National Institute of Mental Health

# Depression and Osteoporosis





Depression not only affects your brain and behavior it affects your entire body. Depression has been linked with other health problems, including osteoporosis. Dealing with more than one health problem at a time can be difficult, so proper treatment is important.

## What is depression?

Major depressive disorder, or depression, is a serious mental illness. Depression interferes with your daily life and routine and reduces your quality of life. About 6.7 percent of U.S. adults ages 18 and older have depression.<sup>1</sup>

## Signs and Symptoms of Depression

- Ongoing sad, anxious, or empty feelings
- Feeling hopeless
- Feeling guilty, worthless, or helpless
- Feeling irritable or restless
- Loss of interest in activities or hobbies once enjoyable, including sex
- Feeling tired all the time
- Difficulty concentrating, remembering details, or making decisions
- Difficulty falling asleep or staying asleep, a condition called insomnia, or sleeping all the time
- Overeating or loss of appetite
- Thoughts of death and suicide or suicide attempts
- Ongoing aches and pains, headaches, cramps, or digestive problems that do not ease with treatment.

For more information, see the NIMH booklet on Depression at http://www.nimh.nih.gov/health/publications/depression/ index.shtml.

### What is osteoporosis?

Osteoporosis is a disease that thins and weakens your bones to the point that they become fragile and break easily.<sup>2</sup> About 10 million people in the United States have osteoporosis. About 50 percent of women and 25 percent of men age 50 or older will fracture a bone due to osteoporosis.<sup>3</sup>

## How are depression and osteoporosis linked?

Studies show that older people with depression are more likely to have low bone mass than older people who aren't depressed.<sup>4</sup> Bone mass refers to the amount of minerals, such as calcium, in your bones. Low bone mass can lead to osteoporosis. Younger women with depression may also be at risk for osteoporosis. One study found that among women who have not yet reached menopause, those with mild depression have less bone mass than those who aren't depressed.<sup>5</sup>

Although osteoporosis affects more women than men, one study has recommended checking for osteoporosis in older men with depression. The same study suggested checking for depression in older men with osteoporosis, because osteoporosis increases the risk of depression.<sup>6</sup>

If you have osteoporosis, you may need to make many lifestyle changes, and these changes may increase your risk of depression. For example:

- To prevent falls that could cause already fragile bones to fracture or break, you may not be able to take part in some activities you once enjoyed.
- Weakened bones may make it harder to perform everyday tasks, and you could lose some of your independence.
- You may feel nervous about going to crowded places, such as malls or movie theaters, for fear of falling and breaking a bone.

## How is depression treated in people who have osteoporosis?

Depression is diagnosed and treated by a health care provider. Treating depression can help you manage your osteoporosis and improve your overall health. Recovery from depression takes time but treatments are effective.

At present, the most common treatments for depression include:

 Cognitive behavioral therapy (CBT), a type of psychotherapy, or talk therapy, that helps people change negative thinking styles and behaviors that may contribute to their depression

- Selective serotonin reuptake inhibitor (SSRI), a type of antidepressant medication that includes citalopram (Celexa), sertraline (Zoloft), and fluoxetine (Prozac)
- Serotonin and norepinephrine reuptake inhibitor (SNRI), a type of antidepressant medication similar to SSRI that includes venlafaxine (Effexor) and duloxetine (Cymbalta).

While currently available depression treatments are generally well tolerated and safe, some medications, including some antidepressants, anticonvulsants, and lithium, can increase your risk for osteoporosis. Certain medications can also increase your risk of falling, which is dangerous if you already have osteoporosis. Talk with your health care provider about side effects, possible drug interactions, and other treatment options that best suit your situation. For the latest information on medications, visit the U.S. Food and Drug Administration website at http://www.fda. gov. Not everyone responds to treatment the same way. Medications can take several weeks to work, may need to be combined with ongoing talk therapy, or may need to be changed or adjusted to minimize side effects and achieve the best results. But treatment can be effective.

Osteoporosis treatment may include medications that slow or stop bone loss or build new bone. Exercise is an important part of osteoporosis treatment, particularly activities in which you support your weight on your feet. These activities help to strengthen bones<sup>7</sup> and muscles that can prevent falls.<sup>8</sup> These activities can also boost your mood and treat your depression. Your health care provider can recommend exercises that are right for you.

More information about depression treatments can be found on the NIMH website at http://www.nimh.nih. gov/health/publications/depression/how-is-depressiondetected-and-treated.shtml. If you think you are depressed or know someone who is, don't lose hope. Seek help for depression.

