Mr Keith Winters MBChB, FRACS (Orth)
Specialist Orthopaedic Surgeon

Ph: (03) 9598 0691

Post op Instructions: Achilles Tendon Repair

Recommended appliances for after your surgery:

- Crutches, walking frame or knee scooter. Whiever appliance you are more comfortable with needs to be brought with you to Hospital on the day of surgery.
- Ice Bag
- Shower stool
- Shower sleeve seal (to keep cast/ foot dry during showering)
- Evenup (to be worn on non-surgical foot to reduce leg length discrepancy when in the CAM boot)
- Bed cradle
- Extra pillows for raising your foot/leg up when sitting or lying down.

What is the Achilles?

The Achilles tendon is the strongest and thickest tendon in the body. It attaches the calf muscles (soleus and gastrocnemius) to the heel bone (calcaneus). The tendon transmits force from the contracting calf muscles to the calcaneus to cause the foot action of plantar flexion (foot pointed down) that is important in walking, running, jumping and change of direction activities. Although the Achilles tendon is the strongest tendon in the body, it is also the tendon most commonly torn or ruptured.

What is an Achilles repair?

The incision is made medial to the tendon to improve skin healing and to reduce the risk of scarring to the underlying tendon repair. Once the incision is made and the rupture is identified, clamps are used to match the ends together in an optimal tendon length. A primary repair of the two ends of the tendon is performed by stitching them together.

Sometimes, if the gap is large, the repair is augmented or strengthened using fascia or tendon. A gastrocnemius aponeurosis augmentation is performed when a 1–2 cm wide by 8 cm long flap is made and turned down over the repair and sutured to reinforce the repair. The area that the flap was harvested from is then stitched together. In cases of tendon degeneration, or tendinosis, this may help strengthen the repaired tendon. In chronic cases, or where the gap is very big, sometimes a spare tendon that flexes the big toe is used.

Are there any risks?

Complications during and following this procedure are unusual. However, they can include:

Haematoma: A build up of blood within the operated area, which can be painful and may require surgical drainage.

Deep vein thrombosis (DVT): The development of blood clots in the legs carries a very low risk. Certain types of oral contraceptive ("the pill") may increase this risk and may need to be stopped before your surgery. If after your surgery you notice a tight, painful, red, warm area in your calf, see your GP as soon as possible or attend an emergency department. Please also inform Mr. Winters' rooms.

Infection: Signs and symptoms of an infection of the joint or wound sites include:

- Spreading redness
- Increased swelling
- Increased heat to touch
- Increased pain causing difficulty mobilising
- Oozing and/or odour from the wound

PTO…

If your wound becomes red, swollen or very tender, or develops a discharge, please contact your GP and also advise Mr. Winters' rooms.

Nerve damage: Damage to the skin nerves over and around the wound site can occur, leading to small areas of numbness.

Wound breakdown - Also called wound dehiscence, is a surgical complication where the wound ruptures along a surgical incision.

Re-rupture – The re-rupture rates with surgically repaired Achilles tendon are low, but is still a possibility.

What happens after surgery?

At the end of the operation, Mr. Winters will apply a cast. You will have this on for approximately 2 weeks, during which time you cannot put any weight on it. After this, you will need to wear a CAM boot with three wedges in. The boot will be worn for a total of four weeks but you must remove one wedge each week until none remain. You will be able to walk in the boot with crutches, and start gentle range of motion exercises twice daily at the 4 week mark.

Will the ankle be swollen?

Some swelling is to be expected for the first few weeks; this is temporary and should settle with elevation. The best results are obtained if the ankle is elevated higher than the heart. Keep in this position for at least 15 minutes. Repeat as often as possible. This is absolutely crucial during the first 2 weeks.

Using ice can help to reduce swelling. Put some ice in an ice bag and place over the cast covering the ankle. Leave for 30-40 minutes (15-20 minutes if no cast). Repeat 3-4 times a day.

Do not use ice if you have circulatory or sensation deficits.

How long will I be off work?

Most people return to office type work after 2-4 weeks. People with more physically strenuous jobs may be off for 3-4 months. If you need a medical certificate for work, please ask Mr Winters and his team who will be able to provide one for you.

Driving

You will be able to drive an automatic car after 2 weeks if the left foot was operated on. With the right foot, or if you drive a manual car, driving is not advisable for 9-10 weeks Do not drive until you have full pain free ankle movements and feel you are able to drive safely, (i.e. perform an emergency stop safely and effectively). It is your responsibility after an operation to check with your insurance company whether you are covered to drive.

When will I be seen again?

Mr. Winters or his orthotist will usually see you in a post-operative clinic between 1 & 4 weeks after your surgery and then again at the 6-8 week mark. This can sometimes take place in a different location to where you had your surgery, so please check with his rooms.

Relevant websites

www.keithwinters.com.au

PHYSIOTHERAPY/ REHABILITATION INSTRUCTIONS

Please ensure you give this to your physiotherapist/ rehab instructor.

