

Accelerated Rehab Protocol for Achilles Repair (AR) and Achilles Rupture (Conservative Management - CM)

STAGE OF REHAB: POST-OPERATIVE WEEK 0-2 PHASE 1		
Goals:	Notes for Physiotherapist	Home treatment by Patient
1. Minimise swelling, manage pain, promote healing and maintain fitness as able	Encourage good diet/lifestyle. Patient should continue to exercise upper body as able. Ensure patient has adequate pain relief (AR) Soft tissue mobilization and effleurage (avoid suture line – 2inch “no-go” zone)	Rest, Ice, Elevation, regular analgesics as prescribed/needed Continue to exercise upper body Maintain healthy diet
2. Gait - Full Weight bearing	Full weight bearing (with crutches) should be encouraged immediately as this is known to accelerate recovery (Braunstein et al, 2018). Gait re-education, focus on maintaining normal gait pattern with EC as needed.	
3. Range of movement of the ankle	None – restricted in boot completely. The boot should maintain the ankle position at 20-30 degrees plantarflexion. Maintain AROM of the knee	Patient must keep ankle immobilized in boot at all times except for showering. Ideally a waterproof bag should be used to cover the boot so that complete immobilization can be maintained.
4. Strength Training: (not of Achilles itself)	<ul style="list-style-type: none"> - Begin strengthening of lower leg – gluts, quads etc. - aSLR, side leg lifts, hamstring curls - Foot intrinsics in boot (toe spreads and curls) - core work - Pilates level 1 - Hip twist, Heel slides, Scissors, Clam, 	See Accelerated Achilles Repair & Achilles Rupture Exercises – Phase 1 – Strengthening and Phase 1 Core exercises
<p>Abnormal Progress – Your Physiotherapist will watch for any of the below and liaise with your surgeon. If you notice any of the following problems yourself, please discuss this with your Physiotherapist.</p> <ol style="list-style-type: none"> 1. The wound does not close or is infected 		

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STAGE OF REHAB: POST-OPERATIVE WEEK 2-6 PHASE 2		
Goals:	Notes for Physiotherapist	Home treatment by Patient
1. Minimise swelling, manage pain, promote healing and maintain fitness as able	(AR) As above, scar mobilisation may now be introduced providing that the incision site is fully healed.	Scar mobilisation
2. Gait	Continue FWB. Move away from support of EC as soon as possible (whilst maintaining normal gait pattern). Assuming 3 wedges are inserted into boot, a wedge will be removed every 2 weeks.	Remove wedge every 2 weeks as discussed with your Physio.
3. Range of movement	Encourage patient to mobilise fully into plantarflexion (including inversion and eversion) but restrict DF to 0 degrees. Boot may be removed for this.	See Accelerated Achilles Repair & Achilles Rupture Exercises Phase 2 – Range of Movement and Phase 2 Strengthening. Continue core work from Phase one
3. Strength training	As for week 0-2 Seated heel raise (no additional weight) PF against theraband resistance. Begin at lowest resistance but may increase in weeks 4-5. (Olsson et al 2012,2013) Foot intrinsics now with boot removed (see Phase 1 Strengthening) Encourage quality of performance No specific calf stretches	
4. Proprioceptive work	– Single leg stand with support	
5. General Exercise	Core work	Continue Phase 1 Core Work

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	Walking Aerobic exercise (arm cycle could also be used)/General upper body exercises	
Boot will be removed between weeks 6 and 9. It is preferable for the patient to wear a slight shoe insert on returning to shoes for a few weeks.		

STAGE OF REHAB: POST-OPERATIVE WEEK 6 – 11 – HIGHEST RISK OF RE-RUPTURE PHASE 3		
Goals:	Notes for Physiotherapist	Home treatment by Patient
1. Gait	Continue to re-educate on normal gait pattern, ensuring a good toe-off.	
3. Range of movement	Full range of movement in all directions with gentle calf stretches as required (Hutchison et al, 2015).	See Accelerated Achilles Repair & Achilles Rupture Exercises Phase 3 – Range of Movement and Stretches and Phase 3 Strengthening and Proprioception
3. Strength training	Seated single heel raise with external load of 25-50% body weight Resisted Inversion and Eversion Double leg heel lifts (Hutchison et al 2015) NB speed of loading is important Resisted Inversion and Eversion	
4. Proprioceptive work	Single leg stand <ul style="list-style-type: none"> - reduce support - add task – throw/catch/answer questions - Encourage quality of performance 	
5. General Exercise	Core Work – abdominal curls, mini crunches and 4 pt kneel with	See Accelerated Achilles Repair & Achilles

