RJAH Trochlea Microfracture Rehab Guide

Patient Details: **Co-morbidtity:**

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.*
**Please note progression will be based in the individual's starting point and goals. For example, if they have not attempted to run for more 12 months prior to the surgery, they might not be able to progress to running by Week 8.*

PHASE OF REHABILITATION	IDEAL CRITERIA	REHABILITATION GUIDE	GOALS	OBJECTIVE TEST	SPECIAL INSTRUCTION
PHASE 1 **From Day 1**	○ Successful operative outcome. ○ Adequate pain relief. ○ Understands post-op instructions. ○ +/- extension splint used when mobilising.	• Cryocuff/ Ice. • CPM if available. • Passive F and E exercises. • PFJ mobilisations. • EOR E mobilisations. • H and calf stretches. • Ankle Exercises (e.g. heel raises). • SQ progressing to SLR. • Heel slides (0°-30°). • Co-contraction Q and H. • Prone SLR. • FWB using elbow crutches for comfort and wean off, as able.	1. Reduce inflammation. 2. Gain terminal E. 3. Promote distal circulation. 4. Prevent adhesions. 5. Gradually regain ROM. 6. Increase confidence. 7. Promote early mobility.		**Check if any specific post-op instructions have been given and amend the guide accordingly.**

PHASE OF REHABILITATION	IDEAL CRITERIA	REHABILITATION GUIDE	GOALS	OBJECTIVE TEST	SPECIAL INSTRUCTION
PHASE 2 **From Week 1**	○ FWB +/- extension splint. ○ Full active and passive E. ○ Passive F ≥45º	• Abductor/ Adductor/ Gluteal exercises. • Isometric Q in HE. • CKC Q & H 0° - 45° • Static Bike or Turbotrainer no/low resistance as tolerated (part revolution → full revolution as symptoms dictate). DO NOT use cleats or clips on pedals. • Other muscle groups not to be neglected • Upper body active exercise→ resis/reps/sets/speed. • Soft tissue mobilisations. • Hydrotherapy.	1. Promote early function. 2. Protect micro# site. 3. Aid joint nutrition. 4. Prevent adhesions. 5. Increase ROM. 6. Improve muscular control.	AROM. PROM. SLR. Clam. Planks.	

PHASE OF REHABILITATION	IDEAL CRITERIA	REHABILITATION GUIDE	GOALS	OBJECTIVE TEST	SPECIAL INSTRUCTION
PHASE 3 **From Week 6** **Cont'd overleaf…**	○ SLR no lag. ○ AROM = Full E - ≥100º. ○ Clams 10 reps with 10 sec hold ideal control [L] & [R]. ○ Directional Planks 30 sec hold ideal control.	• Prone auto-over press F → develop into Q stretch. • OKC Q & H as tolerated. • Early PWB plyometrics, focusing on ideal biomechanical control. • Gait with predictable changes in direction. • Lunges <45° (aim for ideal alignment and control). • Bridges (aim for ideal alignment and control). • Proprioception → single leg stance/wobble boards/Trampette/crash mats/etc. • Gymball and Theraband work. • Step-ups (for/ back/ sideways/ over) → height/ reps/ speed. • PWB (parallel bars) jumps, hops, leaps → control technique/speed/reps. *Sequencing of training:* • 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.	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.	AROM. PROM. Single Leg Stance. Single Leg Squat 60º. Effusion.	

PHASE 3

From Week 6

Cont'd.

- 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.
- *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.
- Muscle balance exercises as appropriate.
- Core stability exercises as appropriate.
- Flexibility exercises as appropriate.

PHASE OF REHABILITATION	IDEAL CRITERIA	REHABILITATION GUIDE	GOALS	OBJECTIVE TEST	SPECIAL INSTRUCTION
PHASE 4 **From Week 8**	○ Normal symmetrical gait ○ AROM = Full E - ≥100º. ○ Single leg stance ≥80% parity. ○ Single Leg Squat 60º 5 sec hold with good alignment. ○ No/ minimal effusion. ○ No/ minimal pain.	• Gradually progress from PWB to FWB and double footed to single footed plyometrics as dictated by neuromuscular control, pain and swelling. • Introduce jogging → running when strength, neuromuscular control, pain and swelling is adequate.	1. Promote appropriate strength, power and endurance based on individual's needs. 2. Improve neuromuscular performance. 3. Increase confidence.	AROM. PROM. 5 RM. Vertical Jump. Hop for distance.	
Phase 5 **From Week 12**	○ No/ minimal effusion ○ Full pain free AROM ○ 5 RM >80% parity ○ Hop for distance >80% parity	• Progress from jog → run → sprint • 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. • Sport specific training → terrain/ volume/ periodisation.	1. Prepare neuromuscular and psychological ability to return to unrestricted function.	As indicated for individuals goals.	

PHASE OF REHABILITATION	IDEAL CRITERIA	REHABILITATION GUIDE	GOALS	OBJECTIVE TEST	SPECIAL INSTRUCTION
PHASE 6 **From Week 16+**	○ All Tests > 90% parity. ○ **Dependent on Consultant's approval.**	• Earliest return to contact sport training • Progress to full restriction free sports and activities.	1. Unrestricted confident function. 2. Injury prevention.	Full sporting function.	

Terminology Key:

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