

RJAH Proximal Hamstring Repair Rehab 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 other 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
PHASE 1 From Day 1 Continued overleaf...	<ul style="list-style-type: none"> ○ Successful operative outcome. ○ Adequate pain relief. ○ Understands post-op instructions. ○ <i>A brace might be fitted limiting knee F to 90° for 2 weeks, but this will be dependent on post-op instructions.</i> 	<ul style="list-style-type: none"> ● DO NOT SIT with pressure on wound. ● Avoid any direct pressure on wound. ● Sleep side lying. ● Ice. ● Do not disturb wound dressings. ● No active or passive H tension. Hip F must only occur with simultaneous knee F and no gravity knee F. ● No scar or H muscle massage. ● Glut squeezes. ● Pelvic floor exercises. ● SQ. 	<ol style="list-style-type: none"> 1. Reduce inflammation. 2. Prevent neural tension. 3. Promote distal circulation. 4. Increase confidence. 5. Promote early mobility. 		

PHASE 1

From Day 1

continued.

- PWB if no brace. If braced mobilise NWB.
- Neural mobilisations:
e.g. **(a)** In standing or side lying maintaining hip at 0°, combine Cx and Tx F/E with corresponding ankle PF/DF.
(b) In supine (with lower leg over the end of the bed) or side lying, maintaining hip at 0° F/E the knee combined with corresponding Cx F/E.

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PHASE 2 From Week 2	<ul style="list-style-type: none"> ○ Minimal pain. ○ Mobilise independently +/- aids. ○ If applicable, remove brace. 	<ul style="list-style-type: none"> • Gait re-education PWB – FWB (by Week 6). • Gradually allow pressure on wound in sitting and sleeping. • Scar tissue massage (from Week 4). • Hamstring massage/ soft tissue techniques (From Week 4). • Supine heel slides → Long sitting heel slides. • Supine crook lying single leg press against resistance band. → Decrease weight through supporting leg → No contralateral leg support. • Clams. • Side lying hip Abd → Standing hip hitching → Standing hip hitching and Abd. [L] & [R] • Bilat heel raises. • Mini squats/ small knee bends. • Sit ↔ Stand. • Supine over the bed knee E – OKC progressive resistance for Q. [DO NOT perform in sitting]. • Other muscle groups not to be neglected • Upper body active exercise → resis/reps/sets/speed 	<ol style="list-style-type: none"> 1. Prevent scar tissue adherence. 2. Promote early function. 3. Increase ROM. 4. Encourage FWB. 5. Improve muscular control. 	<p>AROM.</p> <p>PROM.</p> <p>Clams.</p>	

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PHASE 3 From Week 6	<ul style="list-style-type: none"> ○ FWB ○ Discard brace. ○ Full knee AROM at 0° hip position in supine or side lying ○ Pain free non-resisted, full hip AROM with ≥90° knee F. ○ Clams 10 reps with 10 sec hold ideal control [L] & [R] 	<ul style="list-style-type: none"> • Walking on flat ground as able. Comfortable pace for 10 min →30min by Week 12. • Changing direction during walking. • Resisted side-stepping. • Core stability exercises as appropriate. • Exercise bike. • Cross-Trainer. • Standing hip F/E/Abd/Add with resistance band. • Double leg bridges→ Decrease arm support → Feet on step. (Aim for ideal alignment and control). • Prone leg curls against gravity (no added resistance). • Standing leg curls (no added resistance). • ½ Squats, adding up to ¼ of body weight. (Aim for ideal alignment and control). • Mini-lunges. (Aim for ideal alignment and control) • Lateral box step ups. • Proprioception → single leg stance. • Gymball and Theraband work. • Muscle balance exercises as appropriate. • Core stability exercises as appropriate. • Flexibility exercises as appropriate. • Hydrotherapy (Avoid breast-stroke leg kick). 	<ol style="list-style-type: none"> 1. Progress functional activities. 2. Prevent scar adherence. 3. Prevent joint stiffness. 4. Restore normal gait pattern. 5. Promote appropriate muscle strength, power and endurance. 6. Improve neuromuscular/ proprioception/ sensorimotor performance. 7. Maintain cardiovascular fitness. 8. Encourage patient compliance. 	<p>AROM.</p> <p>PROM.</p> <p>Single Leg Stance.</p> <p>Clam.</p> <p>Hip strength; Oxford strength grading scale.</p> <p>Planks.</p>	

