



KNEE REHABILITATION PROGRAMME

Surgery Performed:

Date of Surgery:

Rehabilitation consists of:

- Daily exercises (done 2 to 3 times daily).
- Stretching (to be done daily).
- Strength training (3 / 4 times weekly) starting week 3.
- Balance exercise / Perturbation training.
- Plyometric exercise.
- Sport specific activity and drills.

Range of Motion Goals:

	1 to 2 weeks	3 to 4 weeks	5 to 6 weeks	6 to 12 weeks
Passive				
Active				

Weight Bearing:

	1 to 2 weeks	3 to 4 weeks	5 to 6 weeks	6 to 12 weeks
Touch WB				
Partial WB				
Full WB				

Brace:

	1 to 2 weeks	3 to 4 weeks	5 to 6 weeks	6 weeks and onwards
Range Setting				



Cardiovascular:

	1 to 2 weeks	2 to 4 weeks	4 to 6 weeks	6 to 12 weeks	12 to 16 weeks	16 weeks and onwards
Stationary bike						
Treadmill						
Road bike						
Elliptical machine						
Swimming (crawl)						
Jogging in a straight line						
Running on uneven surface						
Biokinetics						
Golf						
Contact sport						
Cutting drills						

<p>Phase I</p>	<ul style="list-style-type: none"> • Daily exercises: <ul style="list-style-type: none"> ○ Foot pump exercise. ○ Self-tightening quads. ○ VMO activation in prone lying (tummy lying). ○ SLR – back lying. Progress to long sitting. ○ Heel slide. ○ Clam exercise (if pain-free). ○ Hip abduction – side lying, knee 90° (progress to knee extended). ○ Knee extension standing with theraband. ○ Hip extension standing. ○ Hip abduction in standing. ○ Hip flex (straight knee) standing. ○ Wall slide (once daily only). ○ Toe raises. ○ Balance, toe standing both legs.
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	<ul style="list-style-type: none"> ○ Balance, flat foot one-leg. ○ RICE. ○ Stretch: Passive knee extension – ‘torture pillow’ (20 minutes, 3 times daily). <p>All exercises 3 x 8 to 15.</p>
Phase II	<ul style="list-style-type: none"> ● Daily exercises: <ul style="list-style-type: none"> ○ Self-tightening quads. ○ SLR – lying or sitting (add ankle weight if necessary). ○ VMO sitting on a chair. ○ VMO in long sitting. ○ Heel slide. ○ Hip abduction – side lying, knee extended (add ankle weight when ready). ○ Hip extension / abduction in standing (add ankle weights when ready). ○ Gluteus medius – side lying, hip in external rotation (toes pointing up). ○ Back lying wall slide. ○ Knee open chain extensions (range of movement = _____) ● Stretching: <ul style="list-style-type: none"> ○ Dynamic stretching, sciatic nerve. ○ Passive knee extension stretch (‘torture pillow’). ○ Stretching of hamstrings, quadriceps, calves and iliotibial band (use towel for quads if necessary). ● RICE. ● Stationary bike (no resistance, _____ minutes daily). ● Strength exercise: <ul style="list-style-type: none"> ○ Mat exercise -1: Buttocks (gluteus maximus): Repeated bridge with feet firmly on the floor. Progress to bridge on heels. ○ Mat exercise 1: Strengthen buttocks: one leg pelvis lift (bridge) – repeat lifts. ○ Mat exercise -2: Hamstrings: Bridge and hold position “shift” feet back / forth 1 – 2 cm. ○ Mat exercise 2: Strengthen hamstrings: one leg pelvis lift (bridge) and hold for 15 seconds, progress to curling toes up and balancing on heel (week 5). ○ Mat exercise 3: Strengthen quads, hands on floor, one leg standing, knee flex (difficult exercise) – week 5 only. ○ Hamstring exercise 1 in prone (inner to middle range only). ○ Step-ups – forward and side. ○ Squats - _____°. ○ Wall slide - _____°. ○ Toe raises. ○ Walking on treadmill backwards. <p>All exercises 3 x 15.</p>