PHASE I (surgery to 2-3 weeks after surgery)

Appointments	• Post Operative appointment between 1 and 3 weeks after surgery.
Rehabilitation Goals	• No weight bearing, using crutches • Wound healing
Precautions	• Protection of cast, to be kept dry • No weight bearing, using crutches • Watch for signs of infection/ DVT • Avoid long periods of dependent positioning of the foot during the first week to assist in wound healing
Cardiovascular Exercise	• Upper body ergometer or upper extremity circuit training
Progression Criteria	• 2-3 weeks after surgery

PHASE II (begin after meeting Phase 1 criteria, usually 2 to 3 weeks after surgery)

Rehabilitation Goals	• Normalize gait with weight bearing as tolerated (WBAT) using the boot and crutches • Protection of the post-surgical repair • Commence gentle ROM exercises to neutral DF at 4 weeks, dropping a wedge per week.
Precautions	• Post-operative week 2-3: Continuous use of the boot with 3 x 1cm heel lifts. No active dorsiflexion. Sleep in boot. Toe Touch Weight Bearing (TTWB) • Post-operative week 3-4: Continuous use of the boot with 2 x 1cm heel lifts. Sleep in boot. Toe Touch Weight Bearing (TTWB) • Post-operative week 4-5: Continuous use of the boot with 1 x 1cm heel lifts. Sleep in boot. • Do not soak the incision (i.e. no pool or bathtub) • Watch for signs of poor wound healing • Post-operative week 4-6: If pt can reach neutral PF/DF comfortably, then neutral boot without heel wedges. WBAT (based on pain, swelling and wound appearance) using the crutches and boot, limit active dorsiflexion to neutral, sleep in boot
Suggested Therapeutic Exercises	• Ankle range of motions with respect to precautions • Pain-free isometric ankle inversion, eversion, dorsiflexion and sub-max plantarflexion • Open chain hip and core strengthening
Cardiovascular Exercise	• Upper body ergometer or upper extremity circuit training
Progression Criteria	• Six weeks post-operatively • Instructed to begin active dorsiflexion (to neutral DF only) with passive plantar flexion, 10 repetitions 3x/day (start at 4 weeks) • No wound complications; however if wound complications occur then consult with Mr Winters

PHASE III (begin after meeting Phase II criteria, usually 6 to 8 weeks after surgery)

Rehabilitation Goals	• Normalize gait on level surfaces without boot or heel lift • Single leg stand with good control for 10 seconds • Active ROM between 5° of dorsiflexion and 40° of plantarflexion
Precautions	• Slowly wean from use of the boot: Begin by using 1-2 1/4 inch heel lifts in tennis shoes for short distances on level surfaces then gradually remove the heel lifts during the 3 and 6 week mark. • Avoid over-stressing the repair (avoid large movements in the sagittal plane; any forceful plantar flexion while in a dorsiflexed position; aggressive passive ROM; and further impact activities)
Suggested Therapeutic Exercises	• Frontal and transverse plane agility drills (progress from low velocity to high, then gradually adding in sagittal plane drills) • Active ankle range of motion • Gentle gastroc/soleus stretching • Static balance exercises (begin 2 foot stand, then 2 foot stand on balance board or narrow base of support and gradually progress to single leg stand) • 2 foot standing nose touches • Ankle strengthening with resistive tubing • Low velocity and partial ROM for functional movements (squat, step back, lunge) • Hip and core strengthening • Pool exercises if the wound is completely healed
Cardiovascular Exercise	• Upper body ergometer or upper extremity circuit training
Progression Criteria	• Normal gait mechanics without the boot • Squat to 30° knee flexion without weight shift • Single leg stand with good control for 10 seconds • Active ROM between 5° of dorsiflexion and 40° of plantar flexion

PHASE IV (begin after meeting Phase III criteria, usually 8 – 10 weeks after surgery)

Rehabilitation Goals	• Normalise gait on all surfaces without boot or heel lift • Single leg stand with good control for 10 seconds • Active ROM between 15° of dorsiflexion and 50° of plantar flexion • Good control and no pain with functional movements, including step up/down, squat and lunges
Precautions	• Avoid forceful impact activities • Do not perform exercises that create movement compensations
Suggested Therapeutic Exercises	• Frontal and transverse plane agility drills (progress from low velocity to high, then gradually adding in sagittal plane drills) • Active ankle range of motion • Gastroc/soleus stretching • Multi-plane proprioceptive exercises – single leg stand • 1 foot standing nose touches • Ankle strengthening – concentric and eccentric gastroc strengthening • Functional movements (squat, step back, lunge) • Hip and core strengthening
Cardiovascular Exercise	• Stationary Bike, Stair Master, Swimming
Progression Criteria	• Normal gait mechanics without the boot on all surfaces • Squat and lunge to 70° knee flexion without weight shift • Single leg stand with good control for 10 seconds • Active ROM between 15° of dorsiflexion and 50° of plantarflexion

PHASE V (begin after meeting Phase IV criteria usually 4 months after surgery)

Rehabilitation Goals	• Good control and no pain with sport and work specific movements, including impact
Precautions	• Post-activity soreness should resolve within 24 hours • Avoid post-activity swelling • Avoid running with a limp
Suggested Therapeutic Exercises	• Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to other and then 1 foot to same foot • Movement control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities • Sport/work specific balance and proprioceptive drills • Hip and core strengthening • Stretching for patient specific muscle imbalances
Cardiovascular Exercise	• Replicate sport or work specific energy demands
Return to Sport/Work Criteria	• Dynamic neuromuscular control with multi-plane activities, without pain or swelling