

AchilloTape™ Rehabilitation Programme

For Chronic Achilles Tendon Reconstruction

The following programme is suggested for chronic case where no back slab has been used.

The patient should be warned not to exceed the prescribed activity levels or to overload the repair before complete healing has occurred.

Please note: Patients should only return to driving when they can achieve full weight bearing without suffering discomfort.

Post-menopausal women may benefit from supplementation of soya or linseed products to raise oestrogen levels, as female hormones may have a preventative role in Achilles pathology

Immediate post-operative care

- The plaster back slab is used.
- Drain *in situ*.
- Bed rest with no Physio.

Day 1-3

- 2 cm heel raise *in situ*, Ice/Cryocuff 20 minutes every 2 hours (if possible)
- Resting with leg elevated
- Avoid resting with foot in plantarflexion (foot pointing down)
- Active plantarflexion 100 repetitions, 4 x per day

Gluteal Exercises:

- Clam shell (glut med) 3 x 20 repetitions, left and right
- Prone lying bent knee lifts 10 repetitions x 10 seconds hold
- Static cycling with heel on pedal for operated leg

Day 8-14

- Walking with elbow crutches - increase weight further ~50% BW
- Heel raise *in situ*, Ice/Cryocuff at night
- Resistance band plantarflexion bent knee 100 repetitions, 4 x per day
- Resistance band plantarflexion straight knee 100 repetitions, 4 x per day
- Stitches out. Commence scar massage with Vitamin E Cream

Day 4-7

- Partial weight bearing with elbow crutches - increase weight as tolerable ~ 40% BW
- Heel raise *in situ*, Ice/Cryocuff 20 minutes every 2 hours
- Resting with leg elevated
- Sitting, bent knee heel raises 100 repetitions, 4 x per day
- Sitting, bent knee toe raises 100 repetitions, 4 x per day

Gluteal Exercises:

- Clam shell - side lying (glut med) 3 x 20 repetitions, left and right
- Prone lying bent knee lifts 10 repetitions x 10 seconds hold
- Glute bridges 10 repetitions x 10 seconds hold, 4 x per day

Day 15-21

- Walking in pool with water at lower ribs height - carry out every 3rd day
- Bilateral heel raises in pool 3 x 25 repetitions - carry out every 3rd day
- Squats in pool, knees to 90° 3 x 50 repetitions- carry out every 3rd day
- Walking with elbow crutches ~75% BW
- Concentrate on heel toe gait, and even rhythm
- Heel raise *in situ*, Ice/Cryocuff if required
- Resistance band exercises a/a with increased resistance
- Abdominal exercises
- Bilateral bridge with upper arm support 3 repetitions x 10 seconds hold
- Bird dog 3 repetitions x 10 seconds hold
- Front abdominal plank exercise 4 x 60 seconds
- Left and right plank from knees 4 x 30 seconds

Continued...

Day 15-21 continued

- Passive dorsiflexion to right angle
- Walking with elbow crutches up to full body weight
- Heel raise *in situ* and continue with assistance band exercises until tolerating full body weight, then bilateral standing eyes closed 30 seconds for balance
- Bilateral assisted heel raises 30 repetitions, 4 x per day every 3rd day

Day 22-28

- Mobilizing with elbow crutches up to body weight
- Continue with static bike - foot flat on pedal
- Continue pool sessions every 3rd day with water at waist height
- Try unilateral heel raises
- Heel walking 3 repetitions x 10 steps
- Standing dorsiflexion stretch:
 - Straight knee 5 repetitions x 30 seconds hold
 - Bent knee 5 repetitions x 30 seconds hold
- Assisted bilateral heel raises 3 x 20 repetitions
- Mobilize around house without heel raise occasionally
- Commence proprioception programme: single leg standing eyes open 30 seconds -> eyes closed 30 seconds

Day 29-42

- Continue pool exercises with water at hip height. Increase speed of movement: walk forwards/backwards/sideways
- Mobilize with 1 elbow crutch in opposite arm to operated leg
- Heel raise *in situ* for outdoor mobilization
- Occasionally mobilize around house without heel raise
- Bilateral heel raises with operated foot on weight scale:
 - Bent knee
 - Standing
- Increase heel walking
- Single leg balance 30 seconds episodes, eyes open -> eyes closed
- Unilateral bridges
- Begin forward step ups onto 15 cm (6 inch) step. Step on and off with alternate legs. Work towards 3 x 20 repetitions
- Begin sideways step ups onto 15 cm (6 inch) box, work towards 3 x 20 repetitions
- Single leg balance on unstable surface 30 seconds episodes, eyes open -> eyes closed

By the end of this phase:

- Heel raise should be removed
- Begin to increase ankle dorsiflexion
- Range towards non operated leg
- Progress to single leg balance eyes closed
- Discard elbow crutches - must not show signs of limping

Day 42 onwards (6 weeks)

- Pool sessions; walking on tip toe with water at waist height
- Rapid bilateral heel raises with water at waist height. Begin with 2 x 10 repetitions, add 1 more rep at each session, unless pain following
- Increase resistance on bike
- Increase bilateral squatting, add small weight
- Increase walking frequency
- Commence single leg heel raises
- Increase repetitions
- Increase frequency
- Increase speed
- Commence eccentric loading 3 x 25 repetitions standing on the floor:
 - Straight knee
 - Bent knee
 - * Single leg balance on fitter cushion, eyes open -> closed
 - * When strength symmetrical and eccentric strength symmetrical - can begin to increase loading/jumping from week 8 post-operative

Progression:

- Bilateral vertical jumps with support, work towards 3 x 20 repetitions
- Bilateral bounds - small amplitude. Concentrate on quiet, controlled landing. Work towards 3 x 20 repetitions

Look for left/right symmetry:

- Unilateral hops for height: quiet, controlled landing. Progress to tuck jumps
- Unilateral hops for distance: controlled landing. Begin with short distance and "stick" landing (no movement of landing foot and maintaining balance). Jump left and right
- Unilateral lateral hops for distance, control and "stick" landing. Jump left and right

- Increase load on eccentric calf exercise as tolerated
- Increase squat weight, utilize Smith machine if possible. Aim for symmetry in range of motion and loading of legs‡
- Unilateral leg press if available‡
- Romanian dead lift‡

‡ progress to 3 - 4 sets, 6 - 8 repetitions with contraction lasting 3 - 4 seconds. 30 seconds rest between sets

- Progress over time to higher loads, lower sustained contraction (1 - 2 seconds) and fewer repetitions (2 - 4), increase number of sets; carry out every 3rd day
- Begin standing out saddle on exercise bike

Functional test:

- Triple hop, repeat x 3, distance must be similar left + right
- Commence function training

This rehabilitation programme was developed in conjunction with Ian Horsley MSc, MCSP, Clinical Lead Physiotherapist, English Institute of Sport (EIS) North West, of BackinAction Physiotherapy and Sports Injury Clinic, Wakefield, UK.

Neoligaments™

A division of Xiros™, Springfield House, Whitehouse Lane, Leeds, LS19 7UE, UK

Tel. +44(0)113 238 7202 Fax. +44(0)113 238 7201 enquiries@neoligaments.com www.neoligaments.com

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