

## RJAH ACL Reconstruction Guide

Patient Details:

Co-morbidity:

Note to Therapist:

*\*This is a guide to progression, not an exhaustive list of rehabilitation and does not replace clinical reasoning.*

*\*Treat any soft tissue symptoms on their merit.*

*\*Objective Tests can be used as an indication for progression.*

*\*Special Instruction(s) includes specific post-operative advice for the individual patient based on their surgeon's recommendation (as applicable). This will be completed on discharge or follow-up clinic appointments.*

PHASE OF REHABILITATION	IDEAL CRITERIA	REHABILITATION GUIDE	GOALS	OBJECTIVE TEST	SPECIAL INSTRUCTION
<b>PHASE 1</b>  <b>From Day 1</b>	<ul style="list-style-type: none"> <li>○ Successful operative outcome</li> <li>○ Adequate pain relief</li> <li>○ Understands post-op instructions</li> </ul>	<ul style="list-style-type: none"> <li>• Cryocuff/Ice</li> <li>• Patella mobilisations [if PTG]</li> <li>• EOR E mobilisations</li> <li>• H and calf stretches [care if H graft]</li> <li>• Ankle Exercises (e.g. heel raises)</li> <li>• SQ progressing to SLR</li> <li>• Co-contraction Q and H</li> <li>• Prone SLR</li> <li>• Mini squats/ small knee bends</li> <li>• Weight transferring</li> <li>• Elbow crutches for comfort</li> </ul>	<ol style="list-style-type: none"> <li>1. Reduce inflammation</li> <li>2. Gain terminal E</li> <li>3. Promote distal circulation</li> <li>4. Gradually regain ROM</li> <li>5. Increase confidence</li> <li>6. Promote early mobility</li> </ol>		

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<b>PHASE 2</b>  <b>From Week 1</b>	<ul style="list-style-type: none"> <li>○ Full active and passive E</li> <li>○ Mobilise independently +/- aids</li> </ul>	<ul style="list-style-type: none"> <li>• Static Bike or Turbotrainer no/low resistance as tolerated (part revolution → full revolution as symptoms dictate)</li> <li>• Gradually increase weight-bearing</li> <li>• Independent gait re-education</li> <li>• Low step-touch → step-up → step over [avoid 'heavy' eccentric Q if PTG]</li> <li>• Active OKC Q 90° - 45°</li> <li>• Other muscle groups not to be neglected</li> <li>• Upper body active exercise → resis/reps/sets/speed</li> </ul>	<ol style="list-style-type: none"> <li>1. Promote early function</li> <li>2. Increase ROM</li> <li>3. Encourage FWB</li> <li>4. Improve muscular control</li> </ol>	AROM  PROM  SLR  Effusion	

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<b>PHASE 3</b>  <b>From Week 2</b>	<ul style="list-style-type: none"> <li>Minimal discomfort</li> <li>FWB</li> <li>SLR with no lag</li> <li>AROM = Full E - <math>\geq 100^\circ</math></li> </ul>	<ul style="list-style-type: none"> <li>Gait with predictable changes in direction</li> <li>Prone auto-over press F <math>\rightarrow</math> develop into Q stretch</li> <li>Step-ups (for/back/sideways/over) <math>\rightarrow</math> height/reps/speed</li> <li>PWB (parallel bars) jumps, hops, leaps <math>\rightarrow</math> control technique/speed/reps</li> <li>Leg Press/Squats <math>\rightarrow</math> resis/reps/sets/speed</li> <li>Proprioception <math>\rightarrow</math> single leg stance/wobble boards/Trampoline/crash mats/etc.</li> <li>Gymball and Theraband work</li> <li>Lower body active exercise [exception of OKC Q. Respect Q or H graft site as applicable] <math>\rightarrow</math> resis/reps/sets/speed</li> <li>Muscle balance exercises as appropriate</li> <li>Core stability exercises as appropriate</li> <li>Flexibility exercises as appropriate</li> <li>Rowing <math>\rightarrow</math> dist./speed/resis</li> <li>X-Trainer <math>\rightarrow</math> dist./speed/resis</li> <li>Hydrotherapy (AVOID breaststroke leg kick until Month 3)</li> </ul>	<ol style="list-style-type: none"> <li>Progress functional activities</li> <li>Prevent AKP</li> <li>Prevent scar adherence</li> <li>Prevent joint stiffness</li> <li>Restore normal gait pattern</li> <li>Promote appropriate muscle strength, power and endurance</li> <li>Improve neuromuscular/proprioception/sensorimotor performance</li> <li>Maintain cardiovascular fitness</li> <li>Encourage patient compliance</li> </ol>	Single Leg Stance  Clam  Planks	

