



STAGE	AIMS	TREATMENT GUIDELINES
Prehabilitation	<ul style="list-style-type: none"> • Prepare the patient for surgery • Optimise ROM and strength • Teach simple post op exercises 	<ul style="list-style-type: none"> • Operate on pain free mobile joints – minimizes complications and speeds recovery • Preprogramming post operative rehabilitation is beneficial at every level • Patients are better able to manage postoperative exercises if they have learnt them before surgery
Stage I Acute Recovery Week 1-2	<ul style="list-style-type: none"> • Post-operative pain relief and management of soft tissue trauma. • Commence gait retraining. • Minimise muscular atrophy • Minimise muscular tightness • Minimise swelling • Achieve full range of motion as tolerated • Minimise concurrent postoperative complications 	<ul style="list-style-type: none"> • Analgesic use as required • Reduction of pain and swelling using ice, elevation, co-contractions • WBAT on crutches as required, progress to unaided full weight bearing as pain and strength allows. • Static co-contraction exercises at full extension and 30 degrees knee flexion in neutral and internal hip rotation, with biofeedback if possible • Soft tissue treatment to tight lateral structures, hamstrings and calf muscles • Active range of motion exercises encouraged. Commence use of a stationary bike as soon as tolerated • AVOID: Quadriceps exercises in external hip rotation, open chain quadriceps exercises, patellofemoral mobilisations, full weight bearing until sufficient muscular control
Stage II 3-6 Weeks	<ul style="list-style-type: none"> • Regain muscular strength and flexibility • Normalise gait • Regain full range of motion • Reduce any persistent or recurrent effusion and muscular tightness 	<ul style="list-style-type: none"> • Progress co-contraction exercise to eccentric quadriceps in weight bearing positions • Commence/progress full weight bearing with gait re-education focusing on correct heel strike/toe off • Continuation of active range of motion exercises to regain full range of motion • Gym equipment such as stationary bike, leg press to 45° flexion with low resistance and mini trampoline • Continuation of ice and elevation. Soft tissue treatment and scar massage • AVOID: Quadriceps exercises in external hip rotation, open chain quadriceps exercises, patellofemoral mobilisations
Stage III 6-12 weeks	<ul style="list-style-type: none"> • Restoration of muscular strength and range of motion • Improve neuromuscular control and proprioception 	<ul style="list-style-type: none"> • Continue quadriceps and co-contraction exercises encouraging VMO activation. Progress by increasing repetitions, length of contraction and dynamic conditions • Full range of motion using active and passive techniques • Eccentric quadriceps exercises in external hip rotation may be commenced only after sufficient VMO strength to perform eccentric quads in neutral hip rotation from 10cm step, 10 reps X 3 sets without fatigue • Commence stepper, rower and cross trainer, pool work once sufficient ROM and quadriceps control • Commence proprioceptive and balance training eg wobble board • Treat generalised lower limb deficits, e.g. gluteal control and flexibility, hamstrings flexibility, ITB, gastrocs and soleus, etc. • AVOID: open chain quadriceps exercises, patellofemoral mobilisations
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 • Patellofemoral taping should be introduced and continued for 1 year following surgery during sporting activities • Introduce sport specific activities for strengthening and agility. Progress to hopping and jumping activities emphasising good landing technique. Incorporate lateral movements • Start cycling on normal bicycle • Progress resistance on gym equipment such as exercise bike, rower, cross trainer • Pool work can include using flippers. • AVOID: continue to avoid open chain quadriceps exercises which increase the patella-femoral joint forces