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<p>PHASE 3</p> <p>From Week 12</p> <p>Continued overleaf...</p>	<ul style="list-style-type: none"> ○ Normal symmetrical gait ○ AROM = Full E - $\geq 100^\circ$ ○ Single leg stance $\geq 80\%$ parity ○ Clams 10 reps with 10 sec hold ideal control [L] & [R] ○ Directional Planks 30 sec hold ideal control. ○ Hip F strength 5/5 [<i>Oxford strength scale</i>]. ○ Hip Abd strength 5/5. ○ Hip Add strength 4+/5. ○ Hip E strength 4/5. 	<ul style="list-style-type: none"> ● Power walking on flat ground. ● SLR (no more than 2/10 discomfort). ● Sitting OKC Q (no more than 2/10 discomfort). ● Add resistance to H exercises, Prone → Standing → Machine leg curls. ● Gymball bridges. ● Single leg ¼ Squats with up to ¼ body weight resistance. ● Leg Press machine, Double leg → Single leg. ● Proprioception → single leg stance/wobble boards/Trampoline/crash mats/etc. ● Step-ups (for/back/sideways/over) → height/reps/speed. <p><i>Sequencing of training:</i></p> <ul style="list-style-type: none"> ● Train 3 – 4 x per week ● Train strength and endurance on separate days ● Have a minimum of 24 hours between strength days ● Choose numbers of sets and rest time between sets ● Alternate upper/lower body exercises within session ● Speed of contraction should be moderate to fast, but controlled. ● Vary load/set/rest between sessions. ● Adjust if necessary based on symptoms . 	<ol style="list-style-type: none"> 1. Promote appropriate strength, power and endurance based on individual's needs. 2. Improve neuromuscular performance. 3. Increase confidence. 	<p>AROM.</p> <p>PROM.</p> <p>H flexibility.</p> <p>SLR.</p> <p>Single Leg Squat 60°.</p> <p>Hip strength; Oxford strength grading scale.</p>	

PHASE 3
From Week 12
continued.

- *Strength:*
 10 – 20 min CV warm-up (exception of jogging/running)
 Choose a load 1 – 12 RM.
- *Endurance:*
 Gradually progress toward ≥45 min continuous CV exercise (exception of jogging/running).
 Choose a load 15 – 20 RM.

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PHASE 4 From Week 16	<ul style="list-style-type: none"> ○ Single Leg Squat 60° 5 sec hold with good alignment. ○ H flexibility ≥80% parity. ○ Hip strength >90% parity. ○ SLR ≥90° 	<ul style="list-style-type: none"> • Power walk up incline. • Introduce jogging on flat when Q and H strength, neuromuscular control. Start with interval walk – jog and progress. • Progress Ecc H exercises. • Increase speed H contraction. • Heel ‘flicks’ • H curls in progressive positions of hip F. • Gymball bridges →single leg→heel pull backs. • Rowing machine. • Arabesque exercises with support → no support → increasing weight held out in front. • Plyometrics, Double footed → Single footed. (Aim for ideal alignment and control). • Introduce OKC Q, progress resis as dictated by symptoms. 	1. Sport specific function.	AROM. PROM. 5 RM. Vertical Jump.	

**Phase 5
From Week 24**

- Full pain free AROM
- H 5 RM >60% parity

- Progress from jog → run → sprint.
- Straight leg dead lifts.
- Nordic H curls.
- Add agility drills when sufficient control and confidence is achieved e.g. twist/turn/pivot/cut/accelerate/decelerate/direction.
Progress from predictable agility to unpredictable.
- Advance dynamic proprioceptive exercises e.g. volleying football, throwing, catching, racket and ball while balancing on trampette.
- Perturbation training e.g. therapist randomly nudges patient off balance during a single leg throw-catch drill.
- Non-contact sport specific training → terrain/volume/periodisation.

1. Prepare neuromuscular and psychological ability to return to unrestricted function.

Hop for distance.

As indicated for individuals goals.

PHASE OF REHABILITATION	IDEAL CRITERIA	REHABILITATION GUIDE	GOALS	OBJECTIVE TEST	SPECIAL INSTRUCTION
PHASE 6 From Week 24+	<ul style="list-style-type: none"> ○ All Tests > 90% parity ○ Dependent on Consultant's approval 	<ul style="list-style-type: none"> ● Earliest return to contact sport training. ● Progress to full restriction free sports and activities. 	<ol style="list-style-type: none"> 1. Unrestricted confident function. 2. Injury prevention. 	Full sporting Function.	

Terminology Key:

Abd	Abduction	OKC	Open Kinetic Chain
Add	Adduction	PF	Plantarflexion
AKP	Anterior Knee Pain	PWB	Partial Weight Bear
AROM	Active Range of Movement	PROM	Passive Range of Movement
CV	Cardiovascular	Q	Quadriceps
Cx	Cervical	[R]	Right
DF	Dorsiflexion	reps	Repetitions
E	Extension	resis	Resistance
Ecc	Eccentric	RM	Repetition Maximum
EOR	End of Range	ROM	Range of Movement
F	Flexion	SLR	Straight Leg Raise
FWB	Full Weight Bear	SQ	Static Quadriceps
H	Hamstrings	TWB	Touch Weight Bear
IRQ	Inner Range Quadriceps	Tx	Thoracic
[L]	Left		

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