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	arm/leg lift Exercise bike Leg presses Leg extensions Leg curls	Rupture Exercises Phase 3 Core Work
Patient should be able to achieve 5 bilateral heel raises before progressing to next stage		

STAGE OF REHAB: POST-OPERATIVE WEEK 12 – 6 months PHASE 4		
Goals:	Notes for Physiotherapist	Home treatment by Patient
1. Strength Training	Begin single heel raises (Hutchison et al, 2015) Use different speeds Start basic plyometrics – bunny hops, jogging on trampet Eccentric exercises off step (after 5 months)	See Accelerated Achilles Repair & Achilles Rupture Exercises Phase 4 – Strengthening
2. Proprioceptive/balance work	Progress previous work	Liaise with your Physiotherapist
3. General Exercise	Slowly progress from walking – jogging on flat (after 5 months post-op – running – jumping Sport specific rehab Core exercises – plank, side plank and Russian twists	Liaise with your Physiotherapist See Accelerated Achilles Repair & Achilles Rupture Exercises Phase 4 Core Work
Patient should be able to achieve 5 unilateral heel raises before progressing to next stage		

STAGE OF REHAB: POST-OPERATIVE 6-8 Months PHASE 5 RETURN TO SPORT		
Goals:	Notes for Physiotherapist	Home treatment by Patient
1. Strength Training	Hopping and progress to long multidirectional hops	

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2. Proprioceptive/balance work	Progress previous work	Liaise with your Physiotherapist
3. General Exercise	Introduce hill running	Liaise with your Physiotherapist especially regarding any particular sports you wish to pursue/restart.
Patient should NOT return to competitive sport until they can: Sprint with toe-off action; until horizontal and vertical single leg hop x 3 is at least 75% of good leg		

NB: This protocol is designed for the active patient returning to sport. It may be appropriate to leave out Phase 5 and some of Phase 4 or some of the core work earlier on if these are not at a suitable level for your patient.

- Braunstein, M., Baumbach, S.F., Boecker, W. Carmont, M.R. & Polzer, H. (2018). Development of an accelerated functional rehabilitation protocol following minimal invasive Achilles tendon repair. *Knee Surg Sports Traumatol Arthrosc* **26**, 846–853.
- Brumann, M., Baumbach, S.F., Mutschler, W. & Polzer, H. (2014). Accelerated rehabilitation following Achilles tendon repair after acute rupture – Development of an evidence-based treatment protocol. *Injury*; 45(11): 1782-1790
- Hutchison, A.M., Topliss, C., Beard, D., Evans, R.M & Williams, P. The treatment of a rupture of the Achilles Tendon using a dedicated management programme. *The Bone and joint journal*; 97-B (4).
- Kearney, R.S., McGuinness, K.R., Achten, J., & Costa, M.L. (2012). A systematic review of early rehabilitation methods following a rupture of the Achilles tendon. *Physiotherapy*;98(1):24–32.
- Olsson, N., Silbernagel, K.G., Eriksson B.I., Sansone, M., Brorsson, A., Nilsson-Helander, K. & Karlsson, J. (2013). Stable surgical repair with accelerated rehabilitation versus non-surgical treatment for acute Achilles tendon ruptures: a randomised controlled study. *American Journal of Sports Medicine*; 41(12): 2867-76
- Park, S-H., Lee, H.S., Young, K.W. & Seo, S.G. (2020). Treatment of Achilles Tendon Rupture. *Clin Orthop Surg*; 12(1): 1-8
- Willits, K., Amendola, A., Bryant, D., Mohtadi, N.G., Giffin, J.R., Fowler, P., Kean, C.O. & Kirkley, A. (2010). Operative versus nonoperative treatment of acute Achilles tendon ruptures: a multicenter randomized trial using accelerated functional rehabilitation. *Journal of Bone and Joint Surgery American Volume*; 92: 2767-75.



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