



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

2 AMS Circle  
Bethesda, MD 20892-3676

**Phone:** 202-223-0344  
**Toll free:** 800-624-BONE  
**Fax:** 202-293-2356  
**TTY:** 202-466-4315

**E-mail:** NIAMSBoneInfo@  
mail.nih.gov

**Web site:** [www.niams.nih.gov/bone](http://www.niams.nih.gov/bone)

The NIH Osteoporosis and Related Bone Diseases ~ National Resource Center is supported by the National Institute of Arthritis and Musculoskeletal and Skin Diseases with contributions from the National Institute on Aging, the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development, the National Institute of Dental and Craniofacial Research, the National Institute of Diabetes and Digestive and Kidney Diseases, the NIH Office of Research on Women's Health, and the HHS Office on Women's Health.

*The National Institutes of Health (NIH) is a component of the U.S. Department of Health and Human Services (HHS).*



# Pregnancy, Breastfeeding, and Bone Health

Both pregnancy and breastfeeding cause changes in, and place extra demands on, women's bodies. Some of these may affect their bones. The good news is that most women do not experience bone problems during pregnancy and breastfeeding. And if their bones are affected during these times, the problem often is corrected easily. Nevertheless, taking care of one's bone health is especially important during pregnancy and breastfeeding, for the good health of both the mother and her baby.

## Pregnancy and Bone Health

During pregnancy, the baby growing in its mother's womb needs plenty of calcium to develop its skeleton. This need is especially great during the last 3 months of pregnancy. If the mother doesn't get enough calcium, her baby will draw what it needs from the mother's bones. So, it is disconcerting that most women of childbearing years are not in the habit of getting enough calcium. Fortunately, pregnancy appears to help protect most women's calcium reserves in several ways:

- Pregnant women absorb calcium from food and supplements better than women who are not pregnant. This is especially true during the last half of pregnancy, when the baby is growing quickly and has the greatest need for calcium.
- During pregnancy, women produce more estrogen, a hormone that protects bones.
- Any bone mass lost during pregnancy is typically restored within several months after the baby's delivery (or several months after breastfeeding is stopped).

Some studies suggest that pregnancy may be good for bone health overall. Some evidence suggests that the more times a woman has been pregnant (for at least 28 weeks), the greater her bone density and the lower her risk of fracture.

In some cases, women develop osteoporosis during pregnancy or breastfeeding, although this is rare. Osteoporosis is bone loss that is serious enough to result in fragile bones and increased risk of fracture.

In many cases, women who develop osteoporosis during pregnancy or breastfeeding will recover lost bone after childbirth or after they stop breastfeeding. It is less clear whether teenage mothers can recover lost bone and go on to optimize their bone mass.

**Teen pregnancy and bone health.** Teenage mothers may be at especially high risk for bone loss during pregnancy and for osteoporosis later in life. Unlike older women, teenage mothers are still building much of their own total bone mass. The unborn baby's need to develop its skeleton may compete with the young mother's need for calcium to build her own bones, compromising her ability to achieve optimal bone mass that will help protect her from osteoporosis later in life. To minimize any bone loss, pregnant teens should be especially careful to get enough calcium during pregnancy and breastfeeding.

## **Breastfeeding and Bone Health**

Breastfeeding also affects a mother's bones. Studies have shown that women often lose 3 to 5 percent of their bone mass during breastfeeding, although they recover it rapidly after weaning. This bone loss may be caused by the growing baby's increased need for calcium, which is drawn from the mother's bones. The amount of calcium the mother needs depends on the amount of breast milk produced and how long breastfeeding continues. Women also may lose bone mass during breastfeeding because they're producing less estrogen, which is the hormone that protects bones. The good news is that, like bone lost during pregnancy, bone lost during breastfeeding is usually recovered within 6 months after breastfeeding ends.

## **Tips to Keep Bones Healthy During Pregnancy, Breastfeeding, and Beyond**

Taking care of your bones is important throughout life, including before, during, and after pregnancy and breastfeeding. A balanced diet with adequate calcium, regular exercise, and a healthy lifestyle are good for mothers and their babies.

