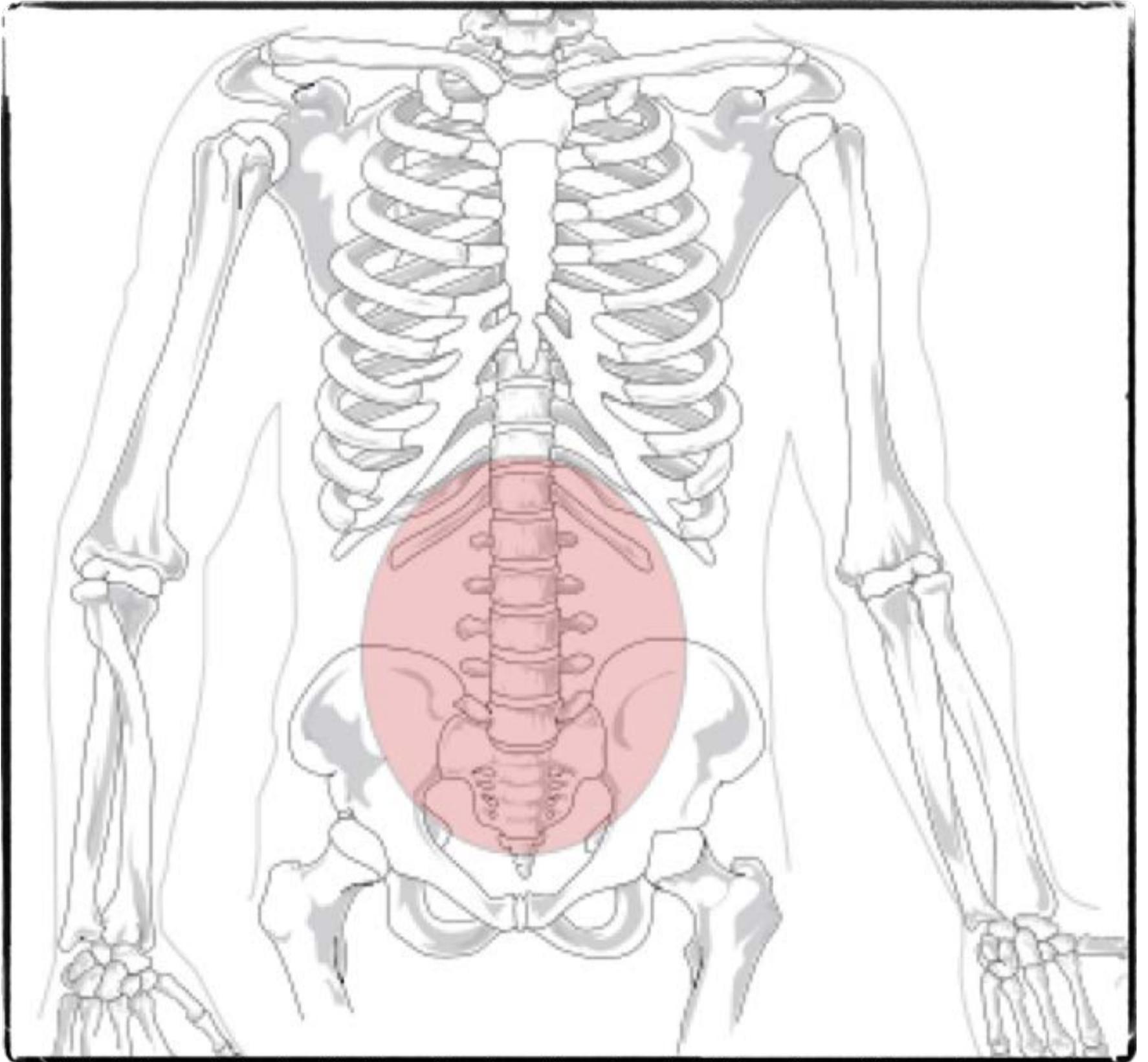


# 5 Ways to Stop Low Back Pain in its Tracks



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## About the Author

Dr. Tauberg is proud to be certified by the top physical therapy school in the country, the University of Pittsburgh, as a Primary Spine Practitioner. He is also a certified sports chiropractor, certified strength and conditioning specialist, and a nationally registered emergency medical responder. Dr. Tauberg opened Tauberg Chiropractic & Rehabilitation and is dedicated to providing top of the line care to the greater Pittsburgh area communities. He is a musculoskeletal expert who excels at treating low back pain, neck pain, and sports injuries. Dr. Tauberg stays up to date with the latest in rehabilitation research in order to provide the best care possible to his patients.

