

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 (not exhaustive) can be used as an indication for progression. The choice can be individualised for the patient.*

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

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

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PHASE 3 From Week 2	<ul style="list-style-type: none"> ○ Minimal discomfort ○ Resolving effusion ○ FWB ○ SLR with no lag ○ AROM = Full E - $\geq 100^\circ$ 	<ul style="list-style-type: none"> ● Gait with predictable changes in direction ● Prone auto-over press F → develop into Q stretch ● Step-ups (for/back/sideways/over) → height/reps/speed ● PWB (parallel bars) jumps, hops, leaps → control technique/speed/reps ● Leg Press/Squats → resis/reps/sets/speed ● Proprioception → single leg stance/wobble boards/Trampette/crash mats/etc. ● Gymball and Theraband work ● Lower body active exercise [exception of OKC Q. Respect Q or H graft site as applicable] → resis/reps/sets/speed ● Muscle balance exercises as appropriate ● Core stability exercises as appropriate ● Flexibility exercises as appropriate ● Rowing → dist./speed/resis ● X-Trainer → dist./speed/resis ● Hydrotherapy (AVOID breaststroke leg kick until Month 3) 	<ol style="list-style-type: none"> 1. Progress functional activities 2. Prevent AKP 3. Prevent scar adherence 4. Prevent joint stiffness 5. Restore normal gait pattern 6. Promote appropriate muscle strength, power and endurance 7. Improve neuromuscular/ proprioception/ sensorimotor performance 8. Maintain cardiovascular fitness 9. Encourage patient compliance 	<ul style="list-style-type: none"> Single Leg Stance Clam Planks Bridge Hurdle Step 	

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PHASE 3 From Week 6	<ul style="list-style-type: none"> ○ Normal symmetrical gait ○ Full AROM ○ No/minimal effusion ○ Single leg stance ≥80% parity ○ Clams 10 reps with 10 sec hold ideal control [L] & [R] ○ Directional Planks 30 sec hold ideal control ○ Bridge 10 reps with 10 sec hold ideal control ○ Controlled hurdle step ≥5 reps 	<ul style="list-style-type: none"> ● Train strength and endurance 3 – 4 x per week ● Train strength and endurance on separate days ● Have a minimum of 24 hours between strength days ● Strength: <ul style="list-style-type: none"> 10 – 20 min CV warm-up (exception of jogging/running) Choose a load 1 – 12 RM Choose numbers of sets and rest time between sets Alternate upper/lower body exercises within session Moderate to fast speed under control Vary load/set/rest between sessions [include OKC Q from week 10] Adjust if necessary based on symptoms ● Endurance: <ul style="list-style-type: none"> Gradually progress toward ≥45 min continuous CV exercise (exception of jogging/running) Choose a load 15 – 20 RM Choose numbers of sets and rest time between sets Alternate upper/lower body exercises within session Moderate to fast speed under control Vary load/set/rest between sessions [include OKC Q from Week 10] Adjust if necessary based on symptoms ● Add FWB double footed plyometrics from Week 10 → control technique/speed/reps 	<ol style="list-style-type: none"> 1. Promote appropriate strength, power and endurance based on individuals needs 2. Improve neuromuscular performance 3. Increase confidence 	<p>Single Leg Squat 60°</p> <p>Rotatory Stability</p> <p>Single Leg Bridge</p> <p>Vertical Jump</p>	

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PHASE 4 From Week 12	<ul style="list-style-type: none"> ○ Single Leg Squat 60° 5 sec hold with good alignment. ○ [L] & [R] Rotational Stability ≥80% parity. ○ Single Leg Bridge 10 reps with 10 sec hold ideal control. ○ Note Vertical Jump Height 	<ul style="list-style-type: none"> • Progress to single footed plyometrics as dictated by control • Introduce jogging → running when Q strength and control is adequate • Advance dynamic proprioceptive exercises e.g. volleying football, throwing, catching, racket and ball while balancing on trampette 	1. Sport specific function	Tuck Jump Vertical Jump 5 RM Hop for distance Deep Squat Inline Lunge Bulgarian Split Squat Single Leg Romanian Deadlift	
Phase 5 From Week 16	<ul style="list-style-type: none"> ○ Vertical Jump Height – shows improvement ○ Deep Squat – ideal posture +/- heel raise 	<ul style="list-style-type: none"> • 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 • Perturbation training e.g. therapist randomly nudges patient off balance during a single leg throw-catch drill 	1. As PHASE 4	As PHASE 4	

PHASE 6

From Week 20

- Tuck Jump ≥ 60% quality
- Vertical Jump Height – shows improvement
- 5 RM > 80% parity
- Hop for distance >80% parity
- Inline Squat – ideal movement pattern >80% parity
- Bulgarian Split Squat – ideal movement pattern >80% parity
- Single Leg Romanian Deadlift – ideal movement pattern >80% parity

- Non-contact sport specific training → terrain/volume/periodisation

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