depth and resistance Leg press, hamstring curls, RDL's, single leg calf raises Single leg squat/step-up/lunge progression (dips, retro, walk and split), Slow progression with increasing depth Monster walks 	<ul style="list-style-type: none"> Control inflammation with increasing loads Full knee flexion and extension with terminal stretch Progressive strengthening Increase muscular endurance

	Time Frame (Weeks)	Guidelines	Goals
PHASE III (CONTINUED)	12 to 16	<p>CORE PROGRAM</p> <ul style="list-style-type: none"> • Front plank – full, may advance to alternating leg lift • Bridge – marching or single leg • Side plank – full • Dead bug progression • Quadruped alternating arm-leg <p>CARDIOVASCULAR EXERCISE</p> <ul style="list-style-type: none"> • Stationary biking • Treadmill/outdoor walking, focus on proper gait mechanics • Arc trainer or elliptical • Stadium stair walking <p>ACTIVITY PROGRESSION</p> <ul style="list-style-type: none"> • Basic ladder series • Low amplitude bilateral hops • Skipping • Higher intensity interval work w/ CV program: WEEK 12-14 <p>JUMPING PROGRESSION</p> <ul style="list-style-type: none"> • Low amplitude bilateral single response jumps <p>SPORTS SPECIFIC ACIVITY PROGRESSION</p> <ul style="list-style-type: none"> • Outdoor biking: WEEK 6 • Shallow water pool running: WEEK 6 • Swimming, free style: WEEK 6 • High intensity interval work with CV program: WEEK 6-8 • Non-reactive & non-contact on-field/court progression <p>RECOMMENDED LOADING</p> <ul style="list-style-type: none"> • ROM: 1-2x/day • Strength: 3x/week with closed chain loading • Cardiovascular: 20-45 minutes 5x/week, moderate intensity 	<ul style="list-style-type: none"> • Control inflammation with increasing loads • Full knee flexion and extension with terminal stretch • Progressive strengthening • Increase muscular endurance
PHASE IV	16 to 20+	<p>EXERCISE PROGRESSION</p> <ul style="list-style-type: none"> • Increase loads from phase III <p>CARDIOVASCULAR EXERCISE</p> <ul style="list-style-type: none"> • Stationary bike • Arc trainer or elliptical • swimming <p>JUMP PROGRESSION</p> <ul style="list-style-type: none"> • Low amplitude bilateral single response jumps • Bilateral multiple response jumps • Unilateral single response jumps <p>RUNNING PROGRESSION</p> <ul style="list-style-type: none"> • Advanced ladder series • Walk/jog interval • Linear acceleration/deceleration • Sprinting • Change of direction and lateral agility <p>SPORT SPECIFIC ACTIVITY PROGRESSION</p> <ul style="list-style-type: none"> • Non-contact & non-reactive field progression: WEEK 16-20 • Interval golf program: WEEK 20 <p>SPORTS TEST AND RETURN TO FULL ACTIVITY</p> <ul style="list-style-type: none"> • Follow-up examination with physician • Sports test for return to competition: 5-6 MONTHS <p>RECOMMENDED LOADING</p> <ul style="list-style-type: none"> • ROM: global stretching • Strength: 2-3x/week with increasing resistance • Cardiovascular: 20-45 minutes 5x/week. Alternate impact and non-impact days using sound recovery principles. 	<ul style="list-style-type: none"> • Control inflammation with increasing loads • Increase muscular strength, power and endurance • Establish return to activity