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High Tibial Osteotomy & Distal Femoral Osteotomy Rehabilitation Protocol

Phase / Goals	Immobilization	ROM	Therapeutic Exercises
Phase 1 (0-2 weeks) Goals: <ul style="list-style-type: none"> Control joint pain & hemarthrosis Regain 0 deg extension 	<ul style="list-style-type: none"> Hinged brace locked until return of quadriceps control Toe-touch weight bearing x 6 weeks 	<ul style="list-style-type: none"> PROM 0-90 deg AAROM 30-90 deg Patellar mobilization Modalities PRN 	<ul style="list-style-type: none"> Ankle Pumps Hamstring/gastroc stretching SLR Wall slides, heel slides on table Active quad isometrics (multi-angle 0, 45 & 60 deg) Knee extension (active assist 90-30 deg) Extension mobilization
Phase 2 (3-6 weeks) Goals: <ul style="list-style-type: none"> Muscle control Edema control 	<ul style="list-style-type: none"> Hinged brace 0-90 TTWB x 6 weeks 	<ul style="list-style-type: none"> PROM 0-110 deg AAROM 0-90 deg Patellar mobilization Modalities PRN 	<ul style="list-style-type: none"> Include all from phase 1 Isometric training 0-60 deg S/L clam shells Prone knee flexion Can begin upper body weight training/conditioning Stationary bike for ROM w/ no resistance BFR – may initiate 15 days post op
Phase 3 (7-12 weeks) Goals: <ul style="list-style-type: none"> FWB by 10 weeks, full ROM 	<ul style="list-style-type: none"> Progress by 25% each week for FWB with normalized gait D/C hinged brace at 8 weeks 	<ul style="list-style-type: none"> PROM 0-130 deg AAROM then progress to AROM 0-110 Continue hamstring and gastroc stretching Patellar mobilization 	<ul style="list-style-type: none"> SLR's – ankle weight not to exceed 10% of body weight Closed kinetic chain- wall sits, mini-squats, light leg press (10-70 deg) Upper body conditioning, stationary bike w/ no resistance, water walking. Aqua jogging at 9 week mark Toe raises & balance series at 10 week mark

<p>Phase 4 (13-16 weeks) Goals:</p> <ul style="list-style-type: none"> • Maintain Full A/PROM • Normalize gait 	<ul style="list-style-type: none"> • FWB • No brace 	<ul style="list-style-type: none"> • Full A/PROM • Patellar mobilizations 	<ul style="list-style-type: none"> • SLR's (with rubber tubing, CKC (closed chain)) • Mini-squats, Wall sits (0-30) • Hamstring curls (active, 0-90) • Leg press (70-10) • Upper body conditioning • Stationary bike with light resistance • Elliptical
<p>Phase 5 (17-20 weeks) Goals:</p> <ul style="list-style-type: none"> • Increase strength & endurance • Progress to jogging/running 	<ul style="list-style-type: none"> • FWB • No brace 	<ul style="list-style-type: none"> • Full A/PROM 	<ul style="list-style-type: none"> • Continue Phase 4 exercises • Closed chain M70-10 deg in squats (0-40) • Lateral step-ups (2-4) uni-squats (0-40) • Hamstring curls (active 0-90) • Leg press (70-10 deg) • Start balance training, 2-legged balance board, single leg stance • Aerobic conditioning: bike, water walk, swimming (straight kick), walking • Begin impact activities and walk to jog program • Elliptical, stair machine (low resistance)
<p>Phase 6 (21-24 weeks) Goals:</p> <ul style="list-style-type: none"> • Regain normal muscle strength – quads, hamstring, etc. • Regain normal proprioception, balance, and sports coordination 	<ul style="list-style-type: none"> • FWB • No brace 	<ul style="list-style-type: none"> • Full A/PROM 	<ul style="list-style-type: none"> • Continue and advance all Phase 5 strengthening activities • Balance training: continue from Phase 5 • Aerobic conditioning: increase resistance as necessary below threshold of knee pain • Clearance from Dr. Ridley prior to return to sport

RETURN-TO-SPORT CRITERIA:

- No functional complaints
- Radiographic healing on x-ray
- Confidence when running, cutting, jumping at full speed
- 90% isometric quadriceps strength
- 90% contralateral values on hop tests
 - Clearance to return to sport dependent upon progress with PT and discussion with Dr. Ridley