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Mr M, a 46 year-old university lecturer, walked with a noticeable limp. He had sprained his right calf muscle slightly more than 6 weeks ago after missing a step whilst walking down a flight of stairs. He described the pain in his right calf as a 'sudden, sharp tearing sensation' when he landed heavily on his right foot. For the first few days following his injury there was some slight swelling, and Mr M was referred by his GP to get an ultrasound scan to define the injury. The ultrasound scan found an area of muscle tear above his right Achilles tendon measuring 3 cm diameter. He was given a diagnosis of Grade 2 calf muscle strain (this means the muscle tear was more than a slight strain but not serious to the extent of a complete tear).

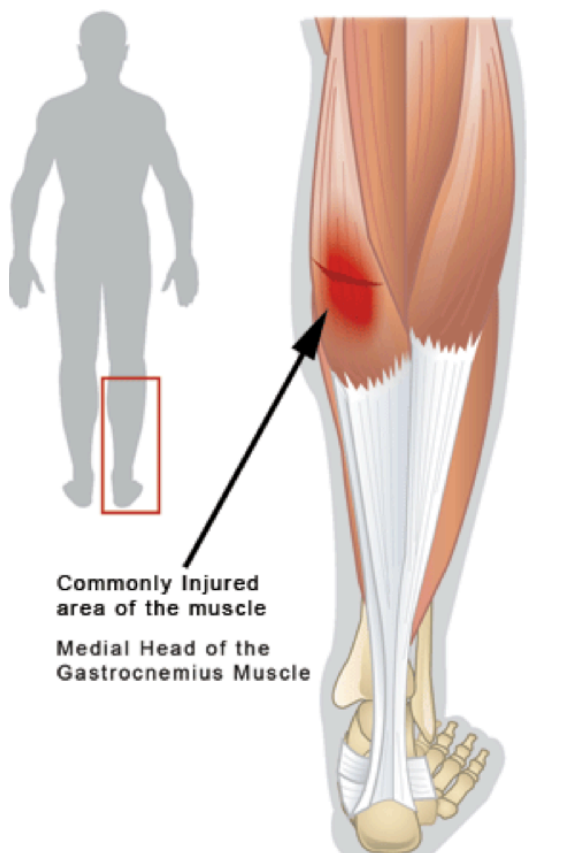
Over the next 4 weeks, Mr M received 2x sessions of physiotherapy and 3x sessions of osteopathic treatments at a different clinics, due to his busy travelling schedule. He was given some soft-tissue massage and dry needling to the calf muscle, along with low back spinal manipulation. He was also prescribed with calf stretches and some strengthening exercises including heel raises. He understood from his treatment sessions that his injury would heal in 4 – 6 weeks time and he would be able to walk normally and resume some exercise within that time frame. However, after 6 weeks he was still unable to walk normally due to the pain in his calf and had to use a walking stick for the first time in his life to help him walk longer distances. Doing the heel-raise exercises also seemed to worsen his pain.

By the time Mr M consulted with me he was very worried about the slowness of his recovery. He has always enjoyed hiking and long walks and he did not want to use a walking stick for the rest of his life.

Examination

Upon examining his gait pattern, I noticed that he was (unconsciously) avoiding toe-off with his right foot. There were no mobility restrictions to his low back, hips or knees when those joints were tested. The only indication that there was some injury to his right calf was some increased tension in the muscle fibres above his right Achilles tendon. This increase in muscle tone was only slightly more than the left calf.

What this indicated was that the healing process for Mr M's injured right calf muscle had been completed – the torn fibres had already been 'patched up' by new connective tissue cells and there was no swelling felt in the calf. In other words, the tissue texture for the right calf was normal apart from slight tightness.



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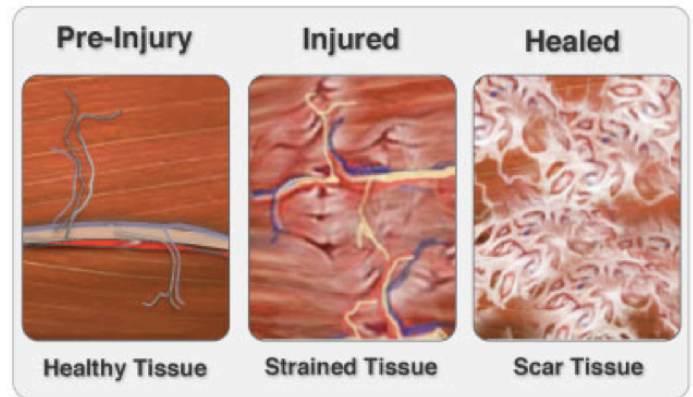
Why then was Mr M still limping?

In the early stages of his recovery (first 1 – 2 weeks), when the wound was still being actively 'patched up' by connective tissue cells, he was rightly told by his therapists to cut down on excessive movement and rest especially if pain was felt. As scar tissue formed and the wound was stabilized from the 3rd to 6th weeks, more active movement and stretching to address the stiffness was indicated. The difficulty of treatment follow-ups due to his travelling meant that in spite of proper treatment and care, Mr M was following advice that was more suited to the early stage of recovery. He was unnecessarily avoiding the pain barrier. Consequently, every time he felt an ache in his calf, he was fearful that he was doing more damage to his muscle, and this maintained the compensatory limp beyond the expected healing time.

Treatment

In this case, only some gentle stretching and mobilization techniques were required to treat the tight calf muscle tissue and the associated ankle and foot joints. More importantly, patient education was essential to assure the patient that the injured tissue has healed properly and that the 'pain' he felt when he was walking will not cause further damage. What he felt was the 'resistance' from the tight calf muscle to intermittent stretching from walking. An analogy is if one clenches one's fist for a good 5 – 10 mins, it will ache when the hand is subsequently opened & stretched out.

Muscle injury tissue progression



Once Mr M understood what was going on with his calf, and following some verbal and movement cues to 'correct' his gait, he was able to walk normally at the end of his consultation. There was nothing miraculous about the treatment. What was lacking was proper patient education on how to manage his injury. 3 days following his treatment, Mr M reported that he had been able to walk normally and freely again. Although he did feel some mild aches, they were very quickly relieved with periodic stretches.