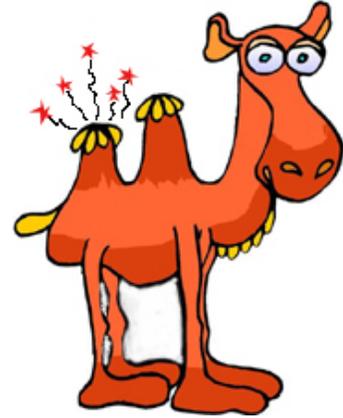


My Aching Back!

Lower Back Pain Part III: Treatment

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The good news is that 90% of people suffering lower back pain recuperate within 3-4 weeks, though recurrence is common.¹ Less than 1% of people with back pain require surgery.² The specific structure in your back responsible for your pain is hardly ever identified.³ Regardless of the cause, low back pain usually involves spasms of the large supportive muscles of the spine, which can be quite painful.³ Many people suffering from back pain become obsessed with finding the exact source of their problems. As a result, a great deal of money is spent to pacify patients by performing multiple diagnostic tests.⁴ Only 10% of those suffering from acute back pain actually benefit from xrays, MRIs and CT scans.⁵ There is little correlation between pain and the defects that show up on these tests. People with no pain may have rather severe degeneration or injury, while people with significant pain may exhibit no obvious defects in the tests.⁴ Good surgeons rely on clinical exams first, to determine if there is need to look more closely with diagnostic tests.⁴ They use further screening to confirm their clinical diagnosis; they do not rely on the tests to determine the problem.

Review from Part I: Should you see a physician?

Most lower back pain can be treated without advice from a doctor. There are a few symptoms that are potential indications of a serious medical condition and if you experience these symptoms, you should seek medical attention immediately because they are indicators of serious conditions. These symptoms include:^{6,7}

- Sudden bowel and/or bladder incontinence
- Progressive weakness or pain in the legs, feet or toes
- Severe, continuous abdominal and back pain
- Fever and chills
- History of cancer with recent weight loss
- Severe trauma or accident

As with upper back pain, lower back pain in children should be treated seriously. Young children rarely experience back pain, so if there has been no injury, back pain could signal a serious condition such as a spinal tumor, growth, or an infection of the spine.⁸ Older children tend to be more aggressive in activities and sports, and carry heavy back packs, which increases the possibility of compression fractures and occasional disc injuries. Tumors and infection of the spine may occur in teens, but back pain in teens is most often caused by sports injuries or overuse syndromes.⁸ Scoliosis – the curvature of the spine - is not uncommon among teenagers, but it rarely causes back pain.⁸

Steps to healing: Self-care

If you have no indication of a serious underlying cause for your back pain, you should follow these steps to help your back heal. Contact a doctor if there is not a definite reduction in pain and inflammation after 3 days of self-care.⁹ An episode of low back pain that lasts for more than two weeks can lead to muscle

weakness, since the tendency is to avoid using the muscles that hurt. This leads to weakening and atrophy of the muscle, which in turn causes more pain because the weakened muscles are less able to support the spine.¹⁰ Generally, back pain will go away on its own within six weeks regardless of what professional treatments you pursue.⁴

