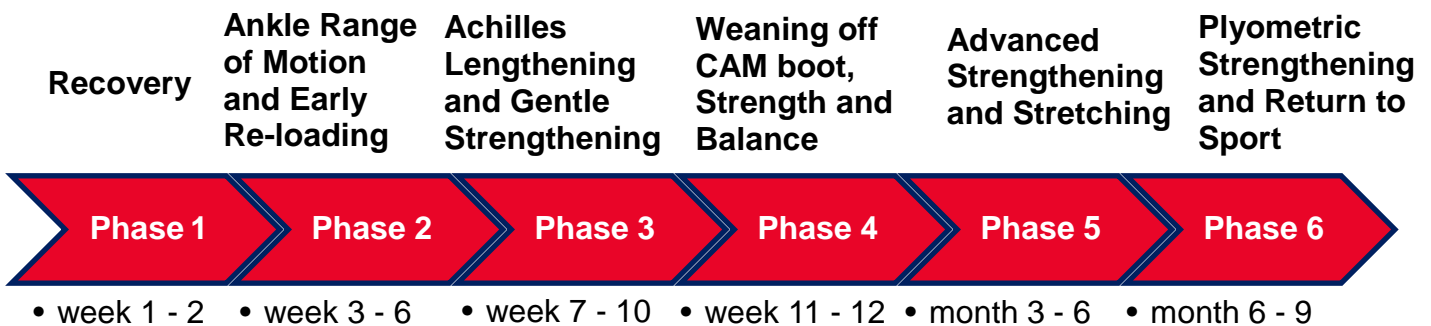


Achilles Tendon Repair Protocol



- This document outlines rehabilitation goals, precautions and exercises following Achilles tendon repair surgery.
- The phases are listed as time blocks, however progression should be guided by your surgeon and treating physiotherapist.



Disclaimer:

This leaflet provides some exercises to assist with rehabilitation of your injury. While it contains the recommended exercises, it does not contain all the available exercises or information and does not take the place of talking to your orthopaedic surgeon or physiotherapist.

All exercises have risks and benefits. Your surgeon has weighed the risks of you undertaking these exercises against the expected benefits. If you have any concerns about any of these exercises, ask your surgeon or physiotherapist.

Do not continue the exercises if:

You experience increasing pain (some discomfort is common)

Your condition has deteriorated in any way since you last consulted your surgeon or physiotherapist

You have a new injury or condition and have not consulted your treating doctor about continuing these exercises.

These exercises should only be undertaken by patients who are currently being treated by an orthopaedic surgeon at The Royal Melbourne Hospital.

If you do not understand how to perform an exercise then do not do it. Do not do more than the prescribed number of each exercise without first talking to your orthopaedic surgeon or physiotherapist.

Patients should be aware that the suggested exercises are not guaranteed to provide any improvement in your condition but may assist rehabilitation if undertaken in accordance with these instructions and your orthopaedic surgeon or physiotherapist's advice. Exercises are undertaken at your risk.

Keep this brochure as you may need to read it again.

Phase 1: Recovery (week 1 and 2)

Goals

- Protect the surgical wound and tendon repair
- Control pain and swelling
- Maintain full movement in your toes

Precautions / Management

- **Do not weight bear** on the back slab plaster (10 - 14 days), use crutches and keep it off the ground
- Rest and elevate the leg

Phase 1 Exercises

Elevation - When resting keep your foot elevated on 3 - 4 pillows

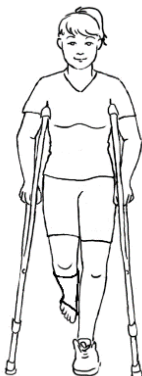


Toe Range of Motion - Bend your toes forwards and backwards

Repeat 3 x 10 every hour that you are awake



Walking - **Do not weight bear** on the affected leg. Use crutches



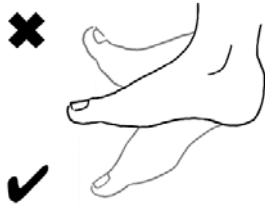
Phase 2: Ankle Range of Motion and Early Re-loading (Week 3 - 6)

Goals

- Protect the tendon
- Regain safe ankle movement
- Progressively increase weight bearing in the CAM boot
- Prevent muscle wasting and deconditioning of the affected leg (Maintenance Program)

Precautions / Management

- **Ankle MUST NOT bend beyond 90 degrees** towards your leg at any time (as per picture) – this will damage the healing tendon.