He graduated with a Doctor of Chiropractic degree from the National University of Health Sciences, and with a B.A. in Psychology from Eckerd College. Dr. Tauberg is the team chiropractor for the Pittsburgh Vengeance hockey team. Dr. Tauberg has further certificates in SFMA, FMS1, FMS2, DNS sports and FAKTR.

Dr. Tauberg was born and raised in Pittsburgh, PA. Dr. Tauberg bleeds black and gold and is a huge Pittsburgh sports fan. In his free time he enjoys playing hockey, skiing, sailing, biking, watching sports, and playing video games.

## INTRODUCTION

### Low Back Pain

When we talk about pain in the lower back we mean pain in what doctors call the Lumbar Spine, the five lumbar vertebrae (back bones) that lay just above the pelvis. Occasional pain in this area seems to be part of the human condition. Indeed, almost everyone has suffered from it at some point in their life. It is estimated that nearly 32

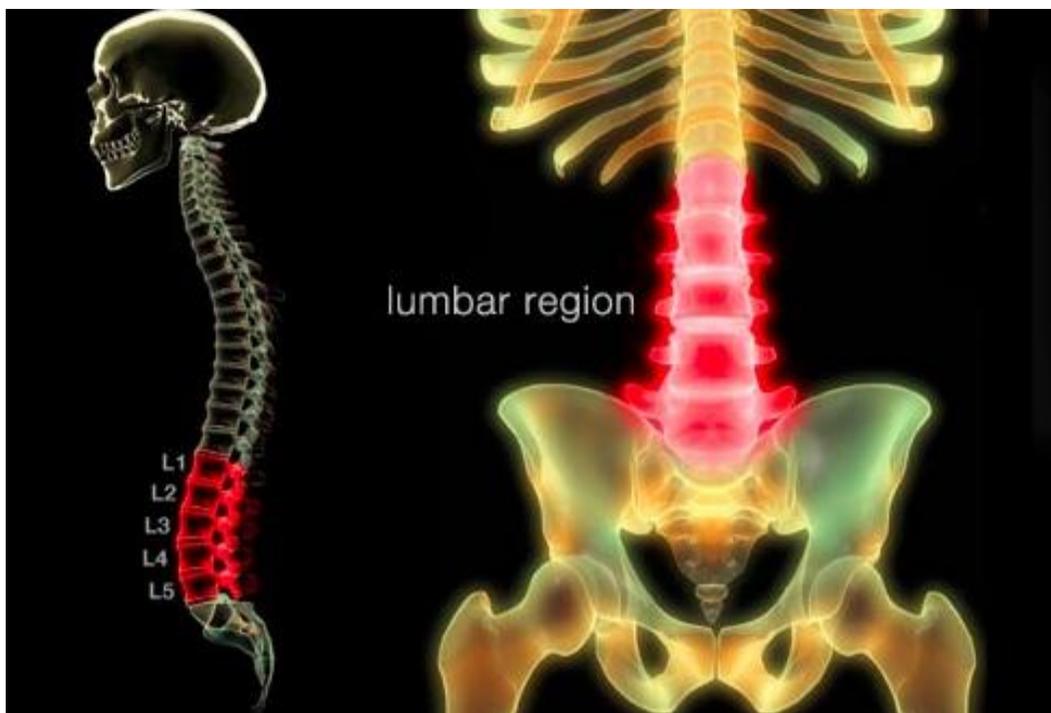
million Americans are experiencing back pain at this very moment. But for too many, low back pain is not just the occasional nuisance. It can be severe, intense and even debilitating. In fact, low back pain is one of the top causes of missed days of work. It is also one of the most expensive medical conditions plaguing modern Americans. The cost of diagnosing and treating back pain is estimated to be up to \$86 billion dollars a year<sup>1</sup>. Yet much of this treatment is ineffective, sometimes leading to chronic pain, depression and disability. Still, despite these poor statistics, you don't have to have to just live with your low back pain!

