



Lyman Orthopedics

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REHABILITATION PROGRAMME FOR HIGH TIBIAL OSTEOTOMY. DR LEO PINCZEWSKI

STAGE	AIMS	TREATMENT GUIDELINES
Stage I Acute Recovery Week 1-4	To facilitate bony union of fracture site Minimise concurrent postoperative complications Minimise muscular atrophy	Remain NWB on crutches until at least 4 weeks Brace to remain constantly insitu until 6 weeks postop Instruction regarding use of crutches NWB Reduction of swelling and pain using ice, elevation, co-contractions Static cocontraction exercises at full extension, 30 and 60 degrees knee flexion
Stage II Week 4-6	Facilitation bony union through PWB	Continue exercises as above Commence partial weight bearing <i>within pain free threshold</i> . May progress to full weight bearing by week 6 if pain free Gait training with crutches focusing on correct heel strike/toe off
Stage III Week 6-12	Restoration of normal gait pattern Restoration of muscular strength and ROM	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 cocontraction 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 Pool work starting with deep water running. Swimming with pool buoy progressing to free kicking 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 full ROM achieved commence rower Gym equipment can be introduced such as stationary bike, stepper, leg press, mini trampoline, cross trainer with minimal resistance 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 +	Continuation of functional rehabilitation	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 reduction or continue instruction as above Pool work can include using flippers.