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## RUNNING INJURIES

When conventional Physio is not enough.

We live in a world now where technology is changing so rapidly that we expect instant results from our Internet, our meals, coffee, answers to questions, pain and also our body's ability to recover. Unfortunately our bodies just don't bounce back like that. It takes time and some very hard work sometimes to make a full recovery, just being pain free won't cut it long term.

Recently a distance runner presented to the clinic with right Achilles pain. He had seen a number of different professionals including physio's, massage therapists and a podiatrist. He was given the normal advice of decreasing training load, eccentric exercises and was prescribed orthotics. He followed these religiously and gained full strength and was pain free. He returned back to training and on increasing the duration (on the fifth session), his pain returned. The patient was very frustrated. He had gone through an extensive rehabilitation program which had cost him time and money.

The question was where do we go from here? The next step was looking at his running style on the treadmill. By placing wearable sensors on the lower limb, we can effectively measure the gait cycle, contact time,

**"By placing wearable sensors on the lower limb, we can effectively measure the gait cycle, contact time, vertical loading rate, ground reaction force and symmetry pattern."**

vertical loading rate, ground reaction force and symmetry pattern. The results were very interesting. He placed 9% more load on the non affected leg and a 25% greater contact time on the injured leg. Basically, although the pain had settled on his Achilles, he returned to training too early as he still had compensating techniques during the gait cycle.

A more rigorous treatment program including eccentric loading of the Achilles tendon and a graduated lower limb strengthening program aimed to improve tendon conditioning and ankle stiffness throughout contact with the ground during the running gait cycle. The patient progressed well with this rehabilitation and was pain free again after 3 weeks.

We reassessed again using the same new technology, which now showed a 5% extra load on the other leg and 15% longer contact time on the injured leg. For this reason he was not fit to return to training and could have gone down the same pathway and become more frustrated. Three weeks later he had a difference of 2% in compensating loading and ground contact time was symmetrical.

He was passed fit to return to training and on a graduated return to running. This new technology was used as biofeedback during running. Every time he loaded greater than 5% the alarm would sound, prompting him to correct his imbalance and allowing him to build up training load with little risk of re-injury.

This biofeedback can be used on other areas like the lumbar spine to record different movements. It can also be used to capture the postures you adopt at work (do you stand or bend incorrectly), or have we sent an injured worker back to work too early (as with the runner). It helps take the guess work out of return to work/sport.

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Offer ends 31 October, 2015. T&C's apply.

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