

# Recover<sup>®</sup> Platelet Separation Kit

A natural treatment of **plantar fasciitis**

Patient information



# Plantar Fasciitis

Heel pain is one of the most common forms of foot pain in adults. The heel bone (calcaneus) is the largest bone in the foot and the heel is the first part of the foot to contact the ground during walking. The Plantar Fascia is a thick, broad, inelastic band of fibrous tissue that courses along the bottom (Plantar surface) of the foot. It is attached to the heel bone (calcaneus) and fans out to attach to the bottom of the metatarsal bones in the region of the ball of the foot. Because the normal foot has an arch, this tight band of tissue (Plantar Fascia) is at the base of the arch. It supports the arch of your foot and also acts as a shock-absorber in your foot. Plantar Fasciitis is an, usually chronic, inflammation of your Plantar Fascia and is most commonly a result of repeated trauma to the fascia at the point where it attaches to the calcaneus.



Plantar Fasciitis is common. Around 1 in 10 people will get Plantar Fasciitis at some time in their life. It is most common in people between the ages of 40 to 60 years. However, it may occur at any age. It is twice as common in women as in men. It is also common in athletes. You are more likely to injure your plantar fascia when you do a lot of walking, running or standing without being used to it.<sup>1</sup> Athletes who increase running intensity, change shoes, train on different soils or increase training distance may also develop a Plantar Fasciitis.<sup>1</sup>

When you suffer from a Plantar Fasciitis, pain is the main symptom. This can be anywhere on the underside of your heel. However, commonly, one spot is found as the main source of pain. This is often about 4 cms forward from your heel, and may be tender to touch. The pain is often worst when you take your first steps on getting up in the morning, or after long periods of rest where no weight is placed on your foot. Sudden stretching of the sole of your foot may make the pain worse. For example, walking up the stairs or on tip-toes. Some people have Plantar Fasciitis in both feet at the same time.

Tendons are known to have a poor blood supply. Combined with the stress of day-to-day activities, they do not easily heal from damage. As a result of the slow healing of tendons, the symptoms occurring at a Plantar Fasciitis can last for a number of weeks, months, or sometimes, they can persist for years.



## Available treatments for a Plantar Fasciitis

- Activity restriction
- Rest
- Physiotherapy
- Heal cups/pads
- **Recover** L-PRP treatment
- Shockwave therapy
- Acupuncture
- Surgery



## Recover technique; Leukocyte-, and Platelet-Rich Plasma (L-PRP) injections

Blood consists of red blood cells, white blood cells, plasma and blood platelets. Platelets are known to be responsible for blood clotting and releasing growth factors. Growth factors, released from platelets upon activation, can influence the biological processes necessary for the repair of soft tissues, such as tendon or ligaments, following acute traumatic or overuse injuries.<sup>2-6,9</sup>

Recover Leukocyte-, and Platelet-Rich Plasma (L-PRP) offers a promising technique that may help tendon injuries. L-PRP prepared with the Recover technique results in concentrated platelets and white blood cells containing reservoirs of bioactive proteins, like growth factors. L-PRP injection therapy offers a technique that may help to that may help to decrease pain and improve function.<sup>3-8</sup>



## Recover: A natural treatment for a Plantar Fasciitis

### Recover treatment

A 52 ml sample of blood is withdrawn from your arm. The blood is then transferred in a cell separator tube that is placed into a centrifuge that spins the blood for 15 minutes. The centrifuge step separates the L-PRP from the rest of the blood components. After centrifugation the L-PRP is collected. L-PRP (containing platelets, growth factors and white blood cells) is ready to be injected back into the tendon at the site of the chronic injury.

Before injecting the L-PRP a local anaesthetic can be used. After just one single skin poke, the L-PRP will be injected into the tendon with multiple penetrations.

### After treatment

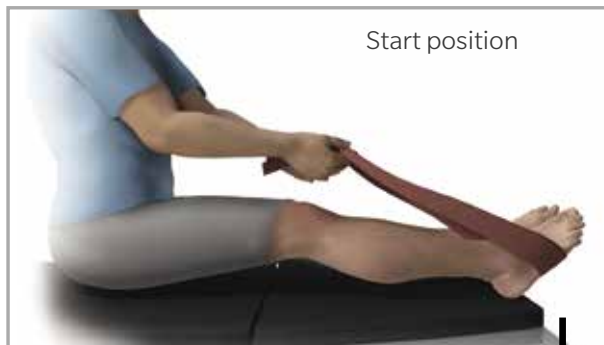
After the injection you should not move your leg for 15 minutes. Afterwards you can go home and you may get a prescription for a narcotic pain medication for pain control overnight. Anti-inflammatory drugs are not allowed. Icing can be a good solution. Increased pain at the site of injury may result for 2 weeks after the L-PRP injection.

Forty-eight hours post treatment you should start a standardised stretching protocol (level 1, see exercise protocol at the end of this information brochure) to follow for 2 weeks. After the 2 weeks stretching a formal strengthening programme (level 2) will be added. Gradual return to activities is allowed after 3 weeks. Patients are advised that up to 6 weeks may pass before a benefit is realized, but patients often note decreased pain after as little as 3 weeks.<sup>4</sup>



## Plantar Fascia stretching exercise (level 1)

### Passive seated Plantar Fascia stretching



You should perform the stretches in this section daily for two weeks. When the pain caused by your Plantar Fascia is becoming less, proceed to level 2.