## For More Information on Depression

Visit the National Library of Medicine's MedlinePlus **http://medlineplus.gov** En Español **http://medlineplus.gov/spanish** 

For information on clinical trials

#### http://www.nimh.nih.gov/health/trials/index.shtml

National Library of Medicine clinical trials database http://www.clinicaltrials.gov

Information from NIMH is available in multiple formats. You can browse online, download documents in PDF, and order materials through the mail. Check the NIMH website at **http://www.nimh.nih.gov** for the latest information on this topic and to order publications. If you do not have Internet access please contact the NIMH Information Resource Center at the numbers listed below.

#### National Institute of Mental Health

Science Writing, Press & Dissemination Branch 6001 Executive Boulevard Room 8184, MSC 9663 Bethesda, MD 20892-9663 Phone: 301-443-4513 or 1-866-615-NIMH (6464) toll-free TTY: 301-443-8431 or 1-866-415-8051 toll-free FAX: 301-443-4279 E-mail: **nimhinfo@nih.gov** Website: **http://www.nimh.nih.gov** 

### For More Information on Osteoporosis

## National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)

Information Clearinghouse 1 AMS Circle Bethesda, MD 20892-3675 Phone: 1-877-22-NIAMS (226-4267) or 301-495-4484 TTY: 301-565-2966 E-mail: **NIAMSinfo@mail.nih.gov** Website: http://www.niams.nih.gov

## Citations

- Kessler RC, Chiu WT, Demler O, Merikangas KR, Walters EE. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005 Jun; 62(6):617–27.
- National Institute of Arthritis and Musculoskeletal and Skin Diseases. Osteoporosis - what is osteoporosis? http://nihseniorhealth.gov/osteoporosis/whatisosteoporosis/ 01.html. Accessed on September 2, 2008.
- National Institute of Arthritis and Musculoskeletal and Skin Diseases. Osteoporosis overview. http://www.niams.nih. gov/Health\_Info/Bone/Osteoporosis/overview.asp. Accessed on September 2, 2008.
- Whooley MA, Kip KE, Cauley JA, Ensrud KE, Nevitt MC, Browner WS. Depression, falls, and risk of fracture in older women. Study of Osteoporotic Fractures Research Group. *Archives of Internal Medicine*. 1999 Mar 8; 159(5):484–90.
- Eskandari F, Martinez PE, Torvik S, Phillips TM, Sternberg EM, Mistry S, Ronsaville D, Wesley R, Toomey C, Sebring NG, Reynolds JC, Blackman MR, Calis KA, Gold PW, Cizza G. Low bone mass in premenopausal women with depression. *Archives of Internal Medicine*. 2007 Nov 26; 167(21):2329–36.
- Laudisio A, Marzetti E, Cocchi A, Bernabei R, Zuccala G. Association of depressive symptoms with bone mineral density in older men: a population-based study. *International Journal of Geriatric Psychiatry*. 2008 Nov; 23(11):1119–26.
- Zehnacker CH, Bemis-Dougherty A. Effect of weighted exercises on bone mineral density in post menopausal women. A systematic review. *Journal of Geriatric Physical Therapy*. 2007; 30(2):79–88.
- Hourigan SR, Nitz JC, Brauer SG, O'Neill S, Wong J, Richardson CA. Positive effects of exercise on falls and fracture risk in osteopenic women. *Osteoporosis International*. 2008 Jul; 19(7):1077–86.

### Reprints

This publication is in the public domain and may be reproduced or copied without permission from NIMH. We encourage you to reproduce it and use it in your efforts to improve public health. Citation of the National Institute of Mental Health as a source is appreciated. However, using government materials inappropriately can raise legal or ethical concerns, so we ask you to use these guidelines:

- NIMH does not endorse or recommend any commercial products, processes, or services, and our publications may not be used for advertising or endorsement purposes.
- NIMH does not provide specific medical advice or treatment recommendations or referrals; our materials may not be used in a manner that has the appearance of such information.
- NIMH requests that non-Federal organizations not alter our publications in ways that will jeopardize the integrity and "brand" when using the publication.
- Addition of non-Federal Government logos and website links may not have the appearance of NIMH endorsement of any specific commercial products or services or medical treatments or services.

If you have questions regarding these guidelines and use of NIMH publications, please contact the NIMH Information Resource Center at 1-866-615-6464 or e-mail at nimhinfo@nih.gov.



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES National Institutes of Health National Institute of Mental Health NIH Publication No. 11–7743