CAM boot

- A CAM boot will be fitted at your 2 week post-op appointment. It will have 3 - 4 heel lifts to keep the Achilles in a shortened position
- The CAM boot is to be worn **at all times** except for exercises and hygiene
- Wear a compression stocking (Tubigrip) underneath to reduce swelling

Walking

- You are allowed to weight-bear as tolerated in the CAM boot
- If you have a limp, or increase in pain and swelling, use crutches to support your walking

Heel lifts

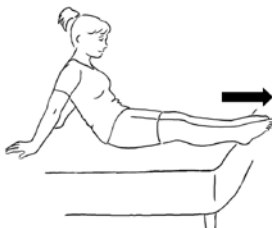
- **Remove one** heel lift from the CAM boot at the start of week 5

Phase 2 Exercises:

Remove the CAM boot for these exercises. Perform 2 - 3 times per day.

Ankle Plantarflexion - Straighten ankles down. Then relax. **Do not bring toes back beyond the 90 degree angle**

Repeat 3 x 10

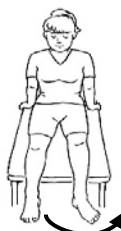


Ankle Inversion / Eversion - Keep your toes hanging down. Raise inner border of foot and then rotate towards the outer border of the foot

Repeat 3 x 10



a) Ankle Inversion



b) Ankle Eversion

Phase 2 Maintenance Program (can start at week 3):

Perform these exercises daily *in the CAM boot*.

Single Leg Calf Raise - Stand on **the unaffected leg** holding something for support. Rise up onto your tip toes then slowly lower back to a flat foot

Repeat 3 x 10



Hip Extension - Stand on **the unaffected leg** holding something for support. Keep your back straight and move the injured leg straight back behind you

Repeat 3 x 10



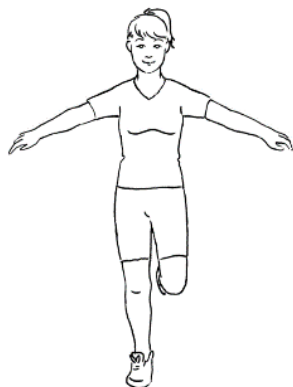
Hip Abduction - Stand on **the unaffected leg** holding something for support. Keep your back straight and take the injured leg straight out to the side

Repeat 3 x 10



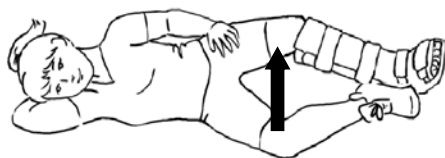
Single Leg Balance - Stand on **the unaffected leg** near to something you can use for support
Practice balancing keeping the injured leg off the ground

Repeat 3 x 30 seconds



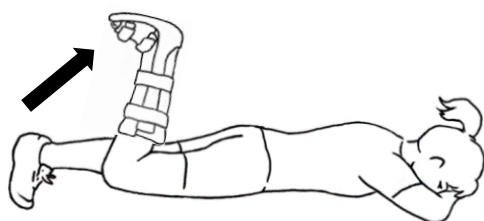
Clams - Lying on your side with the affected leg on top, knees slightly bent, slowly lift up the top knee keeping the ankles together. Do not twist your pelvis

Repeat 3 x 10



Hamstring Curl - Lie on your tummy and bend the heel of the injured leg towards your bottom

Repeat 3 x 10



Hip Flexion - Lie on your back. Bend the affected leg at the knee and bring to your chest

Repeat 3 x 10



Seated Knee Extension - Sitting in a chair, straighten the knee of the injured leg and tighten your thigh muscle. Hold for 5 seconds then relax

Repeat 3 x 10



Add these exercises to your Maintenance Program from week 5

Squats - Stand holding something for support. Bend your knees and squat down slightly, then return to start position

Repeat 3 x 10



Step Ups - Stand near something for support. Step up onto a step (or low box) leading with the operated leg

Repeat 3 x 10



Stationary Bike - Commence cycling on exercise bike with your boot on. **Keep your bottom on the bike seat**

Repeat 5 - 10 minutes and increase time as tolerated



Balance Exercises - Stand close to something you can hold on to. Put your feet together and try to maintain your balance

Repeat 3 x 30 seconds

To increase the challenge try with your eyes closed



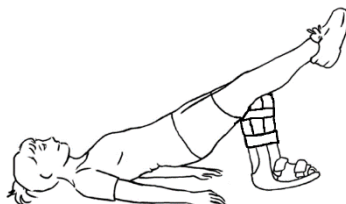
Bridges

- a) Double Leg Bridge - Lying on your back with knees bent. Squeeze your bottom and lift it off the floor or bed (progress to single leg bridge if this becomes too easy)
- b) Single Leg Bridge - Lying on your back with your affected leg bent and the good leg off the bed, squeeze your bottom muscles and lift off the bed

