

EARLY PHASE – 0 to 3 WEEKS

TIME FRAME	BRACING/ WEIGHTBEARING	TREATMENT	EXERCISES
Week 1	PWB as comfortable Brace 0° - 60° during day Brace locked at 0° at night REST at home, avoid swelling	Physio daily or 3 x per week PFJ mobilisation Gentle soft tissue release hamstrings, popliteus and gastrocs Extension mobs as required (check ROM in prone hang position) Electrical stims or EMG biofeedback for static quads Interferential, ice, cryocuff to control pain and swelling Gait training with crutches	TORTURE PILLOW 10 – 15 MIN/PRONE HANG STATIC QUADS IN EXTENSION HEEL SLIDES SUPINE ACTIVE FLEX/EXTENSION OVER EDGE OF BED/CHAIR – NO RESISTANCE RESISTED PLANTARFLEXION WITH THERABAND GLUTEAL SQUEEZES PRONE (HEP – REMOVE BRACE AND REPEAT EXERCISES 3 X PER DAY)
Week 2	PWB/FWB depending on muscle control and gait pattern Increase flexion range of brace as patient gains active range	Physio 2 – 3 x per week Continue Rx as above Ensure FULL active and passive extension Aim to achieve 60° of knee flexion Continue local Rx for posterior structures, hamstrings spasm and bruising	START CO-CONTRACTION OF QUADS AND HAMSTRINGS WITH HEEL SLIDES WALL SLIDES WITH CO-CONTRACTION RESISTED HIP ABDUCTION, ADDUCTION AND EXTENSION – standing with theraband STATIONARY CYCLING (rocking and uninvolved leg) ROWING GENTLE CALVE STRETCHES POSTURAL STABILISERS AND UPPER BODY CONTINUE TORTURE PILLOW AND STATIC QUADS
Week 3	FWB with one crutch Brace at available flexion range If full extension is being maintained, discontinue using brace at night	Physio 2 x per week Work toward 70° - 90° of knee flexion Continue Rx as necessary	ACTIVE HAMSTRING CURL IN PRONE IF PAIN FREE – GRADUATE RESISTANCE GENTLE HAMSTRING STRETCHES DOUBLE LEG HEEL RAISES LEG PRESS WITH THERABAND – WITH GOOD ALIGNMENT INCREASE ENDURANCE AND REPITITIONS OF EXERCISES WEEK 2

INTERMEDIATE PHASE – 4TH TO 10TH WEEK

TIME FRAME	BRACE/ WEIGHTBEARING	TREATMENT	EXERCISES
Week 4	FWB If good muscle control – discontinue brace If FWB and good control of knee – start driving DRIVING READINESS: Sit to stand x 6 in 10 sec Step test 15 x in 10 sec	Continue as necessary	INTRODUCE PROPRIOCEPTION Wobble board 2 legs 1 leg balance – throw catch ball 7-4-7 Start swimming – no breast stroke Sitting on 65cm ball, lift uninvolved leg an balance with affected leg (good for co contraction and postural stabilisers)
Week 5 & 6	As above Should have normal gait pattern	Continue as necessary	Balancing on 1 leg on trampoline (add throw and catch ball, 7-4-7 etc.) Swiss slide (side/side, cross country ski) Stand with uninvolved foot on 65cm ball and move it around Single leg wall slides Increase reps and resistance on all previous exercises
Week 7 - 10	10 weeks milestones: Full ROM Should be able to stand on one leg with eyes shut Quads strength: Leg press = 3 x 15 reps @ 70% of 1 rep max Hamstring strength: Hamstring curl = 3 x 15 reps @ 50% of 1 rep max	Attend 1 x per week if milestones met	INTRODUCE GYM PROGRAM (attend 3-4 x per week) Cycling, rowing , stairmaster – build to 15 – 20 min Hamstring curls Seated leg press Abd and adduction Calf raises Lunges Abdominals Where possible, do resistance exercises with separate legs Gentle jog on trampoline Lying with ball under upperback, lift uninvolved leg.

LATE PHASE – 11 to 16 weeks

TIME FRAME	TREATMENT	ADDITIONAL EXERCISES	PROPRIOCEPTION AND AGILITY
Week 10 - 12	<p>Physio every 2 – 3 weeks as necessary to progress exercise program</p> <p>Check ROM every time</p>	<p>Open chain extensions – start from 90°- 50° and progress with 10° further extension every week</p> <p>Standing hip extensions</p> <p>Squats</p> <p>Stretches – hamstrings, quads, soleus, gastrocs, adductors, abductors</p>	<p>Hopping on trampoline – double leg, progress to single leg</p> <p>Progress by adding hopping forwards/backwards, side/side and turning both directions</p> <p>Running – if week 10 milestones have been met: Start on grass or treadmill Progress to track (run straights, walk curves) Run full track</p> <p>Monitor pain and swelling</p>
Week 12 – 16	<p>As above</p> <p>Quads strength: Leg press = 3 x 15 reps @ 80% of 1 rep max</p> <p>Hamstring strength: Hamstring curl = 3 x 15 reps @ 60% of 1 rep max</p>	<p>Swimming can include a harder kick, but still no breast stroke</p> <p>Golf – start at driving range (8 iron) Progress to full round at week 14 – 16</p> <p>Increase resistance and repetitions of previous exercises</p>	<p>Progress to road running if able to run 3 km without swelling – can take up to 2 months to achieve. Only then increase distance</p> <p>Skipping – double leg, progress to single leg</p> <p>Commence agility work – figure of 8, zig zag etc.</p>

FINAL PHASE – 4 to 8 Months

TIME FRAME	TREATMENT	ADDITIONAL EXERCISES	PROPRIOCEPTION AND AGILITY
4 – 6 Months	Refer to biokinetics for final stage rehab	Isokinetic testing useful to fine tune strengthening program Eccentric quads Functional training	Hopping on ground: Double leg, progress to single Increase height and distance Hopping patterns (side/side, forward/backwards, over object) Multidirectional running activities Plyometrics (if PFJ is fine)
6 – 9 Months	Biokinetics	Sport specific drills: Use ball Individual play One on one contact Training game situations Full lower level match Return to pre injury level	Accelerations/ deceleration running drills Downhill running.

Testing:

One leg hop test

80 – 100% of uninjured side

Quads and Hamstring strength

90% of 1 rep max

Isokinetic testing

Quads = 85%, and Hamstrings = 90% of uninjured side (concentric and eccentric)