A lot of this money is wasted because most, minor back pain gets better on it's own. A lot is also wasted because preventing low back pain is far more effective than treating it. This e-book will discuss ways to stop low back pain in its tracks before it ever gets severe enough to require treatment. However, sometimes despite your best efforts, that may not be possible. You may even be suffering from severe back pain before you picked up this book. In that case, we will also discuss how to find the right health care practitioner who can *effectively* treat your pain.

### Common Causes of Low Back Pain

What exactly causes back pain? The back (vertebral spine) is a complex structure designed to perform a complex function - absorbing stress while permitting movement in multiple dimensions. Many elements of this structure such as tendons, ligaments, discs, muscles, and bones can become irritated or damaged, resulting in pain. Sometimes it is a single or severe trauma, such as a car accident or fall, that causes injury and pain. Other times it is minor repetitive stress that causes the damage. This is particularly common these days due to our often deconditioned state and sedentary lifestyle. Therefore, you may not be able to recall any particular event prior to the onset of your pain. Without an accurate diagnosis and treatment, even the most minor conditions can develop into serious lifelong conditions. While there are a multitude of possible causes of back pain, the following are the most common:

**Myofascial Pain** - This is pain that arises from the muscles and related structures. It can present as a back spasm or the feeling of tightness or tenderness in the back, and in some cases it can cause pain that radiates away from the back down into the buttocks or legs. Myofascial pain can be due to trigger points, sprains (tearing of the ligaments that connect muscle to



bone), strains (tears in the muscle fibers themselves), or other underlying problems. Trigger points are often present regardless of the exact cause of myofascial pain. Trigger points are hyper-irritable spots in the muscle that are very tender when touched. Many people refer to these trigger points as knots. They are not only tender to touch but can also lead to back spasms.

Strains and sprains can occur in anyone, but they typically occur in people who begin a new task and work the structures in the back in ways they are not used to. For example, a person who attempts to run a marathon without proper training is likely to overwork not just their leg muscles but those of the back as well. Ligament sprains are typically caused by stretching the involved ligament past its limits, creating tears. Muscular strains are commonly caused by lifting too heavy of an object and by twisting or turning motions. Sprains and strains of the ligaments and muscles of the back can be extremely painful and are often accompanied by swelling and bruising of the surrounding area.

**Joint Dysfunction** - Joint dysfunction is another common cause of lower back pain. It presents as a restricted range of motion - an inability to bend or move as far as you could previously without pain. Like myofascial pain, these are believed to occur after injury to the tissues. After an injury muscles in the area will contract to protect the area from excessive movement that could potentially worsen the injury. Sometimes even after the acute phase of the injury resolves these muscles may not relax causing continued pain and limitation of movement. As such the joint does not return to its normal range of motion. This can cause inflammation and irritation in the area which results in pain.

**Radiculopathy** - Radiculopathy is pain that comes from a nerve root. Most commonly this is from compression or irritation of the sciatic nerve as it exists the foramina (holes) in the lumbar spine, causing pain that radiates down the back of the leg. However, radiculopathy can also involve other nerves such as the femoral nerve involving the front of the leg.

While radiculopathy of the low back often causes pain to radiate into the legs, not all pain that radiates into the legs is caused by radiculopathy. Patients often are misdiagnosed with sciatica when they do not truly have it. For example, disc derangement is the most common cause of low back pain and can cause pain that is very similar to sciatica even if the disc is not compressing the sciatic nerve.

The two most common reasons that someone develops radiculopathy is due to disc herniations and stenosis.