- Heat and Ice. Though never scientifically proven to resolve low back injury, compresses may help reduce pain and inflammation, and allow greater mobility for some individuals. Immediately after injury and continuing for 2-3 days, apply an ice pack to the painful area for 20 minutes, three times a day. After 2-3 days, apply heat or use warm baths to relax muscles and increase blood flow.^{3,4,9,11}
- Keep active. Bed rest is generally not recommended as it used to be.^{1,3,9} It has been found to be ineffective and may even delay recovery.^{1,4} Studies show that continuing usual activities resulted in better back flexibility than bed rest for a week.¹⁹ If you feel you must lie down, for every three hours that you're down, you should be on your feet for 20 minutes to an hour.² You lose calcium from your bones and your muscles begin to weaken without continued activity.²
- Exercise and coordination drills. Exercise may be the best way to speed recovery from low back pain.^{1,9} Start with the light cardiovascular training such as walking, riding a stationary bicycle, or swimming to help increase blood flow and promote healing.^{3,11} After a couple of weeks, add gentle exercises shown on the website listed below for Reference 12.^{11,12} Do not perform activities that involve heavy lifting or twisting of your back for 6 weeks after the pain begins.³ Avoid jogging, football, golf, ballet, weight lifting, leg lifts when lying on your stomach, and sit-ups with straight legs.³ Danish researchers compared chronic back pain sufferers who did back strengthening exercises with those who did coordination drills. Both groups improved equally in terms of mobility, ability to carry out daily activities, and a two-third reduction in pain medication.¹³ Even though the coordination group did not show improvement in back strength, their improvement was equal to those who did strength training, so the researchers concluded that both strength and coordination is important for pain reduction.¹³ Refer to Reference 13 for the specific coordination drills performed in the research.
- Medications. Over-the-counter non-steroidal anti-inflammatories (NSAIDs) such as aspirin or ibuprofen can help reduce stiffness, swelling, inflammation, and pain. Counter-irritants, applied topically to the skin as cream or spray, stimulate the nerve endings in the skin to provide feelings of warmth or cold and dull the sense of pain. They can also reduce inflammation and stimulate blood flow. Many of these compounds contain salicylates, the same ingredient found in aspirin.⁹ Avoid prescription pain relievers or limit their use to 2-3 days after injury.² These drugs do not treat the cause of the pain, they just mask it.²
- Make sure your office is set up correctly. If you think your chair or your office may be aggravating your back pain, please read about selecting a good chair and arranging your office correctly on this website (<http://www.working-well.org/chair.html> and http://www.working-well.org/wkstn_design.html). A chair that fits you and proper arrangement of your office are well known to prevent and alleviate back problems.⁴
- Lose Weight. Lower back pain patients generally weigh more than uninjured people.¹⁴ Extra weight increases force on the spine.¹⁵ There's a good chance you'll lose weight if you are increasing your aerobic and strength training, but make a conscious effort to eat right and reduce portion sizes if you are overweight or obese.^{3,15}

- Stop Smoking.^{5,15} Nicotine reduces circulation to the tissues in the spine and reduces the spinal discs' ability to absorb nutrients.¹⁵ Therefore it slows your recovery from an episode of back pain. Smoking also increases the risk of osteoporosis, which weakens the vertebrae.¹⁵
- Supplements. Some supplements have been found to significantly improve the condition of patients with lower back problems. The enzymes trypsin and chymotrypsin have been shown to help people with degenerative spine problems and sciatica.¹ Their use for acute lower back pain is not known since these studies were conducted on people with chronic problems.¹ If you are interested in exploring information on other supplements and herbs, please read Reference 1 which discusses these at length.
- Treat depression and manage stress. Back pain has a very large psychological component and it is necessary to recognize the mental aspects of the problem which often are manifested in physical symptoms. Depression, anxiety, and stress are all psychological states which are linked to back pain, either leading to pain or resulting from the disabling aspect of pain, or both. It's important for people who have recurring back pain to do three things: (1) recognize when things are getting stressful before they get out of control, (2) learn coping skills, and (3) exercise.⁴ We refer you to *The Ultimate Back Book*, Reference 4, for more details on this topic.

Self-Care Treatments of doubtful usefulness:

- TENS. A transcutaneous electrical nerve stimulator (TENS) unit uses electrical stimulation to change the sensation of pain in the back by overriding the signals being set to the brain.¹⁵ This is generally used only for patients with recurring back pain and must be prescribed by a doctor.² It is a small unit that can be used at home for lower back pain on a long-term basis.¹⁵ Proponents claim that it is successful to varying degrees for some patients, although only 1/3 of chronic patients who try it find relief.⁴
- Short-Wave Diathermy and Interferential Current. Short-wave diathermy sends out sound waves that are meant to increase circulation and relax muscle tension with a deep heating effect. Interferential current uses two different frequencies of electric current to alleviate pain and reduce swelling. Neither of these treatments is used much today because they are not very effective.⁴
- Traction. Traction involves the application of either intermittent or continuous force in a way that elongates the spine. Studies have shown it to be ineffective for low back pain.⁴

Still hurting? Professional care.

