Osteoporosis: Coping With Chronic Pain

National Institutes of Health
Osteoporosis and Related Bone Diseases ~ National Resource Center

2 AMS Circle
Bethesda, MD
20892-3676

Tel: (800) 624-BONE or
(202) 223-0344
Fax: (202) 293-2356
TTY: (202) 466-4315

Internet: www.niams.nih.gov/bone
E-mail: NIAMSBONEINFO@mail.nih.gov

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Osteoporosis often causes very painful fractures, which can take many months to heal. In many cases, the pain starts to go away as the fracture heals. Most new fractures heal in approximately 3 months. Pain that continues after that is generally considered chronic pain. One cause of chronic pain is vertebral fractures. When a vertebra breaks, some people have no pain, while others have intense pain and muscle spasms that last long after the fracture has healed.

Pain is the body's way of responding to an injury. When a bone breaks, nerves send pain messages through the spinal cord to the brain, where they are interpreted. Your response to pain is determined by many factors, including your emotional outlook. For example, depression seems to increase a person's perception of pain and decrease her or his ability to cope with it. Often, treating the depression treats the pain as well.

Chronic pain is pain that lasts beyond the expected time for healing and interferes with normal life. The injury has healed, but the pain continues. The pain message may be triggered by muscle tension, stiffness, weakness, or spasms. Whatever the cause of chronic pain, feelings of frustration, anger, and fear can make the pain more intense. Chronic pain can affect all areas of your life and should be taken seriously.

The following information provides those who have chronic pain with an overview of different options for pain management. If you have chronic pain and need help managing it, you may wish to discuss these options with your doctor.

Coping Strategies: Physical Methods of Pain Management

Heat and ice: Heat, in the form of warm showers or hot packs, can relieve chronic pain or stiff muscles. Cold packs or ice packs provide pain relief by numbing the pain-sensing nerves in the affected area. Cold also helps reduce swelling and inflammation. Depending on which feels better, apply heat or cold for 15 to 20 minutes at a time to the area where you feel the pain. To protect your skin, place a towel between your skin and the source of the cold or heat. Some simple ways to make heat and ice packs are listed below:

- Warm towels or hot packs in the microwave for a quick source of heat. (Handle carefully.)
- Make instant cold packs from frozen juice cans or bags of frozen vegetables.
- Freeze a plastic, resealable bag filled with water to make a good ice bag.

Transcutaneous Electrical Nerve Stimulation (TENS): A TENS machine is a small device that sends electrical impulses to certain parts of the body to block pain signals. Two electrodes are placed on the body where you are experiencing pain. The electrical current that is produced is very mild, but it can prevent pain messages from being transmitted to the brain. Pain relief can last for several hours. Some people may use a small, portable TENS unit that hooks onto a belt for more continuous relief. TENS machines should only be used under the supervision of a physician or physical therapist. They can be purchased or rented from hospital supply or surgical supply houses; however, a prescription is necessary for insurance reimbursement.

Braces and supports: Spinal supports or braces reduce pain and inflammation by restricting movement. Following a vertebral fracture, a back brace or support will relieve pain and allow you to resume normal activities while the fracture heals. However, continuous use of a back support can weaken back muscles. For this reason, exercises to strengthen the muscles in the back should be started as soon as possible.

Exercise and physical therapy: Prolonged inactivity increases weakness and causes loss of muscle mass and strength. A regular *exercise* program and physical therapy can help you regain strength, energy, and a more positive outlook on life. Because exercise raises the body's level of endorphins – or natural pain killers produced by the brain – it will relieve pain somewhat. Exercise also relieves tension, increases flexibility, strengthens muscles, and reduces fatigue.

A *physical therapist* can help you reorganize your home or work environment to avoid further injuries. Physical therapists also teach proper posture and exercises to strengthen the back and abdominal muscles without injuring a weakened spine.

Water therapy in a pool, for example, is one of the best exercise techniques for gently improving back muscle strength and reducing pain.

Acupuncture and acupressure: *Acupuncture* is the use of special needles that are inserted into the body at certain points. These needles stimulate nerve endings and cause the brain to release endorphins. It may take several acupuncture sessions before the pain is relieved. Acupuncture has been used for centuries in China and other parts of Asia to treat many types of pain.

Acupressure is direct pressure applied to areas that trigger pain. This technique can be self-administered after training with an instructor.

Massage therapy: Massage therapy can be a light, slow, circular motion with the fingertips or a deep, kneading motion that moves from the center of the body outward toward the fingers or toes. Massage relieves pain, relaxes stiff muscles, and smoothes out muscle knots by increasing the blood supply to the affected area and warming it. The person doing the massage uses oil or powder so that her or his hands slide smoothly over the skin. Massage can also include gentle pressure over the affected areas or hard pressure over trigger points in muscle knots. *Note: Deep muscle massage should not be done near the spine of a person who has spinal osteoporosis. Light, circular massage with fingers or the palm of the hand is best in this case.*

Coping Strategies: Psychological Methods of Pain Management

Relaxation training: Relaxation involves concentration and slow, deep breathing to release tension from muscles and relieve pain. Learning to relax takes practice, but relaxation training can focus attention away from pain and release tension from all muscles. Relaxation tapes are widely available to help you learn these skills.

