

QUADRICEPS TENDON REPAIR

POST OPERATIVE PROTOCOL

	Time Frame (Weeks)	Guidelines	Goals
PHASE I	0 to 2	CRUTCHES: 50% partial weight bearing x 2 weeks BRACE: Locked 0/0 knee extension for 6 weeks EXERCISE PROGRESSION <ul style="list-style-type: none"> Gait training Range of motion - 0° to 30° Beginning gentle submaximal quad sets RECOMMENDED LOAD <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 Patellar mobilization Full extension, passive and active Range of motion 0° to 30°
	2 to 4	EXERCISE PROGRESSION <ul style="list-style-type: none"> Gait training Knee flexion - off table to 60° Quadriceps activation Multi-plane straight leg raises Bilateral calf raises Hamstring isometrics Straight leg ball bridges RECOMMENDED LOAD <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 WBAT, progress off crutches Range of motion 0° to 60°
	4 to 6	EXERCISE PROGRESSION <ul style="list-style-type: none"> Knee flexion off table to 90° Open and closed multiplane hip strengthening Proprioception drills Heel raises 	<ul style="list-style-type: none"> FWB Range of motion 0° to 90°
PHASE II	6 to 12	EXERCISE PROGRESSION <ul style="list-style-type: none"> Extension – heel props and prone hangs as needed Flexion – end range heel slides and quadriceps stretching Bilateral squat / leg press progression – focus on proper alignment with gradually increasing depth Multi-plane open and closed kinetic chain hip strengthening Step-up progression – proper alignment, eccentric control Controlled movement series Hamstring activation with bridge on floor, ball or box Hamstring curls on machine or single leg RDL's Progress to unilateral heel raise off the floor then off a step Proprioception drills CARDIOVASCULAR EXERCISE <ul style="list-style-type: none"> Stationary biking Treadmill/outdoor walking; focus on proper gait mechanics Arc trainer Elliptical Swimming – light flutter kick RECOMMENDED LOAD <ul style="list-style-type: none"> ROM: 2-3x/day Strength: 5x/week on open chain; 3x/week closed chain Cardiovascular: 20-30 minutes/day low/moderate intensity 	<ul style="list-style-type: none"> Full knee extension/hyperextension Knee flexion progress gradually to full Normalize gait mechanics Normalize patellofemoral joint and scar mobility

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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 • Single leg squat/lunge progression (dips, retro, walk and split), focus on eccentric control and alignment. • Monster walks • Core program integrated with LE program <p>CARDIOVASCULAR EXERCISE</p> <ul style="list-style-type: none"> • Stationary biking • Treadmill/outdoor walking with proper gait mechanics • Arc trainer or elliptical <p>ACTIVITY PROGRESSION</p> <ul style="list-style-type: none"> • Outdoor biking – week 12 • Shallow water pool running – week 16 • Higher intensity interval work with CV program – wk 12-16 <p>RECOMMENDED LOADING</p> <ul style="list-style-type: none"> • ROM: 1-2x/day • Strength: 3x/week on closed chain loading • Cardiovascular: 20-45 minutes 5x/week with moderate intensity and intervals. 	<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 24+	<p>EXERCISE PROGRESSION</p> <ul style="list-style-type: none"> • Movement Prep from phase III • 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 - wk 20 • Bilateral multiple response jumps - wks 20-24 • Unilateral single response jumps - wk 24 <p>RUNNING PROGRESSION</p> <ul style="list-style-type: none"> • Basic ladder series - wk 16 • Skipping - wk 16 • Walk/jog interval - wks 16-20 • Linear acceleration/deceleration - wks 20-24 • Sprinting - wk 20 • Change of direction and lateral agility - wks 20-24 <p>SPORT SPECIFIC ACTIVITY PROGRESSION</p> <ul style="list-style-type: none"> • Non-contact & non-reactive field progression - wks 20-24 • Interval golf program - wk 20 • Reactive and contact field/court progression - wks 20-24 <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: 6-9 MONTHS <p>RECOMMENDED LOADING</p> <ul style="list-style-type: none"> • ROM: global stretching 2-3x/week • 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 RTA