

**FREE CHAPTER!**



— The Physical Therapy Advisor's Guide to —

# **TREATING**

# **LOW BACK PAIN**

# **DURING EXERCISE AND ATHLETICS**

*Complete with Prevention and Rehabilitation Strategies*

Ben Shatto, PT, DPT, OCS, CSCS

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*Complete with Prevention  
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# HOW TO SELF-TREAT LOW BACK PAIN (LBP) FOLLOWING AN INJURY

## INITIAL TREATMENT

Sometimes it is obvious when an injury to the lumbar spine has occurred. Other times the pain is much more subtle. The pain can start slowly increasing throughout the day until you are in a full blown case of low back pain.

To safely self-treat your low back pain, first take a moment to assess your symptoms and pain level. What led to your pain and/or injury? Did the pain come on suddenly or slowly? Evaluate the severity of the injury. **If you're experiencing any of the following, please seek immediate medical attention:**

- Loss of bowel/bladder function.
- Uncontrollable pain. The pain is so severe you cannot function or move.
- Ataxia (a neurological sign) occurs when you are unable to control or coordinate the movements in your legs (particularly, during walking).

- You are losing muscle function or control. The muscles in the legs will no longer work. (This is different than pain preventing the muscle from working.) This sensation of paralysis occurs when the muscles will not actually function.
- Significant loss of sensation in the leg or groin area. This is not a tingling sensation, but an actual loss of sensation. For example, you cannot feel the toilet paper when you wipe after using the toilet.
- Numbness, pins and needles or severe pain in the toes or lower leg.
- The pain does not change with movement or worsens with rest.
- Any history of cancer or tumor, and the pain did not have a specific and correlated mechanism for injury.
- Onset of pain without any known mechanism for the injury. (Thoroughly consider your activity. Many times, a slow onset of pain begins several hours after performing an activity.)
- If you also develop a high fever or any other symptoms in relation to your low back pain or generally start not feeling well.

## **DIRECTIONAL PREFERENCE**

- Because most LBP is mechanical, you should be able to alter and change it within a short period of time. Most LBP will have a directional preference for extension, meaning extending backward. A majority of injuries occur either performing

a forward biased (flexed movement) or are due to chronic slouching (a forward biased or spinal flexion biased movement).

- First, establish a directional preference. This means establish a pattern to the pain. Does it get worse when you bend over or better? What happens when you repeat this movement?
- Determine how the pain responds. If it spreads away from the spine and down into the leg, beware that you are moving in the wrong direction. Stop that particular movement, and instead try moving in the opposite direction. If you were moving into flexion, try extension. If you had trialed extension biased movements, try flexion.

Fortunately, most LBP is mechanical--meaning it is from a physical or structural cause and isn't related to conditions such as cancer or infections. Most LBP will have a directional preference for extension. A majority of injuries occur when performing a forward biased (flexed movement) like chronic slouching or a spinal flexion biased movement. Flexion biased programs are often found in older adults (particularly in cases of spinal stenosis). They may also be seen in younger clients suffering from a specific type of spinal fracture known as a spondylolisthesis. Please refer to **Special Topics**.

You should be able to alter and change your LBP within a short period of time. First, establish a directional preference by identifying a pattern to the pain. Does the pain get worse when you bend over or does it improve? What happens when you repeat this movement? Determine how your pain responds. If it spreads away from the spine and down into the leg, beware that you are moving in the wrong direction. Stop that particular movement, and instead try

flexion biased movements. In my experience, most episodes of LBP tend to respond better to extension biased movements. If flexion or extension doesn't help or change the pain in any way, then you may need assistance from a medical provider.

### **The rule of thumb for movement:**

**If the pain worsens by spreading peripherally down the buttock and into the leg and/or foot, then the condition is worsening. We must stop that activity. If the pain centralizes and returns back toward the spine (even if the pain worsens slightly), then keep moving as the condition is actually improving.** For a thorough discussion and an excellent treatment resource, please refer to *Treat Your Own Back* by Robin A. McKenzie.

## **SELF-TREATMENT STRATEGIES**

Although most LBP isn't considered serious, the pain tends to re-occur. One major reason for this is that the deep stabilizing muscles, known as the **multifidus muscles**, reflexively shrink, weaken, and lose function. Without proper rehabilitation, the muscles will not fully recover. This increases the risk of future episodes because the spine no longer has the ability to stabilize itself normally. Initially after a suspected injury, I highly advise that you don't sit. Instead, keep moving, but slowly.

If you have established your directional preference as an **extension biased**, I typically recommend performing press-ups and standing back extensions. Please refer to **Extension Biased Stretches for Low Back Pain**.

