Plantar Fasciitis

The plantar fascia is a band of connective tissue that runs along the bottom of the foot from the heel to the ball of the foot. The function of the plantar fascia is to support the longitudinal arch of the foot from collapsing. It acts like a spring, providing shock absorption when loading the foot by stretching and storing force as well as assisting in pushing off by releasing the energy that has been stored.

Plantar fasciitis is an overuse condition of the fascia usually at the site where it attaches to the heel. Overload of the foot can result in irritation of the plantar fascia and results in pain on weight bearing and stretching of the tissue. If this overload is occurring over a prolonged period or is occurring at a faster rate than the body can repair, it leads to microtears of the plantar fascia. The plantar fascia, like most tissue in the body will respond to increase in load, by strengthening itself if appropriate time is given for the tissue to rest and repair. In many cases, plantar fasciitis can be associated with a heel spur.



Plantar fascia tends to be aggravated by period of heavy or prolonged weight bearing. A classic sign of plantar fasciitis is strong pain with the first few steps in the morning, that eases or 'start up pain' after a period of inactivity. This is due to contraction of the tissue at rest, this places more stress on the micro tears when you start to load the tissue again.

There are numerous factors that may predispose to this condition:

- Poor biomechanics that tend to overload the bottom of the foot as a result of weakness elsewhere, particularly the glutes.
- It will often result from a sudden increase in high impact activity, especially running or dancing on the toes.
- Extremes of foot posture i.e. pronated or supinated, low or high arches
- Poor or non-supportive footwear
- Stiff ankles, weak or inflexible calves and hamstrings
- Increased weight
- Prolonged weight bearing on hard surfaces eg. working as a chef
- Middle aged or older, resulting in poorer collagen synthesis and quality
- Pregnancy

As this is a degenerative condition, fixing the problem requires time to strengthen and build up the tissue and treatment may last 3 months or longer. The initial focus is activity modification, without rest and backing off load, the condition will NOT settle. Taping the arch of the foot and use of appropriate footwear are very useful in assisting in offloading force from the plantar fascia. Stretching, ice, massage and self-release techniques are all typically used to assist in taking pressure and

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load off the damaged area.

As weakness and poor biomechanics are often a significant contributing factor to the development of the condition. Corrective exercises to address these deficiencies need to be implemented. Your physio will also provide you with a program of exercises to load and strengthen the plantar fascia, this will decrease the likelihood of relapse when recommencing usual sport and activity levels.

Some tips for prevention:

- Ensure that you have the appropriate lower limb strength for the activities that you plan to undertake.
- Start any activity slowly and warm up prior to activity or sport
- Starting any new exercise program slowly.
- Allowing adequate recovery time between workouts or training sessions.
- Avoiding activities that cause pain.
- Maintain a healthy weight to minimise the stress on the plantar fascia.
- Choose supportive footwear. Avoid excessively high or low heels. Shoes with a low to moderate heel, good arch support and shock absorption are ideal.
- Replace old runners before they stop supporting and cushioning the feet.
- Listen to your body and REST if pain begins.

If you have any further questions, please do not hesitate to ask your physiotherapist.

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