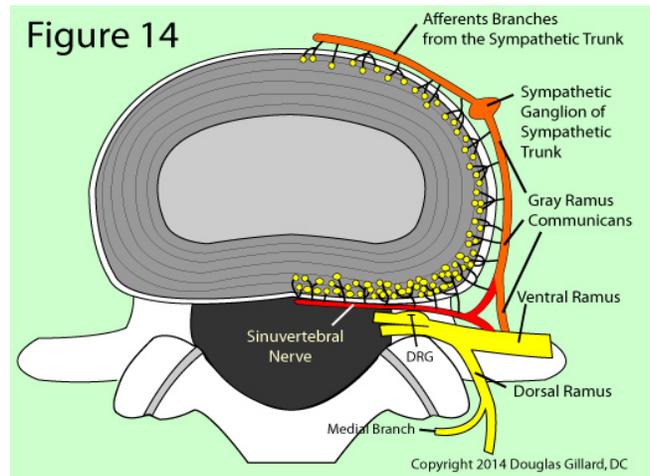


## Why is Rehabilitation the Key to Low Back Pain Relief?

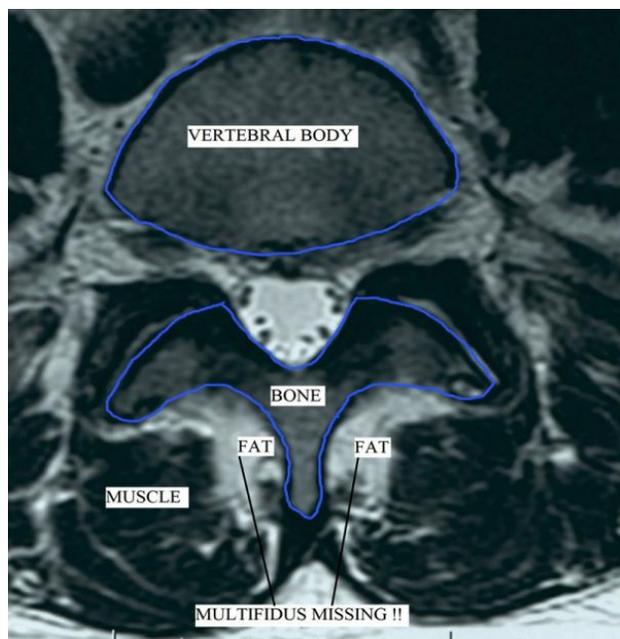
Millions of people are affected by chronic low back pain every year. In the past 3-5 years research has helped unravel some of the mysteries of low back pain. The majority of low back pain is mechanical in nature, meaning that some force will affect one of the structures in the low back (disc, ligament, muscle, joint) causing it to give under the strain. When the tissue is injured it becomes symptomatic by activating the small nerves that surround it which act like sensors. These sensors can cause pain, stiffness, and spasms in the area of injury. Injured tissue will also secrete chemicals as a result of the damage. One of these chemicals is called inflammatory cytokines which irritates the nerves causing pain.



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There are different kinds of cytokines. Research has shown that when they are present you feel pain, but they also cause the muscle in the area to short circuit and turn off. As long as these chemicals are present you will feel pain because they make the nerves in the area hyper reactive, but also continue to inhibit the nearby muscles. This can become a difficult cycle to break. That is why we tell our patients that training through injuries will never work and always catches up with you.

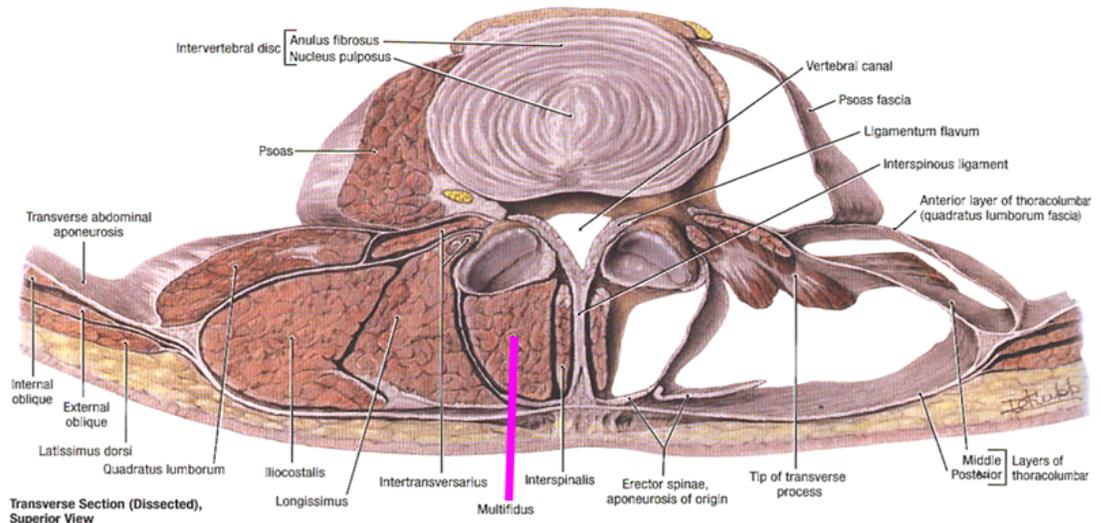
If this cycle continues over 6 weeks the low back muscle will decrease in size (atrophy). The muscles will also start to convert to a different type of muscle, one that is not designed to protect the low back during all the activities we require from it daily. Between 6-12 weeks the muscle will continue to shrink in size and fatty tissue will begin to fill in for the muscle. This seems like a long time but many people will present in our office with mild low back pain that has come and gone for weeks or months. It has not been bad enough to stop them or they may have taken some type of medication over the counter or used ice or heat to relieve the discomfort.



We now believe that the constant presence of these cytokines is activating this cycle over and over again. Researchers have discovered that unless we decrease the presence of these chemicals, rehabilitation fails. So the rule at our office is: daily activities pain free first, then we must begin to rehabilitate the muscles that the cytokines have turned off.

A disc or joint are structures deep in your low back vs a muscle, which is much more superficial.

If these deeper structures have been injured then the muscles that have been affected are the deep muscles. If rehabilitation is going to be effective it must target



the deepest muscles and reverse the process I described above. The exercises must be focused on the correct group of muscles or the rehabilitation will fail. It is not that the exercises are bad, but that if they don't target the correct muscles the weakness and atrophy remain. Classic presentation of this syndrome will be a person who either remains in low to moderate low back pain or they will report that since the original injury it is easier to flare up their back.

This does not have to happen! Our job as practitioners is to diagnose the injury, understand what stage it is in, and create the correct treatment plan for the injury. Once the injury is stable we determine the appropriate exercises that will activate the muscles turned off by the injury, and layer them in with the other muscles of the core to re-establish stability to the low back.

Low back injuries are challenging and complex but people do not have to suffer and lose hope. Understanding what is injured and the process that injuries go through is essential in order to rehabilitate the low back injury. Patients need to be in control of their low back, not controlled by it.

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