If you have established your directional preference as **flexion biased**, I typically recommend performing the following exercises: knee to chest, double knee to chest, and seated flexion. Please refer to **Flexion Biased Stretches for Low Back Pain**.

- **ACTIVATE THE MULTIFIDUS.** *Other than determining directional preference, and then performing the associated exercises this is the most important component to treatment.* Start with spine extensor muscle activation (the muscles that extend your spine) exercises such as the superman and bridging (as demonstrated in **Core Strengthening Exercises – Lumbar Extensors**). Perform these exercises frequently during the day after the initial injury. Once the pain subsides and muscle function improves, more advanced lumbar extension strengthening and stabilizing exercises will need to be performed to decrease your risk of recurrent low back pain.

These exercises are listed from easiest to hardest. Begin with the prone (on your stomach) superman exercises and bridging exercises. **At all times, follow the rule of peripheralization and centralization.** If your pain progresses from the area of the injury into your leg, then you need to stop that activity. If the pain remains constant or is progressing out of the leg, then continue with the activity as you are helping the body to heal. The key to long term management is a strong core (particularly, the multifidus and posterior chain muscles).

- **DON'T SIT.** Walking is critical to your recovery! It's the number one way your spine receives nutrients and disposes of metabolic

waste products. Walk frequently, and try to avoid any prolonged sitting. This is a critical component to spine health. Walk more!

- **IF YOU SIT, USE PROPER POSTURE.** Utilize a **McKenzie lumbar roll** to help insure a correct lumbar curve (*as shown on page 31*). Be sure to get up every 20-30 minutes. If you cannot comfortably sit, then listen to your body.
- **REDUCE INFLAMMATION AND SUPPORT THE HEALING RESPONSE.** I recommend starting a 30 day course of **CapraFlex by Mt. Capra**. CapraFlex is an organic glucosamine and chondroitin supplement which also includes an herbal and spice formulation designed to naturally decrease inflammation and support healing. I recommend it to anyone recovering from an injury or attempting to prevent injury when performing at a very high level. I personally use it, and in my practice, it has helped clients recover faster and prevent injury.

**Tissue Rejuvenator by Hammer Nutrition** contains glucosamine and chondroitin as well as a host of herbs, spices, and enzymes to help support tissues and limit inflammation. I recommend taking either CapraFlex **OR** Tissue Rejuvenator. I typically recommend trying a 14-30 day protocol.

An additional supplement to consider is called **CapraColostrum by Mt. Capra**. Colostrum is the first milk produced by female mammals after giving birth. It contains a host of immunoglobulins, anti-microbial peptides, and other growth factors. It is especially good at strengthening the intestinal lining which prevents and heals conditions associated with a leaky gut. Colostrum can also help a person more effectively exercise in hotter conditions. Over

all, it can boost the immune system, assist with intestinal issues, and help the body to recover faster.

I recommend taking either CapraFlex **OR** Tissue Rejuvenator, not both concurrently. You **can** take CapraColostrum independently or in conjunction with either CapraFlex or Tissue Rejuvenator.

If the supplements are aiding in your recovery, you may choose to continue taking them for an additional 30 days. I sometimes implement this protocol as part of a prevention strategy during times of heavy volume or high intensity training.

*Please consult with your pharmacist and/or physician prior to starting any new supplementation protocol. Herbs could interact with some medications particularly if you are taking blood thinners.*

- **ICE AS NEEDED FOR PAIN.** *The rule for icing is to apply ice no more than twenty minutes per hour. Do not place the ice directly against the skin, especially if you are using a gel pack style. Individuals with poor circulation or impaired sensation should take particular care when icing.* The ice is for pain control only. It doesn't penetrate deep enough into your back to affect any of the likely pain generating structures.

After the first few days, you can alternate between applying heat or ice (depends on your amount of relief from either). The protocol for only using ice for the first two weeks is not so strict when treating LBP. Typically, the rule on more superficial injuries, such as a shoulder injury or ankle sprain, is to ice for two weeks.

Individuals with poor circulation or impaired sensation should take particular care when icing.

- **USE TOPICAL ANALGESICS FOR PAIN.** There are many topical agents which can be used for pain. My two favorites to help manage pain and stiffness are **Arnica Rub** (an herbal rub) and **Biofreeze**. Use liberally. These help with pain, but they don't get to the source of the pain. In addition to icing, use these topicals as tools to get moving more in order to help the injury heal faster.
- **BE AS ACTIVE AS YOU CAN.** Don't stop moving! It's important that you remain as active as you can, but taper back on certain activities that you know will increase your pain. This typically would be activities that involve heavy loading of the spine or excessive use of the piriformis muscle such as squats with weight, deadlifts or other activities that may cause forward flexion (particularly under a load or standing on one leg).

