## **NIH** News in Health

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## not think of them that way—but to keep themselves strong and usable, our bones are always

**Keeping Bones Strong and Healthy** 

changing.

"Bone is living, growing tissue," says Dr. Joan McGowan, a scientist at NIH. "It's constantly

breaking down and building up.

Let's Talk about Osteoporosis

Our bones are alive. We might

It keeps refreshing itself." But as you get older, your bones may be at increased risk for

have osteoporosis, and 34 million more have low bone mass, which places them at increased risk. Osteoporosis is a "silent" disease. You may not realize you have it until a sudden strain, twist or fall causes a broken bone (also called

shouldn't ignore.

best possible skeleton."

for teens.

each day.

osteoporosis (oss-tee-oh-pore-OH-sis), when the bones become weak, fragile and more likely to break. And once they break, they take longer to heal. This can be both painful and expensive. Current estimates suggest that around 10 million people in the U.S.

a "fracture"). With osteoporosis, even a minor tumble can be serious, requiring surgery and hospitalization. If you have osteoporosis, you can get a broken bone even though you haven't fallen—by shoveling snow, for example. A spinal fracture, a break in one of the small bones in your back, may be subtle and go unnoticed. Or it may cause back pain, which you

"A large part of osteoporosis and fracture risk is inherited," says

McGowan. "If close relatives have suffered a fracture in their later

years, this may be a clue to think carefully about your own risk. But

diet and physical activity are major ways to build and maintain the

NIH-funded research shows that childhood is the best time to build

up bone tissue. Most bone is built by age 18 in girls and 20 in boys.

Start with a well-balanced diet rich in calcium and vitamin D. Most of our bone is made of a rigid protein framework. Calcium (a mineral) adds strength and hardens that framework. Vitamin D helps the intestine absorb calcium.

Calcium is found in many foods, but the most common source for

Americans is milk and other dairy products. One 8-ounce glass of

younger children and about one-fourth of the recommended intake

Your body makes vitamin D in the skin when you're out in the sun.

Some people get all they need from sunlight, but others need to take

www.niams.nih.gov/health\_Info/Bone/Osteoporosis/osteoporosis\_f

f.asp to find out how much calcium and vitamin D you should get

vitamin D pills. Talk to your doctor or see the chart at

milk provides about one-third of the recommended intake for

Physical activity is also important for building bone. The more work bones do, the stronger they get. That's why it's so important for kids to run and play.

"There is good evidence," says McGowan, "that you can build the

playing basketball and running around. The trend now-of not

instead of tag-may be a serious threat to bone health."

best skeleton by doing physical activity in childhood: jumping rope,

having physical education in school and playing computer games

But no matter what your age, McGowan says, "It's never too late to promote bone health." Increase your load-bearing exercise, like walking, and make good food choices, rich in calcium and vitamin D. Unfortunately, some factors are beyond your control. Women are more likely to have osteoporosis and related fractures, particularly Caucasian and Asian women. Osteoporosis becomes more common

as you get older. Low body weight can also increase your risk. And

so can certain medications (such as steroids) and certain diseases

and conditions (such as anorexia nervosa, rheumatoid arthritis,

"But even if you have osteoporosis, you can do things to prevent

gastrointestinal diseases, thyroid disease and depression).

fractures," McGowan says.

factors.

Mayo Clinic.

patient use.

in the foreseeable future."

Get enough calcium

diet at every age.

Be physically active.

home that could

falling.

Reduce hazards in your

increase your risk of

Talk with your doctor

about medicines you

are taking that could

increase your risk for

If you are over 50 and

break a bone, ask your

doctor to screen you

for osteoporosis.

osteoporosis.

and vitamin D in your

of 2 women and 1 out of 4 men over age 50 will break a bone due to osteoporosis. "We know that all women over the age of 65 should have a bone mineral density test," McGowan says. The test uses a tiny amount of radiation to look at how dense your bones are. It isn't painful, and there's usually no need to undress. However, she says that researchers haven't yet come up with universal recommendations

about when you should get this test. That depends on your risk

"We need to make sure that all involved in this disease—patients,

physicians and scientists-maintain an awareness and progress in

combating it," says NIH-funded scientist Dr. Sundeep Khosla of the

So ask your doctor about osteoporosis. And don't forget to mention

Remember that osteoporosis remains silent—until there's a fracture.

If you do have osteoporosis, medications can help. Khosla has spent

20 years studying the basic biology of bone. He and his team have

"A big red flag is when a person over age 50 has a fracture of any

the medications you're taking that might increase your risk.

kind," McGowan says. "Doctors should follow up."

Talk to your doctor well before the age of 50 about your risk. One out

discovered how bone reacts to changes in levels of estrogen, an important female **hormone**. "We now understand how estrogen may be working on the bone," Khosla says.

Partly as a result of NIH-funded discoveries like this, there are now

already available, and some are on their way to being approved for

"What's needed is a new class of drugs that work by building bone

Your bones are so important. They support you and allow you to

a storehouse for vital minerals you need to live. Your bones take

care of you in so many ways. Learn to take care of them.

move. They protect your heart, lungs and brain from injury. They're

back up," Khosla says. "There's hope for real reversal in osteoporosis

several drugs that can block the breakdown of bone. Some are

**Wise Choices** Links NIH Osteoporosis and Bone Health Tips **Related Bone Diseases** Research shows that there ~ National Resource are several ways to take Center care of your bone health:

For Seniors: Bones and

For Kids: Best Bones

Joints

Forever!

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