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## PCL Non operative treatment Protocol

Time following injury	Goal	Precaution	Treatment	Weight bearing/ROM/brace
Phase 1 (0 to 6 weeks)	<p>PCL protection</p> <p>Oedema reduction to improve passive ROM and Quadriceps activation</p> <p>Address gait mechanics</p> <p>Patient education</p>	<p>Protect, Rest, Ice, Compress, Elevate</p> <p>Avoid isolated hamstring exercise until week 12</p> <p>Avoid hyperextension</p> <p>Prevent posterior translation</p>	<p>Patellar Mobilisation</p> <p>Prone passive ROM (Fig 1)</p> <p>Quadriceps activation: Quadriceps sets; SLR once the quadriceps are able to lock joint in terminal extension and no lag is present</p> <p>Gastronemius stretching</p> <p>Hip abduction/adduction</p> <p>Stationary bike with zero resistance when ROM&gt;115</p> <p>Wt shifts to prepare for crutch weaning</p> <p>Pool walking to assist with crutch weaning</p> <p>Calf raises and single leg balance when weaned from crutches</p> <p>Upper body and core strength as appropriate</p>	<p>Partial weight bearing with crutches 2 weeks</p> <p>Prone passive ROM from 0 to 90 for first 2 weeks and then progress to full ROM Brace.</p> <p>PCL brace to be worn at all times (12 weeks)</p>
Phase 2 (6 to 12 weeks)	<p>PCL ligament protection</p> <p>Full ROM</p> <p>Gait mechanics adjustment</p> <p>Double leg strength</p> <p>Reps and set structure to emphasize muscular endurance development</p>	<p>Continue avoidance of hyperextension</p> <p>Prevent posterior translation</p> <p>Limit double leg strengthening exercises to no more than 70 degree</p>	<p>Continue PRICE protocol</p> <p>Continue exercises as week 1-4</p> <p>Leg press limited to 0-70 degree (fig 2)</p> <p>Gastronemius and light Hamstring stretching</p> <p>Static lunge (fig 3)</p> <p>Hamstring ridge on ball with knees extended (fig 4)</p> <p>Progressive resistance stationary bike</p> <p>Light kicking in pool</p> <p>Incline treadmill walking (7-12% incline)</p> <p>Single leg dead lift with knee extended (Fig 5)</p> <p>Proprioceptive and balance exercises</p>	<p>Wt bearing as tolerated</p> <p>Full ROM</p> <p>PCL brace at all times</p>
Phase 3 (13 to 18 weeks)	<p>Reps and set structure to emphasise muscular strength development</p> <p>Progressive ROM strength to beyond 70% knee flexion</p> <p>Prepare athlete for sport-specific activity</p> <p>At the end of phase clinical and objective assessment with stress radiograph.</p>		<p>Double leg press with progression to single leg (Fig 2)</p> <p>Single leg knee bends</p> <p>Balance squats (Fig 6)</p> <p>Single leg dead lift (Fig 5)</p> <p>Single leg bridges starting during week 16</p> <p>Continuous bike and treadmill walking</p>	<p>Discontinue brace</p> <p>Running allowed when sufficient strength and stability with functional exercise (Quadriceps girth equal to or greater than 90% of opposite side.</p> <p>When running progression is achieved single plane agility with progression to multi-plane agility</p>
Phase 4 (19 weeks +)			<p>Continue as above</p> <p>Set and reps structure to emphasise muscle power development</p>	<p>Non contact sports</p> <p>Contact sports when: greater than 85%-90% normal quadriceps strength; No evidence of instability or give way; Greater than 90% functional on return to sports testing; Mentally prepared Athlete</p>