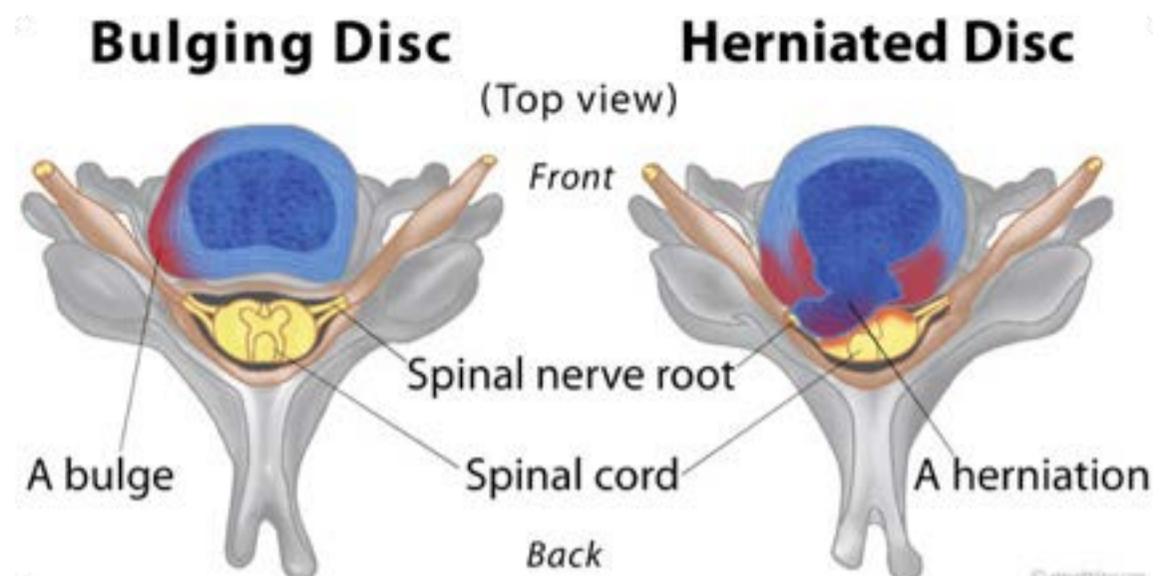
## Disc Herniations

Disc herniations are common and painful causes of back pain. It is important to recognize that not all disc bulges or herniations result in radiculopathy or pain. The type of pain experienced due to a disc herniation depends on the type and position of the herniation. If the damaged disc is irritating a surrounding nerve, shooting pain and

weakness in the legs may develop. The pain is often described as stabbing and lightning-like.

Disc herniations develop similar to disc derangements, the inner part of the disc protrudes through small tears in the outer part of the disc. A herniation occurs when the inner part of the disc protrudes so far as to actually protrude past the outer part of the disc. This causes intense inflammation in the area

which can irritate the nerve root, or the protruding part of the disc can directly compress the nerve root. Either of these mechanisms can cause radiculopathy.