If you have tried all of the above suggestions and you still suffer from back pain after two or three weeks, it may be helpful to consult with a health care professional. Who you consult will determine the recommended course of action⁴ A neurosurgeon will not provide insights into muscle spasm any more than a massage therapist will provide insights into potential nerve problems. Before deciding which type of practitioner to consult, you should educate yourself about the various alternatives and about general back problems. An excellent source of current information is Reference 4, *The Ultimate Back Book*, which is written for lay people so that they can understand the technicalities of back care, physiology, alternatives, and even some of the politics involved in the back care field.

People who have back pain tend to believe that if all else fails, they can always resort to surgery. Surgery is *not* a last resort for a majority of people; it's not even an option!⁴ There are specific conditions that make someone a good candidate for surgery and only a very few people have defects that can be successfully corrected.⁴ Bear in mind that while surgery may alleviate pain, its *primary purpose* is to

correct structural defects.⁴ Theoretically, once a defect is corrected, pain should subside, but this is not always the case. In addition, the scar tissue resulting from cutting into the back tissues is not as flexible and functional as the original tissue, so back surgery never leaves a patient "repaired" or as good as new.⁴ The least invasive methods of treatment are always more desirable than surgery, so start with those.

Non-invasive treatment

- Manipulation. Some acute back problems can be resolved with one or two manipulations by an osteopath, chiropractor or physical therapist.^{2,4} The federally funded Agency for Health Care Policy and Research has deemed spinal manipulation effective for acute low back pain during the first month following injury.¹ Several studies have found manipulation effective for people with herniated discs, though this is inconclusive.¹ In addition, people with a history of lower back surgery did not fair well with manipulation.¹
- Massage. Many practitioners use massage in combination with other physical therapies. Preliminary research on massage alone indicates that it has potential to relieve back pain.¹ A good massage therapist can help remind the body to relax and let go of unnecessary tension in addition to increasing blood flow to the muscles and improving their tone.¹⁵ Explore trigger point therapy if traditional physical therapy is not working for you or you have genuine problems such as spinal stenosis, or a herniated disc.¹⁶ Trigger point therapy releases tension in muscles that are often remotely connected to the body part that hurts.¹⁶
- Physical Therapy. Many people benefit from physical therapy, though you will need a referral from a doctor.³ First a physical therapist works on reducing your pain, then teaches you ways to prevent reinjury.³ As mentioned in our previous article on Upper Back Pain, a recent study found that people tend to compensate for back injuries by using other muscles to avoid use of the painful muscle.¹⁴ The more alternate muscles used, the greater load added to the spine.¹⁴ Typical physical therapy involves regaining strength, however it is also important to re-learn how to use the appropriate muscles naturally.¹⁴
- Biofeedback. Some studies have shown biofeedback to be effective in reducing lower back pain, while others have not.¹⁵ One study found biofeedback to be the only method where people experienced significant long-term pain reduction for up to two years.¹ Using a special electronic machine, the patient is trained to become aware of, and to eventually gain control over muscle tension.⁹ The patient learns to change their response to pain by using relaxation techniques or other methods.⁹
- Ultrasound. In this type of therapy, sound waves pass through the skin into the injured muscles and other soft tissues, warming the tissues and causing them to relax.⁹ It is especially useful in relieving acute pain and may enhance tissue healing.^{4,15}
- Alternative therapies. For those who have suffered recurring episodes of back pain, it may be helpful to explore one of the many alternative therapies available. Somatics is a discipline that teaches your brain how to relax tight muscles.¹⁷ Somatics rapidly relaxes muscular tension, ends pain, and improves freedom of movement for many people.¹⁷
- Laser acupuncture. This technique has been used in Europe for about 40 years.⁴ A cold laser (versus a hot laser, which destroys tissue) is used to stimulate the acupuncture sites.⁴ A metal probe about the length of a pencil is applied against the skin. An infrared ray is used for deep pain; a helium neon beam is used for more superficial pain.⁴ This technique is non-invasive and sometimes more

acceptable to people who feel uncomfortable about the use of needles. Traditional and laser acupuncture are sometimes used together to treat back pain.⁴