Repeat 3 x 10



a) *Double Leg Bridge*



b) *Single Leg Bridge*

Swimming - You can commence swimming for fitness if your wound is healed. Remove your CAM boot in the pool. No kicking until 10 weeks (use a pull buoy float between the legs)



Phase 3: Achilles Lengthening and Gentle Strengthening (week 7 - 10)

Goals

- Protect the tendon
- Continue to regain ankle movement
- Begin light Achilles tendon lengthening and strengthening

Precautions / Management

- **No forceful stretching** of the Achilles. Only stretch within your pain free range
- Commence hydrotherapy as directed by your physiotherapist

Walking

- Weight-bearing as tolerated in **CAM boot**
- Wean off crutches if not already done

Heel lifts

- Remove 2nd heel lift from CAM boot at start of **week 7**
- Remove 3rd heel lift from CAM boot at start of **week 9**
- If you have a 4th heel lift remove it at the start of **week 10**
- If you experience a **significant increase in pain or swelling** replace the heel raise for a few days and then try again

Phase 3 Exercises

Remove CAM boot for the exercises and Perform 2 - 3 times daily.

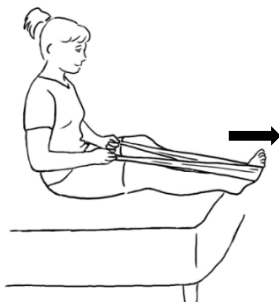
Seated Calf Raises - Sitting in a chair, raise your heels up and down slowly, keeping your toes on the floor

Repeat 3 x 10



Ankle Plantarflexion with Exercise Band - Point your toes towards the floor pushing into the exercise band. Slowly return to the start position

Repeat 3 x 10



Isometric Inversion and Eversion Strengthening

a) Ankle Inversion - Press the inner borders of your big toes together. Hold for 5 - 10 seconds

b) Ankle Eversion - Press the outer borders of your feet together. Hold for 5 - 10 seconds

Repeat 5 times each



a) Ankle Inversion



b) Ankle Eversion

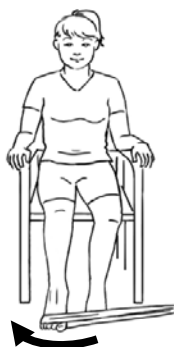
Advanced: Ankle Inversion with Exercise Band - Turn your foot inwards against the exercise band as if to look at the sole of your foot

Repeat 3 x 10



Advanced: Ankle Eversion with Exercise Band - Turn your foot outwards against the exercise band as if to look at the sole of your foot

Repeat 3 x 10



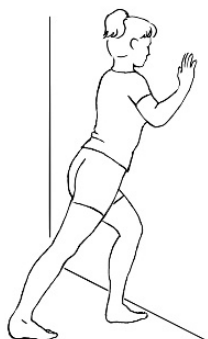
Non-weight Bearing Achilles / Calf Stretch - Sitting with an exercise band around the ball of your foot, gently pull back on the band until you feel a gentle stretch. **Do not stretch into pain**

Repeat 3 x 30 seconds



Advanced: Weight Bearing Achilles Stretch - Stand with your operated leg behind you. Keeping your heels on the ground, bend the front knee and lunge forward until you feel a stretch in the operated leg. **Do not stretch quickly or into pain**

Repeat 3 x 30 seconds



Phase 4: Weaning off CAM boot, Strength and Balance (week 11 - 12)

Goals

- Return to walking without CAM boot
- Increase anti-gravity calf strength
- Begin balance exercises

Precautions / Management

- The tendon remains vulnerable to sudden loading (e.g. tripping). Take care with exercises and daily activities

Strengthening

- Do not allow your ankle to go beyond 90 degree positions when strengthening i.e. exercise on flat ground only, not over a step
- Gradually increase resistance as pain and swelling allow

CAM boot

- Wean off CAM boot over 2 - 5 days. Wear supportive footwear like a sneaker with a small heel
- Start with 2 - 3 hours out of the boot on day 1 then gradually increase the time as tolerated



Phase 4 Exercises

Complete the exercises as guided by your physiotherapist. Perform once daily.

