

Spotlight on Health

Bone Health

You may not have thought about the health of your bones before, but it's just as important as other aspects of your health. Our bones tend to get weaker as we age, and this makes it easier for them to get broken.

Each year, over 2 million bone fractures in the United States are caused by weakened bones.¹ Fractures of the hip, spine, and wrist are very common and can lead to loss of mobility and independence. As the baby-boomer population ages, the number of fractures and cost of care are expected to increase. But, to some degree, fractures from weak bones can be prevented.

This newsletter will discuss what you and your healthcare provider can do to monitor your bone health, keep your bones strong, and possibly prevent a fracture.

Why Bones Tend to Get Weaker With Age

You are probably aware that your bones protect your body and give it structure. But you may not know that bone is living tissue. The tissue that makes up bone is constantly being broken down and built back up. When you are younger, bones are built up faster than they are broken down. When you get older, your body breaks down more bone than it builds back up. So, your bones are denser (stronger) when you are younger and less dense (weaker) when you are older.

To be more specific, bones are strongest at around age 25. After age 40, they start to weaken. Bone density rapidly declines in women after menopause. After age 65, 25% of women and 5% of men develop a condition called osteoporosis.²

Osteopenia and Osteoporosis

Osteoporosis is a condition in which bones are weak. If you have osteoporosis, you have a greater risk for fracturing a bone. And since there are no symptoms, some people don't realize their condition until they have a fracture. Osteopenia is a condition that occurs before osteoporosis when bones are starting to get weak.

Osteopenia and osteoporosis can be identified by measuring bone mineral density (BMD). BMD is a measurement of the strength or weakness of bone. As we discussed, one risk factor for low BMD is age. Others include having low body weight or being Caucasian or Asian. Having certain medical conditions and taking certain medications can also put you at greater risk.

Fortunately, you can take action to protect your bone health. You can help keep your bones strong through proper exercise, diet, and behavior (see sidebar). And you can talk to your healthcare provider.



How to Build and Maintain Bone Strength³

- Start an exercise program*
 - Weight-bearing, resistance, and balance
- Get enough vitamin D
 - Moderate exposure to sunlight
 - Foods such as salmon, milk, and mushrooms
 - Dietary supplements
- Get enough calcium
 - Vegetables such as collard greens, broccoli, and kale
 - Fish such as sardines, salmon, and shrimp
 - Dairy items such as yogurt, milk, and cheese
 - Dietary supplements
- Take medication if your healthcare provider prescribes it
- Avoid too much caffeine and alcohol
- Avoid foods high in salt
- Quit or reduce smoking

*Always consult with your healthcare provider before starting an exercise program

How Healthcare Providers Manage Bone Health

When you reach a certain age, your healthcare provider may start to look at your BMD. He or she may order a BMD test, which is like an x-ray. If your BMD is normal, that's great! But if your test score is low, you may have osteopenia. If your score is very low, you may have osteoporosis.

If you have low or very low BMD, your healthcare provider will help you with your bone health. He or she may have you do one or more of the following:

- Start an exercise program
- Increase your intake of calcium and vitamin D
- Take certain medicines for bone health
- Monitor your calcium and vitamin D levels
- Repeat BMD tests to make sure that your bones are getting stronger

How the Laboratory Can Help

Quest Diagnostics offers tests for vitamin D and calcium, and other tests that your healthcare provider can use to monitor your bone health. Based on the results of these tests, your healthcare provider can tell you if there are specific things you can do, or avoid, to protect and build bone strength.

Additional Information

For more information, visit the National Osteoporosis Foundation nof.org/ or these helpful websites:

- Medline Plus: medlineplus.gov/osteoporosis.html
- International Osteoporosis Foundation: iofbonehealth.org/osteoporosis
- The NIH Osteoporosis and Related Bone Diseases National Resource Center: niams.nih.gov/Health_Info/Bone/Osteoporosis/

References

1. Burge R, Dawson-Hughes B, Solomon DH, et al. Incidence and economic burden of osteoporosis-related fractures in the United States, 2005-2025. *J Bone Miner Res.* 2007;22:465-475.
2. Osteoporosis. Centers for Disease Control and Prevention website. cdc.gov/nchs/fastats/osteoporosis.htm. Updated August 17, 2016. Accessed June 30, 2017.
3. Healthy bones for life: patient's guide. National Osteoporosis Foundation. 2014; cdn.nof.org/wp-content/uploads/2016/02/Healthy-Bones-for-life-patient-guide.pdf. Accessed June 30, 2017.

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