Biofeedback: Biofeedback is taught by a professional who uses special machines to help you learn to control bodily functions, such as heart rate and muscle tension. As you learn to release muscle tension, the machine immediately indicates success. Biofeedback can be used to reinforce relaxation training. Once the technique is mastered, it can be practiced without the use of the machine.

Visual imagery and distraction: *Imagery* involves concentrating on mental pictures of pleasant scenes or events or mentally repeating positive words or phrases to reduce pain. Tapes are also available to help you learn visual imagery skills.

Distraction techniques focus your attention away from negative or painful images to positive mental thoughts. This may include activities as simple as watching television or a favorite movie, reading a book or listening to a book on tape, listening to music, or talking to a friend.

Hypnosis: Hypnosis can be used in two ways to reduce your perception of pain. Some people are hypnotized by a therapist and given a post-hypnotic suggestion that reduces the pain they feel. Others are taught self-hypnosis and can hypnotize themselves when pain interrupts their ability to function. Self-hypnosis is a form of relaxation training.

Individual, group, or family therapy: These forms of psychotherapy may be useful for those whose pain has not responded to physical methods. People who suffer from chronic pain often experience emotional stress and depression. Therapy can help you cope with these feelings, making it easier to manage your pain.

Coping Strategies: Medication for Pain Management

Medications are the most popular way to manage pain. Commonly used medications include aspirin, acetaminophen, and ibuprofen. Although these are probably the safest pain relievers available, they sometimes cause stomach irritation and bleeding.

Narcotic drugs may be prescribed for short-term acute pain. These drugs should not be used for long periods because they are addictive and can affect your ability to think clearly. They also have other side effects, such as constipation.

Many people with persistent pain that has not responded to other forms of pain relief are treated with antidepressant medication. These drugs may work in a different way when used for treatment of unyielding pain. The body's internal pain suppression system may depend upon the concentrations of various chemicals in the brain. These concentrations are increased by the use of antidepressants.

The above-mentioned methods of pain management are used in various hospitals and clinics across the country. If you have chronic pain that has not responded to treatment, you should consult your physician for a referral to a physical therapist or a clinic specializing in pain management.

Pain Management Resources

National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Institutes of Health
1 AMS Circle
Bethesda, MD 20892-3675
http://www.niams.nih.gov
Phone: 877-22-NIAMS (226-4267) (free of charge) or 301-495-4484
Fax: 301-718-6366
The National Institute of Arthritis and Musculoskeletal and Skin Diseases publishes *Pain Research: An Overview*. This publication is available at: http://www.niams.nih.gov/hi/topics/pain/pain.htm.

National Institute of
Dental and Craniofacial Research
National Institutes of Health
Bethesda, MD 20892-2190
E-mail: nidcrinfo@mail.nih.gov
http://www.nidcr.nih.gov/
Phone: 301-496-4261
The National Institute of Dental and Craniofacial Research is the primary NIH organization for research on pain.

National Institute of Neurological Disorders and Stroke
NIH Neurological Institute
P.O. Box 5801
Bethesda, MD 20824
http://www.ninds.nih.gov
Phone: 800-352-9424 (free of charge) or 301-496-5751
The National Institute of Neurological Disorders and Stroke has developed a *Chronic Pain Information Page*. This resource is available at: http://www.ninds.nih.gov/health_and_medical/disorders/chronic_pain.htm.

American Pain Society
4700 West Lake Avenue
Glenview, IL 60025-1485
E-mail: info@ampainsoc.org
http://www.ampainsoc.org
Phone: 847-375-4715
Fax: 877-734-8758 (free of charge)
This society provides general information to the public and maintains a directory of resources, including referrals to pain centers.

American Chronic Pain Association
P.O. Box 850
Rocklin, CA 95677-0850
E-mail: ACPA@pacbell.net
http://www.theacpa.org
Phone: 800-533-3231 (free of charge) or 919-632-0922
Fax: 919-632-3208
This association provides information on positive ways to deal with chronic pain and can provide guidelines on selecting a pain management center.

NIH Pain Consortium
National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20892
E-mail: NIHInfo@od.nih.gov
http://painconsortium.nih.gov
Phone: 301-496-4000
The NIH Pain Consortium was established to enhance pain research and promote collaboration among researchers across the many NIH Institutes and Centers that have programs and activities addressing pain.

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For Your Information

This publication contains information about medications used to treat the health condition discussed here. When this fact sheet was printed, we included the most up-to-date (accurate) information available. Occasionally, new information on medication is released.

For updates and for any questions about any medications you are taking, please contact the U.S. Food and Drug Administration at 1-888-INFO-FDA (1-888-463-6332, a toll-free call) or visit their Web site at www.fda.gov.