



## POSTOPERATIVE REHABILITATION PROTOCOL FOLLOWING CLOSING WEDGE HIGH TIBIAL OSTEOTOMY

Leo Pinczewski, Justin Roe, Lucy Salmon & Claire Monk, NSOSMC.

Mater Clinic, Suite G02, 3 Gillies Street Wollstonecraft NSW 2065. Australia. Tel 02 9437 5999.

www.leopinczewski.com.au

STAGE	AIMS	TREATMENT GUIDELINES
<b>Stage I</b> <b>Acute Recovery</b> <b>Weeks 1-2</b>	<ul style="list-style-type: none"> <li>▪ To facilitate bony union of fracture site</li> <li>▪ Minimise concurrent postoperative complications</li> <li>▪ Minimise muscular atrophy and maintain bone density</li> </ul>	<ul style="list-style-type: none"> <li>▪ Brace to remain on at all times for 6 weeks postop</li> <li>▪ Toe touch weight bearing (TTWB) on crutches – pain is guiding factor</li> <li>▪ Instruction regarding use of crutches with TTWB</li> <li>▪ Reduction of swelling and pain using ice, elevation and exercises</li> <li>▪ Exercises instructed from day 1 postop: static quad contractions; isometric co-contractions of quads and hamstrings simultaneously in full extension, 10 and 20 degrees of flexion; straight leg raises (do not lift heel up off surface if unable to maintain full knee extension); ankle and hip ROM exercises</li> <li>▪ NOTE: if lumbar pain is experienced, cease exercises and seek physiotherapy advice</li> </ul>
<b>Stage II</b> <b>Sub-Acute Recovery</b> <b>Weeks 3-6</b>	<ul style="list-style-type: none"> <li>▪ Facilitation of bony union through pain free partial weight bearing (PWB) with crutches</li> <li>▪ Minimise concurrent postoperative complications</li> <li>▪ Minimise muscular atrophy and maintain bone density</li> <li>▪ Achieve weight bearing with 50% body weight through affected limb by week 6 postop</li> </ul>	<ul style="list-style-type: none"> <li>▪ Continue exercises as above</li> <li>▪ Commence PWB on crutches adding 10-15% of body weight through affected limb per week (this can be tested using bathroom/kitchen scales)</li> <li>▪ Once able to weight bear with 50% of body weight through affected limb, you can mobilise with one crutch (used on the opposite side)</li> </ul>
<b>Stage III</b> <b>Weeks 7-12</b>	<ul style="list-style-type: none"> <li>▪ To achieve full weight bearing</li> <li>▪ Restoration of normal gait pattern</li> <li>▪ Restoration of muscular strength and range of motion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gait retraining focusing on correct heel strike/toe off and VMO activation during stance</li> <li>▪ Aim for a full range of motion using active and passive techniques</li> <li>▪ Encourage VMO activation with co-contraction and biofeedback techniques. Progress by increasing repetitions, length of contraction and dynamic conditions</li> <li>▪ Hamstring strengthening with static weight bearing co-contractions progressing to active free hamstring contractions then to resisted hamstring strengthening</li> <li>▪ Gym equipment can be introduced such as stationary bike (encourage daily), stepper, leg press, mini trampoline, cross trainer with minimal resistance</li> <li>▪ Pool work starting with deep water running. Swimming with pool buoy progressing to free kicking</li> <li>▪ Muscle tightness can be addressed with soft tissue techniques and stretching particularly hamstrings and calf muscles</li> <li>▪ 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</li> <li>▪ Once full ROM achieved, commence rower</li> <li>▪ Once sufficient quadriceps strength achieved, commence functional eccentric quad exercises such as step downs starting with a ~10cm high platform and progress by increasing the height of the step</li> <li>▪ Treat beyond the knee joint for any deficits, e.g. gluteal control, tight hamstrings, ITB, gastrocs and soleus, etc.</li> </ul>
<b>Stage IV</b> <b>Weeks 13 +</b>	<ul style="list-style-type: none"> <li>▪ Continuation of functional rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure successful gait restoration or continue instructions as above</li> <li>▪ Progress co-contractions to more dynamic movements, e.g. step lunges, half squats, wall squats</li> <li>▪ Start cycling on normal bicycle</li> <li>▪ Progress resistance on gym equipment such as exercise bike, rower, cross trainer</li> <li>▪ Pool work can include using flippers</li> </ul>