	<ul style="list-style-type: none"> ● Perturbation training: <ul style="list-style-type: none"> ○ Balance on one leg, open and closed eyes (hold for 10 second intervals). ○ Balance on wobble board – both legs (hold for 10 second intervals). ○ Balance standing on operated leg, slide good leg front / back and side.
Phase III	<ul style="list-style-type: none"> ● Stretching: <ul style="list-style-type: none"> ○ Passive knee extension stretch. ○ Stretch hamstrings, quadriceps, iliotibial band and calves. ○ Dynamic knee stretch – sciatic nerve. ● RICE. ● Stationary bike – increase duration and resistance as tolerated. ● Strength exercises: <ul style="list-style-type: none"> ○ Mat exercise 1+ buttock – using step. ○ Mat exercise 2+ hamstrings – pelvic lift and slide both feet or “run” on heels. ○ Mat exercise 3+ quads – knee to touch floor. ○ Hamstring exercise 1+ in prone with light weight / theraband (TB). Progress to outer range. ○ Hamstring curls in standing position with theraband (TB). Progress through ranges. ○ Additional hamstring exercises – supine lying, pelvic lift using big gym ball, pull ball towards buttocks. Progress through range. ○ Leg extensions / leg abduction in standing (ankle weights if necessary). ○ Gluteus medius exercises: <ul style="list-style-type: none"> 1. Side lying leg lifts (toes pointing upwards). 2. Figure 4 in (lying / standing). 3. 7 4 7 drill. 4. One-leg squat “hand to floor”. ○ Squat – _____° to _____° as pain allows. ○ Wall slide – _____° to _____°. ○ Step-ups / Step-downs. ○ One leg squats off step. ○ Squats on incline board. ○ ‘Crab-walking’. ○ Toe raises. ○ Abduction / adduction (abd. / add.) machine at the gym. ○ Leg Press (range of movement = _____). ○ Knee extensions (range of movement = _____). ● Perturbation training: <ul style="list-style-type: none"> ○ Advance exercises: <ul style="list-style-type: none"> ▪ Skateboard. ▪ One leg standing – flex trunk forward / back. ▪ 7 4 7 drill.



	<ul style="list-style-type: none"> • Trampoline work. All exercises 3 x 15.
Phase IV	<ul style="list-style-type: none"> • Daily stretching: <ul style="list-style-type: none"> ○ Stretch of quads, hamstrings, iliotibial band and calves. • Strength exercises: <ul style="list-style-type: none"> ○ Mat exercise 1++ buttock - using ball – hands behind head. ○ Mat exercise 2++ hamstring – pelvic lift and one leg slide (good leg off the floor). ○ Mat exercise 3++ quads, hands standing on one leg, knee flex off step. ○ Hamstring exercise 1++ in prone with weight. ○ Hamstring curls in standing with weight. ○ Hamstring exercise using gym ball. ○ Squats (introduce weight). ○ One leg squat. ○ Wall slides (introduce weight). ○ Gluteus medius exercise (add weights). ○ Leg extensions / abduction in standing (increase weight). ○ Leg press. Consult with your physiotherapist regarding range of movement for this exercise. (Range of movement = _____). ○ Toe raises. ○ Abduction / adduction machine. ○ Knee extensions (range of movement = _____). • Perturbation training: <ul style="list-style-type: none"> ○ Balance 1 leg, bend down 3-12-9 o' clock. ○ Balance 1 leg on wobble board – head rotation / ball game. ○ Advanced balance exercise on skateboard.
Phase V	<ul style="list-style-type: none"> • Strength training 3 to 4 time weekly with physio and at gym: <ul style="list-style-type: none"> ○ Mat exercise 1, 2 and 3 as per week 9, 10 and 11. ○ Hamstring exercise 1 in prone – can use gym machine. ○ Hamstring curl machine at gym (sitting / standing). ○ Leg extensions / abduction with bands or weights. ○ Squats and wall slides – increase weight / one leg wall slide. ○ Dead lifts – be careful with correct technique. ○ Leg press – concentric work both legs, eccentric work operated leg only (range of movement = _____). ○ Toe raises. • Stretching. • Advanced perturbation training. • Plyometric training: (Only if patient is pain free on these exercises) <ul style="list-style-type: none"> ○ Side / forward / back jumps over towel – 2 legged – progress to operated leg only when tolerated. ○ Twist both legs (soft knee). ○ Jump-ups sideways, 1 leg – onto step. ○ Jump-ups forwards / backwards, 1 leg onto step. ○ Skipping forwards 30m. ○ Skipping with rope.
Phase VI	<ul style="list-style-type: none"> • Strength training: <ul style="list-style-type: none"> ○ Squats and wall slides:



	<ul style="list-style-type: none"> ▪ Increase weight. ▪ Squat with one leg – introduce weight when tolerated. ▪ Variation squats, i.e. non-affected leg up on chair – squat with jump. ▪ Squat on wobble board. ○ Leg press – increase to more explosive exercise. ○ Hamstring curls prone / sitting / standing using machine – increase weight. ○ Toe raises – increase weight. ○ Dead lifts – increase weight. ○ Lunges - progress to weight and reverse lunges. ● Advanced perturbation training. ● Plyometric training: <ul style="list-style-type: none"> ○ One leg sideways and forwards onto step, increase pace and step height. ○ Plyometric jumps “Burpies”. ○ High jumps. ○ Combination jumps. ● Running: <ul style="list-style-type: none"> ○ Circle. ○ Skate and direction change. ● Sport specific drills. ● Agility drills, i.e. cones, figure-of-eight.
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Good luck with your rehabilitation.

