

# Low Back Pain

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## Causes and Treatment of Chronic Low Back Pain

Chronic low back pain is one of the most common complaints treated by physiotherapists. It is also one of the most challenging. There have been more research dollars spent investigating this problem than any other area of musculoskeletal medicine. Yet it remains a poorly understood condition.

Many different tissues in the back that can become painful, including the bones, discs, joints, ligaments, muscles, nerves and even the blood vessels. People with chronic pain are usually referred for numerous tests, in an effort to determine where the pain is coming from. Tests include XRays, CT and MRI scans, blood tests, bone scans, bone density tests, discograms, and diagnostic injections. Invariably, abnormalities will be discovered. But often the abnormalities found are not the cause of the person's pain. For instance, the MRI on the left shows



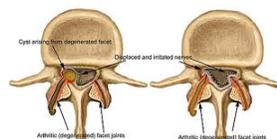
examples of a bulging disc and degeneration in the spine. It is common to see changes like this, and often in people who do not suffer from back pain. It is also common to have completely normal test findings in people with chronic intractable pain.

So while these tests have value, and may even show a possible source of pain, there are other important factors to consider. For instance, a degenerative or bulging disc may be the source, but may not be the cause of pain. A careful history and physical examination may discover much more of value than what is seen on an XRay or read in an MRI report.

### Sources of Pain

While many tissues are capable of generating pain, there are some more likely to be implicated than others:

- Discs have nerve endings, and can become painful due to degeneration or chronic bulging. Disc degeneration can also place increased pressure on other tissues and make them painful.
- Joints and their surrounding ligaments can become painful due to strain or compression.
- Muscle tension is one of the most important sources of chronic pain.
- Nerve compression can be part of the problem. However this is not one of the common sources of chronic low back pain.



### Causes of Chronic Back Pain

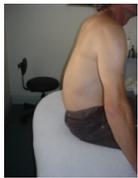
The causes of chronic spinal pain are many and complex. This is too broad a topic to be covered here. Causes include postural faults, repetitive activities, trauma, disease, and psychological factors. Problems can come from further up in the spine, from the hips, or as far away as the feet. Genetic predisposition is a less likely cause than commonly thought.

### Treatment

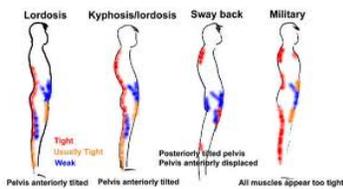
Again, it is impossible to explain the many different treatments available. However the important ones are

described below:

1. Postural correction. It is obvious to say that few of us have ideal posture. It



also goes without saying that postural faults are a common source of aches and pains. While it is something we generally don't like to acknowledge, this will need attention when treating most forms of back pain, particularly chronic pain.



2. Lifestyle modification. It is surprising how often the cause of the problem can be attributed to factors which are modifiable. This might take some guidance and perseverance, but the results can be significant.



3. Education. It is essential to understand why your back is hurting, and what you need to do to make it better. This and lifestyle modification are often the most important factors. You can have dozens of different treatments, but they are unlikely to have any lasting benefit on their own.



You can also have the strongest back, or the most efficient core, but this doesn't help you when you spend hours in a statically stressful position.

4. Movement re-education. It may be necessary to make changes to the way you move. Inefficient motions can place a surprising amount of stress on different parts of the body, particularly the spine. Efficient movement, alternatively, can be more beneficial than strengthening exercises. When muscles move the correct way, they often get stronger by default, without you having to spend months doing complex exercise drills.



5. Core strengthening. There has been a massive amount of research over the past two decades showing the benefits of core strengthening exercises. There is no doubt that this is a valuable part of chronic back

pain management. For some people it will be the most important aspect. However a good treatment programme will incorporate core strengthening as one part of a broad management plan. Core strengthening can be approached in several ways:

- Real-time ultrasound training. Many of the important core muscles are



deep, small, and hard to feel. It is sometimes easier to use ultrasound to image the muscle on a screen. This makes it

possible to see if it is working properly during the exercise.

- Biofeedback. Apart from ultrasound, other devices (including your fingers) can be used to help you feel whether you are using the core muscles correctly.



- Pilates. This exercise technique has gained popularity because it is essentially core strengthening combined with movement.



This is what we need in the real world. If you have back pain, it is best to receive Pilates instruction from someone experienced in injury management. Many physiotherapists have moved into the area of Pilates training. Yoga & tai chi are alternative techniques that can provide similar benefits.

- \* Swiss ball strengthening. This is another form of core strengthening with movement.



- Functional exercise. This involves transferring core strengthening into specific

movements that you use day to day.

- Swimming. This is suggested to just about everyone with chronic pain. It certainly has many advantages, and can help with core strength. However most things that make our backs sore are weight-bearing or gravity related activities. Swimming may not be enough for many people, and should be combined with other exercises.
  - General exercise. Sometimes, it is not so important what type of exercise you do, but that you do something that keeps you fit and active. It is better if it is something you enjoy, because you will be more likely to stick with it.
6. Physical treatments. It will usually be necessary to loosen tight joints or muscles through mobilisation, massage, stretching or other techniques.
7. Pain management programmes. When pain has been present for a long time, and interferes with your daily life, it may be necessary to undertake a team approach to treatment. This will include help from experts including physio's, doctors, psychologists and exercise physiologists.

### **Conclusion:**

Chronic back pain is one of the most complex, controversial, and misunderstood areas of injury management. The answer to the problem is rarely straightforward. In some cases there is no cure, and it is about how you manage your pain. However there is often great scope for improvement, or even alleviation of your pain. This will invariably mean that you will have to learn how to care for your back, and make changes to the things you do every day.

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