- Self-help groups. Support groups can make a big difference in how people cope with chronic back pain. They tend to focus on what you can do, rather than what you can't do, they teach you how to take responsibility for your own well-being, and they teach you how become active and involved.⁴ In the Bay Area, a good group to contact is *For Those In Pain*. They can be reached at www.ForThoseInPain.com or (650) 968-2323.
- Pain clinics and cognitive intervention. A recent study found that counseling to encourage and reassure patients to remain active and to participate in daily physical exercise sessions for 3 weeks was equally effective as a matched group who underwent spinal fusion surgery. Fear-avoidance beliefs and fingertip-to-floor distance were reduced more for the counseling group than for the surgery group, although lower limb pain was reduced more after surgery.²⁰ One way to obtain this type of counseling is through pain clinics.

Pain clinics use a multidisciplinary approach to help chronic pain sufferers manage their pain without drugs, rather than get rid of it. Generally, they require referral from a physician and often have a waiting list, but considering their success rate, it's probably worth it. Research has shown that two-thirds of patients have significant pain relief and 75% of the patients maintain these gains a year later.⁴ The greatest gains are made by people who have a lot of physiologically-based pain and little psychological sources of pain.⁴ A team often composed of a psychologist or social worker, nurse, physician, ergonomist, kinesiologist, massage therapist, and exercise therapist work together to help each patient.⁴ They work to change the patient's attitude about pain, to focus on the purpose of each day, rather than on pain, and to recognize pain without fear that it will take over one's life. One such clinic in the Bay Area is the Pain Management Center, UCSF Medical Center at Mt. Zion, (415) 885-7246, or http://mountzion.ucsfmedicalcenter.org/pain_management/index.html.

Minimally invasive treatment

- Acupuncture and electro-acupuncture. Acupuncture may be helpful for some people.^{1,9} According to research, acupuncture can alleviate lower back pain and is recommended as a supplemental therapy for all back pain sufferers including people with slipped discs, sciatica, and pregnant women.¹ Electro-acupuncture uses the principles of acupuncture, but uses an electrical stimulator attached to the needles to apply electrical current of various intensities to the point. It doesn't hurt, but gives a pulsating feeling.⁴
- Intramuscular Stimulation (IMS). Similar to acupuncture, dry needles are used to stimulate areas of the body, but IMS focuses on muscles. The needles are inserted directly into the muscles, which can be quite painful, and more needles may be required than for acupuncture.⁴ IMS aims to treat muscle spasms directly by needling the taut bands of muscle.⁴
- Spinal Cord Stimulation. Two electrodes and lead wires are implanted under the skin near the spine.⁴ The wires run under the skin to a disc-shaped receiver either below the collar bone or in the abdominal area. A stimulation transmitter, activated by the user, sends signals through the skin to the receiver which then sends tiny electrical impulses to the spinal cord.⁴ Researchers can't explain why these electrical impulses seem to short-circuit pain messages and some patients are better able to manage pain than others.⁴ Very few hospitals perform these implants.⁴

