

High Tibial Osteotomy With Cartilage Transplant Protocol

Phase/ Goals	Immobilization	ROM	Therapeutic Exercises
<p>Phase 1 (0-4 weeks)</p> <p>Goals:</p> <ul style="list-style-type: none"> ● Decrease swelling ● Gain full extension ● Quad control 	<p>Hinged knee brace x 6 weeks</p> <p>NON weightbearing x 2 weeks Then 25% weightbearing until week 6</p> <p>Brace locked at 0 until quad strength returns</p>	<ul style="list-style-type: none"> ● Brace 0-90 x 6 weeks ● CPM x 4 weeks: 0-70 degrees, (start at 0-30 and increase until at 70 degrees) 4-6 hrs/day ● Avoid forced flexion ● Patella mobs ● Full extension important <p>Modalities:</p> <ul style="list-style-type: none"> ● NMES if unable to perform SLR without lag ● Cryocuff/Game Ready Compression/ Ice 	<ul style="list-style-type: none"> ● Quad recruitment, NMES as needed ● Quad, glute, core strengthening ● Quad sets/SLR in brace locked at 0 (assist as needed) ● SLR in all planes with assist until no lag ● Gastric/soleus stretch ● No resistance bike OK starting week 4 ● Terminal knee extension
<p>Phase 2 (5-8 weeks)</p> <p>Goals:</p> <ul style="list-style-type: none"> ● No effusion ● Maintain full extension ● Pain free ROM 	<p>Unlock brace to full ROM</p> <p>50% partial weightbearing from weeks 4-6 weeks postop (can begin walking in aquatic therapy if wound healed) Full WBAT with crutches week 6-8</p>	<ul style="list-style-type: none"> ● Restore full ROM <p>Modalities:</p> <ul style="list-style-type: none"> ● Scar STM when incision healed ● Patellar mobs all directions ● Gentle prone quad stretch/knee flex ● Manual assist extension/passive stretch 	<ul style="list-style-type: none"> ● High no-resistance Bike for ROM ● Water/aquatic walking, marching in at least waist-deep water starting week 4 ● Quad sets/glut sets, clams/mini-hydrants/glut pushes ● Calf raises on leg press ● <u>Starting Week 6</u> ● Leg press ● TKE ● mini squats – keep tibia perpendicular to floor, no lower than 45 degrees

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<p>Phase 3 (9-16 weeks)</p> <p>Goals:</p> <ul style="list-style-type: none">● Full ROM● Full weightbearing● Discontinue brace● Normalize gait● Progress strengthening	<p>Full weightbearing – unrestricted ROM</p> <p>Wean from brace as tolerated</p>	<ul style="list-style-type: none">● Full A/PROM <p>Manual:</p> <ul style="list-style-type: none">● Joint mobs PRN for full flex and ext ROM● Patellar mobs/ Scar STM with extractor <p>Modalities:</p> <ul style="list-style-type: none">● Ice/stim PRN	<ul style="list-style-type: none">● Single leg press● Treadmill walking (forwards and backwards) starting● Unilateral step-ups (limit 6-8" until week 12)● Bike● Lower extremity/glute strengthening● Balance/proprioception (Bosu squats)● Lateral walks with sport cord● SLS dynamic surfaces● Advance strengthening as tolerated● Elliptical/swimming ok at 12 weeks for conditioning● Single Leg press● Mini squats no lower than 45 degrees until week 10
<p>Phase 4 (4+ months)</p> <p>Goals:</p> <ul style="list-style-type: none">● Introduce jumping/jogging● Return to sport specific activities		<ul style="list-style-type: none">● Full A/PROM	<ul style="list-style-type: none">● Continue everything in phase 3● Initiate walk-jog progression to easy pace, add incline if tolerates● Muscular power – squads, split jumps, sled drags● Add plyometrics for speed and power after week 14● Agility drills