Double Leg Calf Raises - Standing on flat ground, slowly rise up onto your tip toes with both feet then slowly lower back down

Repeat 3 x 10

To increase the challenge increase the percentage of body-weight on the affected leg



Seated Calf Raises - Sitting in a chair with a small weight on your knee, raise your heels up and down slowly

Repeat 3 x 10



Balance Exercise - Feet Together - Standing close to something you can hold on to with your feet together. Try to keep your balance without holding on

Repeat 3 x 30 seconds

To increase the challenge, try with your eyes closed



Proprioception Exercise - Sitting with your injured foot on a wobble board (or basketball), move your ankle carefully in all directions

Repeat 3 x 30 seconds

To increase the challenge progress to standing wobble board exercise (as per picture b)



a) Seated Wobble Board



b) Standing Wobble Board

Advanced Proprioception Exercise - **Start this exercise when advised by your physiotherapist.**

Standing next to something stable for support, balance on the wobble board (you can use a folded up towel or pillow at home)

Repeat 3 x 30 seconds



Walking Program - Increase walking time and distance as able **provided this does not increase your pain or swelling** (If using a treadmill **NO** incline)



Phase 5: Advanced Strengthening and Stretching (Month 3 - 6)

Goals

- Regain full calf length
- Regain full calf strength
- Normalise walking and balance reactions

Precautions / Management

- Avoid explosive type exercise
- Progress to light jogging **no earlier than 4 months** if no symptoms. Your physiotherapist will discuss when this is safe for you based on your strength and your goals

Phase 5 Exercises

Complete the exercises as guided by your physiotherapist. Perform once daily.

Advanced: Single Leg Calf Raise - **Only when able to perform double leg calf raises easily**, progress to single leg standing on the operated leg only

Repeat 3 x 10



Lunge Stretch - With the operated leg at the front, lunge forward to feel a stretch in your calf and Achilles

Repeat 3 x 30 seconds



Achilles Stretch - Place a book or folded up towel under your toes. Keep your heel on the ground and your knee straight. Lean forward over your toes until you feel a stretch in your calf and Achilles

Repeat 3 x 30 seconds



Advanced: Jogging - Progress to **light jogging at four months** (after testing with your physiotherapist). If you feel increased pain or swelling you may not be ready for this yet - cease and continue walking program



Phase 6: Plyometric Strengthening and Return to Sport (Month 6 - 9)

Goals

- Regain calf muscle power
- Return to normal sport / strenuous work

Management

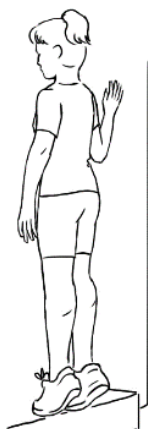
- Sport-specific training
- Commence plyometric (power) exercises

Phase 6 Exercises:

Complete the exercises as guided by your physiotherapist. Perform 2 - 3 times per week.

Calf Raises off Step - Start with your heels off the edge of a step. Slowly rise up onto your tip toes then slowly lower down allowing your heels to drop below step level (90 degrees)

Repeat 3 x 10



Sport Specific Exercise - Your physiotherapist will help plan exercises/drills specific to your sporting activity or gym requirements



Jumping (Plyometric) Exercises - Squat down keeping hips, knees and ankles in good alignment. Hold for 1 second then jump straight up. Focus on landing softly with good hip and knee control
Repeat 3 x 30 seconds



To increase the challenge:

- Side jumps
- Box jumps with increasing height
- Jump with rotation – 90° and 180°
- Double leg jump landing on single leg
- Lunge jumps
- Hopping
- Triple jump
- Zig Zag – double leg or single leg

Running Drills - Jog or run in a straight line running on flat ground. Focus on knee control. Start with 5 - 10 minutes then increase time as tolerated



To increase the challenge:

- Increase speed and/or distance
- Add incline/decline hill work
- Move in a different direction: forwards, backwards, sideways
- Add bounding or change speed
- Leaping
- Running with quick change in direction e.g. plant and cut

When can I ...

Sleep without the boot on?

- At **week 7** (phase 3).

Return to driving?

- Automatic car:
 - Left leg injured: **immediately/when comfortable.**
 - Right leg injured: After **week 11 - 12**, when you are able to weight bear 100% out of the CAM boot.
- Manual car:
 - **Week 11 - 12** when you are able to weight bear 100% out of the CAM boot.

Return to work?

- Sedentary employment (e.g. desk/seated job) around **week 3 after the CAM boot is fitted and when comfortable.**
- Work that involves standing on your feet most of the day (e.g. retail work) around **week 4 - 6**, following the weight bearing guidelines.
- Manual labour work (e.g. construction) around **3 months** follow the weight bearing guidelines.

Return to jogging / running?

- **After 4 months** as guided by your therapist and provided there is **not a significant increase in tendon pain** or swelling during or after the jogging activity.

Return to sport?

- At **6 - 9 months** as guided by your physiotherapist or surgeon.

Contact:

Department of Physiotherapy
Allied Health
(03) 9342 7440