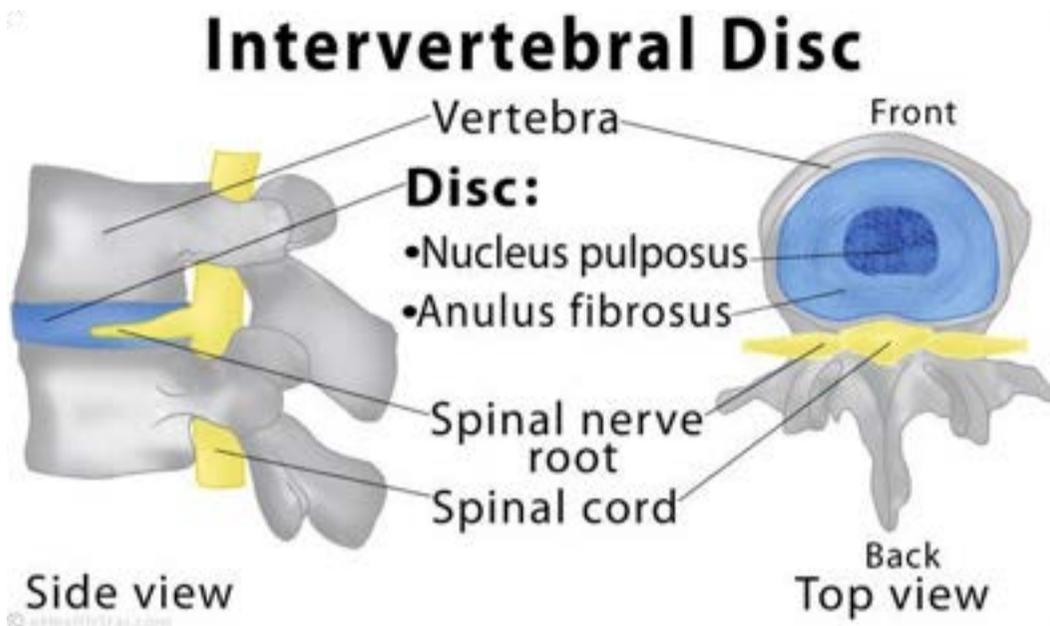
### Spinal Stenosis

Spinal stenosis is more common in older individuals, however it can develop or be a congenital condition in the younger population as well. Spinal stenosis is a narrowing of the pathway through which the spinal cord or nerve roots pass. Spinal stenosis is most often due to degenerative changes in the vertebral bodies. Over time, bony or ligamentous encroachment can occur either in the vertebral canal or in the lateral canals. Stenosis of the central vertebral canal is a very serious, but fortunately very uncommon, condition. When stenosis occurs in the lateral canals it usually has a similar presentation to disc herniation.

Although a lot of people get stressed out and worry that they are going to have to have surgery when they have a disc herniation or stenosis the first line of treatment for both is actually conservative care. The majority of patients with radiculopathy, regardless of cause, never require surgery or any invasive treatments.

**Disc Derangement** - This is the most common cause of low back pain. Pain that arises due to

problems with the shock-absorbing intervertebral disc itself. To understand disc derangement one must first understand the anatomy of the disc. The disc is made out of cartilage and separates the vertebrae in the spine. The discs have two main parts to them. There is an inner part called the nucleus pulposus, and an outer part called the annulus fibrosus which completely surrounds the nucleus. One could imagine this is similar to a cream filled donut. The nucleus of the disc does not have any nerve endings in it and it is the main weight bearing part of the disc. The



annulus, however does have nerve endings and for the most part is non weight bearing. Disc derangement develops when small tears in the annulus fibrosis develop and material from the nucleus leaks into the outer annulus. This causes pain as the nuclear material causes an inflammatory response in the (innervated) annulus.

Disc derangement is most commonly caused by repetitive flexion (bending forward) of the spine. Compression and twisting while flexing contributes to the risk of disc derangement. Throughout your life you flex your spine literally thousands of times. For some people this never causes an issue, but for others disc derangement develops and causes them to experience severe lower back pain. Disc derangement can develop suddenly or it can occur over time. It can also be associated with pain radiating down one or both legs, as mentioned above.

## Stress and Back Pain

A final note before we discuss the five ways to stop low back pain in its tracks. As you'll see, several of things have a role in not only treating, but also in preventing, back pain. As in most things in medicine, prevention of back pain is preferable to treatment.

One of the most effective and most important preventative measure you can take is to reduce the amount of stress in your life. All of the above listed causes of low back pain can be compounded by stress. People who are chronically under stress have a different physiological profile than those who are not. When our body is under stress, it releases various stress hormones to adapt to the situation. People underestimate just how much impact our emotions have on our physiological states, but there really is a strong connection. Stress can increase the amount of pain that one feels and is overall counterproductive for someone who is trying to get out of pain.

# 5 STEPS TO STOP LOW BACK PAIN

## 1. Make Sure You are Lifting Correctly

If you are fortunate enough to have never experienced low back pain, or to at least not be experiencing it currently, step 1 may be considered a preventative step. For many people though this is a way to decrease their current level of pain and to avoid exacerbating their underlying condition(s).

Lifting, especially heavy objects, incorrectly is a common cause of back pain, particularly in the workplace. Even your mother probably told you to “lift with your legs, not your back.” But what does lifting correctly really look like?

First, you should have a neutral spine while lifting. Neutral spine is just another way of saying good posture. Good posture refers to the three natural curves that are present in a healthy spine. Looking directly at the front or back of the body, the 33 vertebrae in the spinal column should appear completely vertical. From a side view, the cervical (neck) region of the spine curves inward, the thoracic (upper back) region curves outward, and the lumbar (lower back) region curves inward again. Lifting with a neutral spine means maintaining that lower, inward curvature especially and not rounding or flexing the spine. Instead, flex at the hips in order to lower your body and reach the object. And as you lift, keep the weight close to your body to prevent injury. For more on how to lift properly see the reference section at the end of this book.