- **Epidural Injections.** This controversial procedure has been used for 90 years in herniated disk cases where surgery is not a good option and other treatments have failed.⁴ An anesthetic or steroid solution is inserted into the epidural space by means of a long syringe.⁴ It is not understood why the effects do not wear off in a few hours when the drug wears off, but back pain can be relieved for months or even years after this treatment.⁴ Some feel that it blocks the transmission of pain messages from the site of the injury to the brain.⁴ Steroid epidural injections have a 50% success rate that lasts from one week up to one year.²¹ Epidural injections are not effective for herniated discs or for mechanical wear and tear problems.⁴
- **Nerve root blocks.** These are similar to epidural injections, except the needle is inserted only to the point where the nerve root emerges from the spinal canal.⁴ These may be effective for adhesions that may have formed at the site of an injury, but they are not effective for herniated discs or mechanical wear and tear problems.⁴
- **Chemonucleolysis.** If you have a herniated disc, this is definitely an attractive option as long as the disc has not ruptured.^{4,22,23} With an adequately trained and experienced surgeon, there is a 75% success rate. If chemonucleolysis doesn't work, surgery is still usually an option.⁴ It has been used successfully for the past 25 years in more than 400,000 patients for the treatment of sciatica resulting from lumbar disc herniation.²³ Several long term studies of 10 to 20 years all confirm the safety and effectiveness of chymopapain.²⁴

It takes only about 30 minutes, there is no scarring, and the recovery time is short.⁴ The procedure involves injecting the center of the disc with chymopapain, an enzyme made from the flesh of the papaya.⁴ (It is basically a highly refined version of meat tenderizer). The enzyme speeds up the breakdown of the jelly-like substance inside the disc (nucleus), releasing water.²² As a result, the bulging disc may shrink and relieve pressure on the nerve root.²² In fact, research has found that following treatment, the nucleus can regenerate, so that chemonucleolysis appears to be less likely than surgical excision to permanently alter the disc nucleus.²⁵

There are a few risks, particularly for those who have an allergic reaction to papain. However, in a review of 4,282 patients who were treated with chymopapain, only 15 (0.35%) had a reaction and no deaths resulted. (Even among those patients with reactions, 12 of the 15 obtained complete relief of the symptoms of disc herniation.²⁵) This problem is virtually eliminated by testing for allergy prior to the procedure and using a local anesthesia so that the patient can alert the medical team of symptoms.^{22,26}

This procedure is not done in the U.S. due to a tragic introduction. During 1983 and 1984, about 80,000 patients were injected with chymopapain in the U.S. by about 3,500 doctors.⁴ In contrast to the extensive training and apprenticeship that doctors in Europe received before performing the procedure, many of the U.S. doctors attended a one-day course with no practice or observation of the procedure on a live patient.⁴ Many of the U.S. patients were no better off than without the procedure, a few dozen became paraplegics, and a few even died.⁴ The procedure was halted by the end of 1984.⁴ It is expected that chymopapain will be available again by late 2005.²⁴

Surgery

It is beyond the scope of this article to address specific pros and cons of surgical treatment. Surgery for disc herniation generally involves microsurgical removal of disc material.²⁴ Microsurgery allows for very precise operation on the delicate tissues and nerves, using very tiny instruments.²⁴ The incision is very

small, little muscle is retracted, and healing is usually rapid.²⁴ The downside of microsurgery is the inability to see more than one problem in the area.⁴

Traditional open surgery dates back to the 1930s. It is less frequently used today for treatment of a single ruptured disc, it is still used in many cases for treatment of spinal stenosis, spinal cord tumors and disc fusion.

The FDA has just approved an artificial disc, which may eliminate spinal fusion surgeries in the future.²⁷ Spinal fusion eliminates disc problems by fusing two vertebrae together, which often relieves pain, but restricts patients range of motion and can strain nearby discs, requiring further surgery.²⁷ The artificial disc has been used in Europe for more than a decade.²⁷ It consists of spikes and a polyethylene spacer that slips into the space where the ruptured disc was. It is supposed to give the patient complete range of motion and, since it's minimally invasive, the patient is up and walking within hours.²⁸ This procedure is still fairly experimental.⁴



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This article and all of our articles are intended for your information and education. We are not experts in the diagnosis and treatment of specific medical problems. When dealing with a severe problem, please consult with a healthcare professional and research the alternatives available for your particular diagnosis prior to embarking on a treatment plan. You are ultimately responsible for your own health and treatment!

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