

REHABILITATION PROGRAMME FOR PATELLOFEMORAL RECONSTRUCTION.

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STAGE	AIMS	TREATMENT GUIDELINES
Stage I	Minimise muscular atrophy	Static co contraction 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	Reduction of swelling and pain using ice, elevation, co-contractions.
	To achieve full extension and flexion to 90°	Active range of motion exercises to encourage ROM as permitted by brace (if used).
	Minimise concurrent postoperative complications	If brace is used to remain insitu until instructed by Dr Roe. Remain PWB on crutches for 2 weeks, 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	Regain muscular strength and flexibility	Progress co contraction 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.
Week 3-6	Normalise gait	Commence full weight bearing with gait re-education focusing on correct heel strike/toe off.
	Regain full ROM	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	Restoration of muscular strength and ROM	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
Week 6-12	Restoration of proprioceptive control	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