## 2. Stay Active

Again this step is both a preventative and a therapeutic one. Exercise in general lowers your risk of developing low back pain while being overweight or obese is linked to an increased frequency of pain.

You don't have to be a weightlifter to decrease your risk of back pain. Indeed, that may be counterproductive unless you are rigorous about your form and the amount of weight you lift. An active lifestyle, including regular mild to moderate activity that elevates your heart rate is all you need to both decrease your risk of back pain and to lessen its severity if you already suffer from it. This includes being active at work as prolonged sitting is associated with the development and exacerbation of low back pain. Practice the 20/20/20 rule: After every 20 minutes of sitting at your desk stand for

20 seconds or better yet walk a distance of at least 20 feet before returning to your desk. Not only will this reduce the postural strain on your back, it will also make you more productive at work as well.

### 3. Keep the Core Strong

Muscular imbalance (one set of muscles stronger than the opposing set) is often the underlying cause of, or a significant contributing factor to, low back pain. In many people the abdominal muscles and the muscles surrounding the low back are inhibited or weak. The key to both preventing and especially treating back pain in these people therefore is to retrain those muscles to become more active. This improves dynamic stability and reduces low back pain.

While outlining an entire core strengthening program is outside the scope of this e-book, it is important to remember that working the core and abs does not mean endless sit-ups in pursuit of a six pack. Rather it involves gentle stretching and strengthening of the muscles that surround the back and create functional stability. See the figure at left for a list of some of these muscles.

### 4. Check on Your Mattress

You spend roughly a third of your life in bed, so sleeping on the right mattress is essential for managing low back pain. While online mattress retailers are growing in popularity, ideally you should test out a mattress before deciding which one is right for you and your back. Conversely, testing involves more than just laying on a mattress briefly at a mattress showroom. The best test is to observe how you feel after sleeping on different types of mattresses over several nights, for example while you are away from home at a hotel or a friend or relative's house.



In the past doctors recommended a very firm mattress for people with back pain, but research shows that most people do best with a mattress that is supportive but still comfortable - neither too hard which can interfere with sleep quality nor too soft which can cause you to sink into it, twisting your joints and causing pain.

Even the right mattress for you and your back will lose support over time. The general recommendation is to replace your mattress approximately every seven years.

### 5. Visit a Qualified Practitioner

This tip may be the last one but it can also be the most effective. If none of the above measures have been sufficient to prevent back pain or relieve it, the final step is to seek professional medical attention. The truth is that proper care by a qualified practitioner, such as a trained and licensed doctor

of chiropractic is both therapeutic and preventative. Restoring proper mobility and stability of the low back and may help prevent the condition from returning in the future.

Evidence based chiropractors are able to diagnose, manage, and treat your condition. They are well trained in the care of musculoskeletal disorders and low back pain is one of the most common conditions they see.

When choosing a practitioner to help you deal with your back pain, look for one whose practice is evidence based. And the evidence supports the use of both active and passive therapies. More important than any specific therapy or combination of therapies though is your relationship with your practitioner.

You want to find a practitioner who focuses on patient education and preparing you for self care. A high-quality practitioner is one that encourages the patient to be self-reliant and self-dependent regarding their further back health. Finally, the treatment goals should be focused on the patient's needs and therapeutic goals, not those of the clinician. A practitioner's favorite technique, even one with which he's had great success, is not helpful if it doesn't fit the individual patient's needs.

## CONCLUSION

In conclusion, after reading this e-book, I hope you understand that you are not alone in suffering back pain. It is very common, practically universal, in our modern society. But by understanding a little about the anatomy and physiology of low back pain, and following the five simple steps outlined above, you can stop back pain in its tracks! The results will not only be a happier, healthier back, but better overall health and effectiveness at work and at play.

Thank you for taking the time to read this ebook. I hope that you find it helpful and that it will help you take the right steps on the road to recovery. If you have any questions or would like to schedule a free discovery visit, so that we can determine if working together is the best way to get you back to your favorite activities then please contact me at 412-517-8124.

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