As you are able, continue to work on cardiovascular conditioning and core muscle activation, particularly the lumbar extensors. Remember the rule of thumb for movement. If your pain progresses from the area of injury into the leg, then you need to stop that activity. If the pain remains constant or is progressing out of the leg, then continue with the activity as you are helping the body to heal.

- **HYDRATE.** The human body is primarily made of water, which is critical for all body functions. I highly encourage you to hydrate more frequently during recovery. Adequate water intake is critical

as your body attempts to heal and flush out metabolic wastes. Dehydrated tissues are prone to injury as they struggle to gain needed nutrients to heal and repair. Dehydrated tissues are less flexible and tend to accumulate waste products. Maintain a steady supply of nutrients going to/from the area of the injury. Try to avoid beverages that contain artificial sweeteners or chemicals with names you can't spell or pronounce. Water is best.

- **ORAL MAGNESIUM.** Although you can increase the magnesium in your diet by eating foods higher in magnesium such as spinach, artichokes, and dates, I recommend that you take **Mag Glycinate** in pill form. Taking additional magnesium (particularly at night) can help to reduce muscle cramps and spasming. It is also very helpful in reducing overall muscle soreness and aiding in a better night's rest. I recommend beginning with a dose of 200 mg (before bedtime) and increasing the dose as needed. I would caution you that taking too much magnesium can lead to diarrhea. Mag Glycinate in its oral form is the most highly absorbable. Although not as absorbable, **Thorne Research Magnesium Citrate** and magnesium oxide can also be beneficial.
- **ACUPUNCTURE.** I am personally a big fan of acupuncture. It's very useful in treating all kinds of medical conditions. It can be particularly effective in treating muscle cramps and spasms as it addresses the issues on multiple layers. Acupuncture directly stimulates the muscle by affecting the nervous system response to the muscle while producing a general sense of well-being and relaxation.

- **BRACING.** A lumbar corset brace may also be worn initially after injury. This works just like the thoracolumbar fascia—it helps to support and stabilize the spine. It also acts as a reminder to avoid flexing. You will want to wear it snug. This should only be a temporary measure. Frequent use of the brace will further weaken your body’s own lumbar stabilizing muscles. The brace is only worn initially for pain relief. As soon as possible, discontinue the brace. Continue working through the proper extension or flexion biased movements while working on core strengthening.
- **ASK FOR HELP.** Yes, even physical therapists have to ask for help sometimes! Many useful manual and manipulation based techniques can help to manage LBP, particularly when combined with the right exercise and movement based protocol. Most manual techniques cannot be performed on your own.

If your pain isn’t improving, seek a qualified and competent physical therapist or sports chiropractor who specializes in working with athletic clients who suffer from low back pain. One test to see if the practitioner is a good fit is to ask his/her advice on using manual techniques and exercise. If the practitioner doesn’t believe in movement and exercise based treatment in combination with manual therapy, keep looking. **The American Physical Therapy Association** offers a wonderful resource to help find a physical therapist in your area. In most states, you can seek physical therapy advice without a medical doctor’s referral (although it may be a good idea to seek your physician’s opinion as well).

# **THE PHYSICAL THERAPY ADVISOR**

Empowering You to Reach Your Optimal Health!

## **Ready for more?**

Because low back pain (LBP) affects up to 80% of the western population at one time or another, I have specifically created this eBook as well as a video package to address this need.

***Treating Low Back Pain During Exercise and Athletics*** is designed for active individuals who have LBP or have previously suffered from an episode of LBP. You'll learn how to address specific causes of LBP as well as the best practices on how to prevent and self-treat when you experience an episode of LBP. In this step-by-step LBP rehabilitation guide (complete with photos and detailed exercise descriptions), you will discover how to implement prevention and rehabilitation strategies.

To help guide you through ***Treating Low Back Pain (LBP) during Exercise and Athletics***, I have created a package that you can get access to which includes a 7-part series of instructional videos. *Don't miss out on this nearly 60 minutes of actionable advice to prevent and treat LBP as it relates to active individuals, sports, and athletics!*

There is also an additional bonus eBook, ***Preventing and Treating Overtraining Syndrome***, in which I show you how to recognize the risk factors and symptoms of Overtraining Syndrome (OTS).

*To learn more, please visit:*

**<http://www.thephysicaltherapyadvisor.com/store/>**