

# Case study: 21 years of pain

**Chronic pain is a complex and often difficult situation to be presented with because it is generally multi-factorial in nature and involves a number of contributing issues.**

**Ron Alexander provides a case study of treatment for exposed leg fractures using FFT.**

**A**t the Functional Fascial Taping (FFT) Workshop in Rio de Janeiro, I used FFT to treat one of the participants, Julio Cesar, a Physiotherapist. Julio suffered five exposed fractures as a result of having an altercation with a truck while riding a motorbike 21 years ago. Unsurprisingly, Julio came off second best. After the accident, he was placed in an external leg device to lengthen the leg and many years later he required further surgical procedures to partially release the fascia of the tendo achilles and the plantar fascia.

Before the FFT treatment, Julio had a very obvious limp noticeable to those attending the workshop. As part of assessing his condition, he had a Visual Analogue Scale (VAS) score of 8/10 pain while standing, walking and while sitting and putting weight down through the leg and foot (Fig 1). At rest, the position of the ankle was in a plantar flexed position 125°. After the FFT treatment, his VAS score was 2/10 in all three testing positions (Fig 2) with a 95° range of motion (ROM) in dorsiflexion while standing. Wearing sandshoes (trainers) gave him a slight heel rise as well as the ability to stand completely upright (Fig 3).

The following day he had no pain, either standing or walking. Dorsiflexion was 90° which still resulted in a limp, however his gait had improved and limited by what he described as boney restriction, not pain. I don't believe that full dorsiflexion will return due to the extent of damage and the number and types of surgical procedures he has undergone. Over subsequent weeks and months, Julio self-administered FFT less frequently and then only sporadically. He now no longer requires FFT.

Julio's quality of life and general wellbeing have increased considerably as a result of the tape. At the 12 month follow up he reported that he had returned to doing martial arts including competitive fighting, this is after 21 years of being unable to participate in any sport because of the pain. In Julio's case, we were not able to achieve much of an improvement to his ROM, apart from him being able to put his foot flat on the floor and slightly dorsiflex his ankle past 90° over the next week, and this was maintained at 12 months. However, this was a major improvement, his function was much better with significant reduction in pain and he felt optimistic about change in his condition and was ecstatic about standing upright, pain free.

From a clinician's point of view, there are numerous reasons why we experience pain especially chronic pain. In Julio's case, for the first couple of years we can understand that his condition involved massive trauma, mechanical repair, ongoing mechanical disruption by the process of the lengthening and healing of bones and soft tissues, followed by ongoing disrupted biological repair. Then the structures were finally given the opportunity for repair to take place and for pain to settle down. He followed the standard rehabilitation procedures for someone with this type of injury. Many years later the tissues tightened to the point where he had a permanently plantar flexed foot which is why he required the surgical fascial releases. Twenty-one years of pain has resulted in a complex musculoskeletal pathology that would have many contributing factors.

## The treatment procedure

After obtaining Julio's case history and doing a functional assessment, I applied FFT to the pain region. The application of FFT involves engaging the skin and the underlying tissues in a pain-specific direction by the use of trans-diagonal gliding movements, to determine the optimal direction of ease, guided by the patient's pain, which allows continual re-assessment and modification of the technique as symptoms decrease. This process has both similarities and differences to other techniques that determine direction of ease, such as Position Release and Mulligan Technique. The procedure is performed in a functional position that reproduces the pain. This assessment procedure is based on the patient's subjective responses and performed within the actual pain ROM and when performed correctly we can observe an increase in ROM, therefore making it an objective process. This is an immediate pain response in most musculoskeletal cases. Once the correct direction is confirmed, hypoallergenic products are applied and rigid strapping tape is applied using a gathering technique to tape the skin and underlying tissue taking up the slack with a strong graded load (potentially an extension of myofascial release) and performed in the previously painful position. The patient is reassessed for pain, ROM and activity level advised.

Rehabilitation is based on the presenting history, physical limitations and individual goals.



Fig 1. Medial side of foot. Pre-test position limited range of motion. The white board markers indicating some of the pain areas.



Fig 2. Medial side of foot after taping. Julio is taught how to re-apply the tape himself.



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The tape can be applied for an extended and pre-determined period of time, holding the skin and tissues in order to maintain a pain free state. For patients with chronic musculoskeletal pain, the removal of pain followed by the patient returning to normal activity, could potentially be decreasing an overactive nervous system which can elevate mood and provide a better state of wellbeing. This in turn can lead to an improvement in both physical and mental functioning (Ashburn, Staats, 1999).

The patient can now move into the new range pain free, which may also assist with pain apprehension (Butler, Moseley, 2013) and re-educate the neuro-muscular system through rehabilitation. In Julio's case, FFT, walking and



Fig 3. Lateral side of foot after taping and shoe on. The tape directions stayed consistent throughout the treatment. A third direction of tape allowed the heel to almost reach the floor.

normal physical activity was all that was required to reduce his pain and to desensitise his nervous system, giving him a better state of wellbeing and quality of life. Possibly due to the limited dorsiflexion, he avoided doing rehabilitation exercises however his return to martial arts appeared to be enough to restore the muscle patterning which allowed him to increase load and do so pain free even though the ROM remained limited.

Chronic pain is a complex and often difficult situation to be presented with because it is generally multi-factorial in nature and involves a number of contributing issues e.g. emotional wellbeing, lifestyle, diet, cultural, environmental factors and activity level, etc. In Julio's case, there had been enough time for his condition to settle down after the leg had achieved the required length. He was left with an increased sensitivity to the perception of pain because of an overactive nervous system. However, his brain was no longer able to process the true state of the body as it depends on the perceived stimulation level rather than the actual stimulation level (Bayer et al, 1998). For example, when we have a new non-threatening stimulus to the skin and tissues, the area can send a message to the brain and the brain's perception of what is taking place can be mixed and can be interpreted as danger. This stimulus can take the person's memory of the pain back to the time of injury, or at some point after the incident, during the repair phase, as memory is

very powerful. The good news is that a certain amount of this can be changed due to the neuroplasticity of the brain (Tarapore, 2013). We can retrain the brain in a number of ways including through decreasing the symptomatic input to the brain and increasing activity level (Butler, Moseley, 2013).

Both the presence of pain as well as its removal can have a strong physiological and psychological impact on patient wellbeing and quality of life. The processes involved can be complicated; however, a lot more is known about this subject today than in the past. Fortunately FFT has a relatively simple objective assessment procedure and a relatively fast tape application (although not in this case study) and can be used by any therapist treating neuro-musculoskeletal conditions.

For more about this case study from a physiologic biotensegrity point of view, go to Terra Rosa e-magazine No. 15 December, or video online 2015 [www.fft.net.au](http://www.fft.net.au).

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