**Purpose:** To passively stretch the Plantar Fascia.

**Start position:** Seated with leg fully extended. Loop a towel/band around your foot.

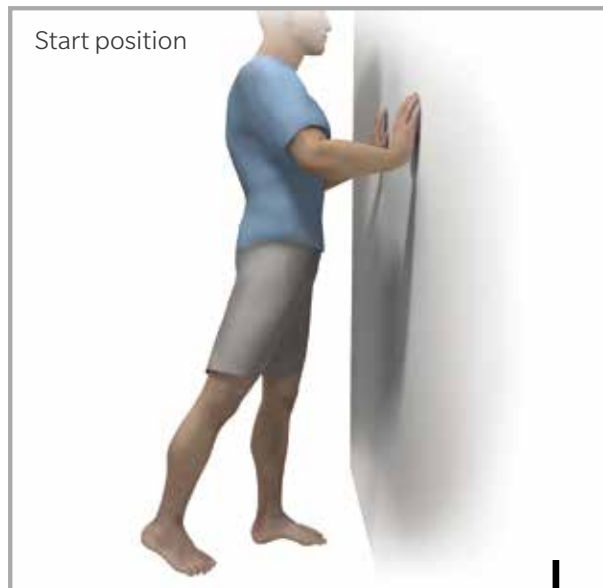
**Action:** Slowly and gently pull the towel/band toward your chest. This will stretch your Achilles tendon.

**Parameters:** Hold the stretch for 20 seconds. Repeat 10 times.

**Tips:** Keep your knee fully extended and make sure to do the stretch slowly. Do not stretch into any significant pain.

## Plantar Fascia stretching exercise (level 1)

### Plantar Fascia stretching exercise



**Purpose:** To gain flexibility in the muscles that run along the back of your lower leg.

**Start position:** Lean against the wall with the leg to be stretched behind the other. Disperse weight of back leg on the ball of the foot.

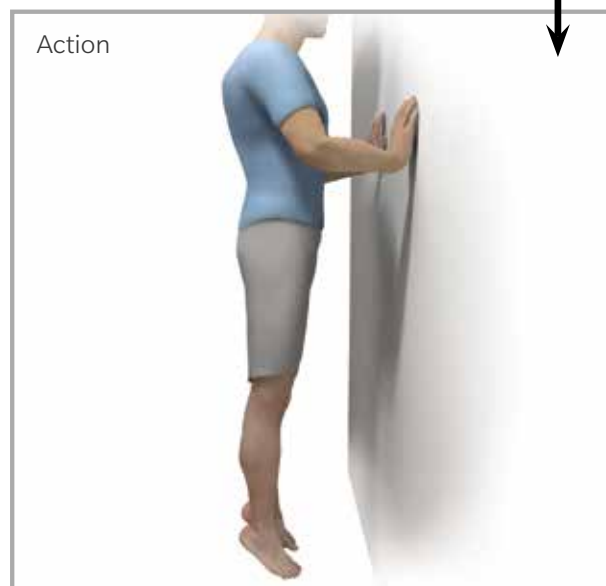
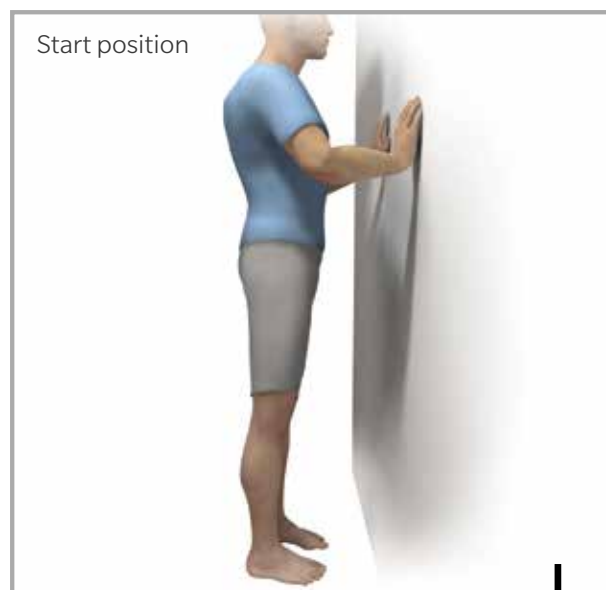
**Action:** Shift your body weight toward the wall and gently press back heel to the floor. Perform exercise with back knee completely straight.

**Parameters:** Hold stretch for 20 seconds. Repeat 10 times.

**Tip:** Keep back heel on the ground during the 20 second stretch; the movement for this stretch is subtle.

## Plantar Fascia strengthening exercise (level 2)

### Heel raises strengthening exercise



The exercises in this section should be done every other day for 2–4 weeks after completion of level 1 stretching.

**Purpose:** To strengthen the muscles along the back of the lower leg/ankle.

**Start position:** Stand with feet flat on the floor and hands against a wall.

**Action:** While keeping the balls of the feet on the ground, lift both heels off the floor.

**Parameters:** Repeat for 3 sets of 25–30 repetitions.

**Tips:** Lower the weight back to the floor very slowly in comparison to the rate in which you raise it (1 second up, 3 seconds down); distribute the weight evenly between the first and fifth toe throughout the exercise.



## Heel raises strengthening exercise (level 2)

### Heel raises strengthening exercise

Start position



**Purpose:** To strengthen the muscles along the back of the lower leg/ankle.

**Start position:** Stand on the leg to be exercised next to the wall.

**Action:** While keeping the ball of the foot on the ground, lift your heel off the floor.

**Parameters:** Repeat for 3 sets of 25–30 repetitions.

**Tips:** Lower the weight back to the floor very slowly in comparison to the rate in which you raise it (1 second up, 3 seconds down); distribute the weight evenly between the first and fifth toe throughout the exercise.

Action







## References

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This brochure describes the surgical techniques, stretching/strengthening programs and postoperative protocol used by Allan Mishra, M.D.

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