



POSTOPERATIVE REHABILITATION PROTOCOL FOLLOWING HIGH TIBIBAL OSTEOTOMY

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STAGE	AIMS	TREATMENT GUIDELINES
Stage I Acute Recovery Week 1-4	<ul style="list-style-type: none"> To facilitate bony union of fracture site To retain range of motion Minimise concurrent postoperative complications Minimise muscular atrophy 	<ul style="list-style-type: none"> Remain touch weight bearing on crutches until at least 4 weeks Brace to remain on at all times until 4 weeks postop Instruction regarding use of crutches Reduction of swelling and pain using ice, elevation and co-contractions Active non-weight bearing range of motion exercises to encourage ROM Static co-contraction exercises at full extension, 30 and 60 degrees knee flexion
Stage II 4-6 Weeks	<ul style="list-style-type: none"> Facilitation of bony union Restoration of muscular strength and range of motion 	<ul style="list-style-type: none"> Continue exercises as above, may increase weight bearing status as instructed Brace may be removed under physiotherapist guidance for active ROM exercises, low resistance full circle pedalling on an exercise bike, hip ab/adduction, flexion/extension and glut medius exercises Hydrotherapy/deep water running/lap swimming
Stage III 6-12 weeks	<ul style="list-style-type: none"> Restoration of normal gait pattern Ability to weight bear dependant on x-ray appearance 	<ul style="list-style-type: none"> Gait retraining focusing on correct heel strike/toe off and VMO activation during stance Aim for a full range of motion using active and passive techniques Encourage VMO activation with co-contraction and biofeedback techniques. Progress by increasing repetitions, length of contraction and dynamic conditions Hamstring strengthening with static weight bearing co-contractions progressing to active free hamstring contractions then to resisted hamstring strengthening Gym equipment can be introduced such as stationary bike (encourage daily), stepper, leg press, mini trampoline, cross trainer with minimal resistance Continuation and progression of pool exercises Muscle tightness can be addressed with soft tissue techniques and stretching particularly hamstrings and calf muscles Open chain exercises should be avoided, rather use closed chain exercises performed with co-contraction of hamstrings and quadriceps which lessen the patello-femoral joint forces and ensure more functional stresses on the joint and entire limb Once sufficient quadriceps strength commence functional eccentric quads exercises such as steps downs starting with a ~10cm high platform and increasing height as progresses Treat beyond the knee joint for any deficits, e.g. gluteal control, tight hamstrings, ITB, gastrocs and soleus, etc.
Stage IV 12 Weeks +	<ul style="list-style-type: none"> Continuation of functional rehabilitation 	<ul style="list-style-type: none"> Progress co-contractions to more dynamic movements, e.g. step lunges, half squats, wall squats Start cycling on normal bicycle Progress resistance on gym equipment such as exercise bike, rower, cross trainer Ensure successful gait restoration or continue instructions as above Pool work can include using flippers.