



STAGE	AIMS	TREATMENT GUIDELINES
Stage I	Minimise muscular atrophy	Static cocontraction exercises at full extension and 30 degrees knee flexion in neutral and internal hip rotation, with biofeedback if possible
Acute Recovery	Minimise muscular tightness	Soft tissue treatment to tight lateral structures, hamstrings and calf muscle
Week 1-2	Minimise swelling To achieve full range of motion as tolerated Minimise concurrent postoperative complications	Reduction of swelling and pain using ice, elevation, co-contractions Active range of motion exercises to encourage ROM Commence use of stationary bike as soon as tolerated WBAT on crutches as required, instruction regarding same AVOID: Quadriceps exercises in external hip rotation, open chain quadriceps exercises, patellofemoral mobilisations, full weight bearing until sufficient muscular control
Stage II Week 3-6	Regain muscular strength and flexibility Normalise gait Regain full ROM	Progress cocontraction exercise to eccentric quadriceps in weight bearing positions, Gym equipment such as stationary bike, leg press to 45 degrees flexion, mini tramp with low resistance Soft tissue treatment to tight lateral structures, hamstrings and calf muscle Scar massage Commence full weight bearing with gait reeducation focusing on correct heel strike/toe off Active range of motion exercises to regain full range of motion AVOID: Quadriceps exercises in external hip rotation, open chain quadriceps exercises, patellofemoral mobilisations
Stage III Week 6-12	Restoration of muscular strength and ROM	Continue quadriceps and cocontraction 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

Continuation of functional rehabilitation

Progress co-contractions to more dynamic movements, e.g. step lunges, half squats, wall squats

12 weeks +

Patellofemoral taping should be introduced and continued for 1 year following surgery during sporting activities

Introduce sport specific activities for strengthening and agility

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 patellofemoral joint forces