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<b>PHASE 3</b>  <b>From Week 6</b>	<ul style="list-style-type: none"> <li>○ Normal symmetrical gait</li> <li>○ Full AROM</li> <li>○ No/minimal effusion</li> <li>○ Single leg stance ≥80% parity</li> <li>○ Clams 10 reps with 10 sec hold ideal control [L] &amp; [R]</li> <li>○ Directional Planks 30 sec hold ideal control</li> </ul>	<ul style="list-style-type: none"> <li>• Train strength and endurance 3 – 4 x per week</li> <li>• Train strength and endurance on separate days</li> <li>• Have a minimum of 24 hours between strength days</li> <li>• Strength:               <ul style="list-style-type: none"> <li>10 – 20 min CV warm-up (exception of jogging/running)</li> <li>Choose a load 1 – 12 RM</li> <li>Choose numbers of sets and rest time between sets</li> <li>Alternate upper/lower body exercises within session</li> <li>Moderate to fast speed under control</li> <li>Vary load/set/rest between sessions [include OKC Q from week 10]</li> <li>Adjust if necessary based on symptoms</li> </ul> </li> <li>• Endurance:               <ul style="list-style-type: none"> <li>Gradually progress toward ≥45 min continuous CV exercise (exception of jogging/running)</li> <li>Choose a load 15 – 20 RM</li> <li>Choose numbers of sets and rest time between sets</li> <li>Alternate upper/lower body exercises within session</li> <li>Moderate to fast speed under control</li> <li>Vary load/set/rest between sessions [include OKC Q from Week 10]</li> <li>Adjust if necessary based on symptoms</li> </ul> </li> <li>• Add FWB double footed plyometrics from Week 10 → control technique/speed/reps</li> </ul>	<ol style="list-style-type: none"> <li>1. Promote appropriate strength, power and endurance based on individuals needs</li> <li>2. Improve neuromuscular performance</li> <li>3. Increase confidence</li> </ol>	Single Leg Squat 60°	

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<b>PHASE 4</b>  <b>From Week 12</b>	<ul style="list-style-type: none"> <li>Single Leg Squat 60° 5 sec hold with good alignment</li> </ul>	<ul style="list-style-type: none"> <li>Progress to single footed plyometrics as dictated by control</li> <li>Introduce jogging → running when Q strength and control is adequate</li> <li>Advance dynamic proprioceptive exercises e.g. volleying football, throwing, catching, racket and ball while balancing on trampette</li> </ul>	1. Sport specific function	Tuck Jump  5 RM  Hop for distance	
<b>Phase 5</b> <b>From Week 16</b>	<ul style="list-style-type: none"> <li>As a PHASE 4</li> </ul>	<ul style="list-style-type: none"> <li>Add agility drills [From Week 16] when sufficient control and confidence is achieved e.g. twist/turn/pivot/cut/accelerate/decelerate/direction Progress from predictable agility to unpredictable</li> <li>Perturbation training e.g. therapist randomly nudges patient off balance during a single leg throw-catch drill</li> </ul>	1. As PHASE 4	As PHASE 4	
<b>PHASE 6</b>  <b>From Week 20</b>	<ul style="list-style-type: none"> <li>Tuck Jump ≥ 60% quality</li> <li>5 RM &gt; 80% parity</li> <li>Hop for distance &gt;80% parity</li> </ul>	<ul style="list-style-type: none"> <li>Non-contact sport specific training → terrain/volume/periodisation</li> </ul>	1. Prepare neuromuscular and psychological ability to return to unrestricted function	As indicated for individuals goals	

## PHASE 7

From Week 24

- All Tests > 90% parity
  - Contact sport specific training
  - Earliest return to contact sport training
  - Progress to full restriction free sports and activities [**dependent on Consultant opinion**]
- 1. Unrestricted confident function
- 2. Injury prevention
- Full sporting function

### Terminology Key:

PTG	Patella Tendon Graft	PWB	Partial Weight Bear
EOR	End of Range	FWB	Full Weight Bear
E	Extension	ROM	Range of Movement
F	Flexion	AROM	Active Range of Movement
SLR	Straight Leg Raise	PROM	Passive Range of Movement
Q	Quadriceps	OKC	Open Kinetic Chain
H	Hamstrings	resis	Resistance
AKP	Anterior Knee Pain	reps	Repetitions
[L]	Left	RM	Repetition Maximum
[R]	Right	CV	Cardiovascular