**Calcium.** Although this important mineral is important throughout your lifetime, your body's demand for calcium is greater during pregnancy and breastfeeding because both you and your baby need it. The National Academy of Sciences recommends that women who are pregnant or breastfeeding consume 1,000 mg (milligrams) of calcium each day. For pregnant teens, the recommended intake is even higher: 1,300 mg of calcium a day.

Good sources of calcium include:

- low-fat dairy products, such as milk, yogurt, cheese, and ice cream
- dark green, leafy vegetables, such as broccoli, collard greens, and bok choy
- canned sardines and salmon with bones
- tofu, almonds, and corn tortillas
- foods fortified with calcium, such as orange juice, cereals, and breads.

In addition, your doctor probably will prescribe a vitamin and mineral supplement to take during pregnancy and breastfeeding to ensure that you get enough of this important mineral.

**Exercise.** Like muscles, bones respond to exercise by becoming stronger. Regular exercise, especially weight-bearing exercise that forces you to work against gravity, helps build and maintain strong bones. Examples of weight-bearing exercise include walking, climbing stairs, dancing, and weight training. Exercising during pregnancy can benefit your health in other ways, too. According to the American College of Obstetricians and Gynecologists, being active during pregnancy can:

- help reduce backaches, constipation, bloating, and swelling
- help prevent or treat gestational diabetes (a type of diabetes that starts during pregnancy)
- increase energy
- improve mood
- improve posture
- promote muscle tone, strength, and endurance
- help you sleep better
- help you get back in shape after your baby is born.

Before you begin or resume an exercise program, talk to your doctor about your plans.

**Healthy lifestyle.** Smoking is bad for your baby, bad for your bones, and bad for your heart and lungs. If you smoke, talk to your doctor about quitting. He or she can suggest resources to help you. Alcohol also is bad for pregnant and

breastfeeding women and their babies, and excess alcohol is bad for bones. Be sure to follow your doctor's orders to avoid alcohol during this important time.

## **Resources for Pregnant and Breastfeeding Women**

**National Women's Health Information Center.** Designed for expectant mothers, this Web site provides resources about each trimester of pregnancy, family planning, preparing for the new baby, childbirth, postnatal and postpartum care, and financial assistance. The Web site is available at <http://www.womenshealth.gov/pregnancy>. Information is also available by calling 800-994-9662 (toll free) or 888-220-5446 (TDD, toll free).

**National Institute of Diabetes and Digestive and Kidney Diseases Weight-control Information Network.** A brochure, *Fit for Two: Tips for Pregnancy* is available at <http://win.niddk.nih.gov/publications/two.htm> or by calling 877-946-4627 (toll free).

**National Institute on Alcohol Abuse and Alcoholism.** A brochure, *Drinking and Your Pregnancy*, lists problems associated with fetal alcohol syndrome, answers questions about alcohol and drinking during pregnancy, and provides a list of resources. This brochure is available at <http://pubs.niaaa.nih.gov/publications/fas/fas.htm> or by calling 301-443-3860.

**U.S. National Library of Medicine MedlinePlus.** This Web site provides access to extensive information about specific diseases and conditions. MedlinePlus provides links to consumer health information from the National Institutes of Health, dictionaries, lists of hospitals and doctors, health information in Spanish and other languages, and information about clinical trials. It is available at [www.medlineplus.gov](http://www.medlineplus.gov).

**Eunice Kennedy Shriver National Institute of Child Health and Human Development.** This Institute's clearinghouse provides various publications on healthy pregnancy, available at [www.nichd.nih.gov](http://www.nichd.nih.gov) or by calling 800-370-2943 (toll free).

**March of Dimes Pregnancy and Newborn Health Education Center.** Various publications on pregnancy and breastfeeding are available at <http://www.modimes.org> or by calling 888-663-4637 (toll free).

Reviewed May 2009

## **For Your Information**

This fact sheet 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 888-INFO-FDA (888-463-6332, a toll-free call) or visit its Web site at [www.fda.gov](http://www.fda.gov).

For updates and questions about statistics, please contact the Centers for Disease Control and Prevention's National Center for Health Statistics toll free at 800-232-4636 or visit its Web site at [www.cdc.gov/nchs](http://www.cdc.gov/nchs).

*Recognizing the National Bone and Joint Decade: 2002–2011*