



BONE TOOL KIT

OSTEOPOROSIS. IT'S BEATABLE. IT'S TREATABLE.



NATIONAL
OSTEOPOROSIS
FOUNDATION

Standing Tall For You®

INTRODUCTION

Although the key to healthy bones, appropriate exercise, nutrition, testing and treatment, is the same for everyone, within those factors the messages for different groups are different. Women want information on bone health and menopause. (And men don't!) Keeping teens interested takes an age-appropriate focus on prevention. Older adults want details on testing and treatment. And different races and ethnic groups confront different bone health risk factors and problems.

The enclosed pages of the Bone Tool Kit are reproducible. They were designed to be photocopied, printed and distributed. Select the sections that are most appropriate to hand out to your patients or group. Use these in the office, at community presentations, and health fairs.

More information on these materials, visit www.nof.org or contact

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AN OVERVIEW

When you think about staying healthy, you probably think about making lifestyle changes to avoid life-threatening conditions like cancer and heart disease. Keeping your bones healthy to prevent osteoporosis is probably not at the top of your wellness list. After all, breaking a bone might strike you as painful and inconvenient, but not necessarily as dangerous.

If your thinking runs along these lines, the following facts might make you think again:

Fact_1

The problem with osteoporosis isn't just that it causes broken bones. The problem is that when you're older, breaking a bone is serious. It often starts a downward spiral of pain, disability, deformity, and the loss of independence.

Fact_2

Osteoporosis is a disease you can do something about. It can be prevented, detected, and treated.

FIRST, THE BAD NEWS

The U.S. Surgeon General reports that half of all women older than 50 will break a bone because of osteoporosis. One in four men will, too. And breaking a bone when you're older is serious. It leads to immobility, which in turn can lead to isolation, depression, and other health problems. Twenty percent of seniors who break a hip will die within one year. Many of those who survive will need long-term nursing home care.

NOW, THE GOOD NEWS

Thirty years ago, most people considered osteoporosis and broken bones to be a part of normal aging. That view has changed. Researchers today know a lot about how you can protect your bones throughout your life with nutrition and exercise. And although it's never too late to start protecting your bones, the best time to begin is while you're young.

But if you already have osteoporosis or are at risk for it, the good news is that in the last 15 years, researchers have developed effective new treatments for osteoporosis. They're not a cure, but they can help, especially when you exercise and eat right.

SO, WHAT EXACTLY IS OSTEOPOROSIS?

Osteoporosis is a disease of weak bones

The word osteoporosis means porous bone. If you looked at healthy bone under a microscope, you would see that parts of it look like a honeycomb. If you have osteoporosis, however, the holes and spaces in the honeycomb are much bigger than they are in healthy bone. And as your bones become less dense, they get weaker and easier to break. Fractures from osteoporosis can occur in almost any bone, but you are most likely to break bones in your wrist, spine, and hip.

Osteoporosis is a very common disease

Ten million Americans already have osteoporosis, and more than triple that number are at high risk. Eighty percent of those who have the disease are women. In fact, a woman's risk of osteoporosis is equal to her combined risk of breast, ovarian, and uterine cancer.

Many people – including health professionals – mistakenly think of osteoporosis as a woman's disease. But think about it: if 8 of the 10 million people who have osteoporosis are women, then 2 million men have it, too. This might surprise you, but a man older than 50 is more likely to break a bone due to osteoporosis than he is to get prostate cancer.

HALF OF ALL WOMEN AND 1 IN 4 MEN OLDER THAN 50 WILL BREAK A BONE DUE TO OSTEOPOROSIS.

Osteoporosis is a silent disease

Osteoporosis is “silent” because in its early stages it has no symptoms. In fact, many people don't know they have it until they break a bone. However, a bone mineral density (BMD) test can help your doctor or health care provider detect osteoporosis before you start breaking bones. (See Should I Have a BMD Test? Page 9.)

YOUR SKELETON IS ALIVE!

What's in a skeleton?

Your skeleton is more than just the frame that your body hangs on. (Did you know that most of your blood cells are made inside your bones?) Contrary to popular belief, bone is living, growing tissue. It is made up of three major components:

1. collagen, a protein that gives bones a soft framework
2. calcium-phosphate mineral complexes that give bones hardness and strength
3. living bone cells that remove and replace weakened sections of bone

This soft-hard combination makes your bones both flexible and strong.

OSTEOPOROSIS OCCURS WHEN YOU LOSE TOO MUCH BONE, MAKE TOO LITTLE OF IT, OR BOTH.

Bone changes over a lifetime

Throughout life, your skeleton loses old bone and forms new bone. Children and teenagers form new bone faster than they lose the old bone. In fact, even after they stop growing taller, young people continue to make more bone than they lose. This means their bones get denser and denser until they reach what experts call peak bone mass. This is the point when you have the greatest amount of bone you will ever have. It usually occurs between the ages of 18 and 25.

After you achieve peak bone mass, the balance between bone loss and bone formation might start to shift. In other words, you may slowly start to lose more bone than you form. In midlife, bone loss usually speeds up in both men and women. For most women, the pace really picks up after menopause, when estrogen levels drop sharply.

Osteoporosis occurs when you lose too much bone, make too little of it, or both. The more bone you have at the time of peak bone mass, before bone loss starts, the better protected you will be against weak bones.

Be good to your bones

You can protect and strengthen your bones at any age. (See [What Can I Do For My Bones?](#) (see below) Of course, it's best to get started when you're young. If you don't form enough bone then, you will be at a disadvantage as you age. However, if you are older and you haven't been trying to protect your bones, don't be discouraged about the bone you might already have lost. You are never too old to protect your bones. But take action now. Once you start to lose bone density, it's hard to build it up again.

What Can I Do For My Bones?

The recipe for bone health is simple:

- [get enough calcium and vitamin D, and eat a well-balanced diet](#)
- [do weight-bearing and resistance exercises](#)
- [don't smoke](#)
- [drink alcohol only in moderation](#)
- [talk to your doctor or health care provider about your bone health](#)

Of course, there are risk factors for osteoporosis that you cannot control. These include your family history, your age, your sex, having a small frame, and your race. (Keep in mind that people of any race can get osteoporosis.) But concentrating on the factors that you do control can have a big impact on your bones. Even so, on average, Americans are not getting enough calcium, vitamin D, and exercise to keep their bones healthy.

Calcium is the building block of bone.

Calcium is a critical nutrient because it provides the material for building new bone. It's important throughout your life, especially when you are growing or, for women, when you are pregnant or breastfeeding. Dairy products (low fat or non-fat milk, yogurt, and cheese) are good sources of calcium. So are calcium-enriched products, such as certain cereals and juices. Most adults need about three servings of these foods each day. You can get some calcium from broccoli, leafy green vegetables, and almonds, but you would have to eat a lot of these foods to get a full serving of calcium.

If you are lactose intolerant (which means that you have trouble digesting milk due to a shortage of a protein called lactase), you might be able to eat lactose-free dairy products or those with added lactase. Another option is to eat other calcium-rich foods and ones that have added calcium.

If you don't get enough calcium from food, consider taking a multivitamin or a calcium supplement. If you are getting enough calcium from food, there is no need to take a calcium supplement.

RECOMMENDED CALCIUM AND VITAMIN D INTAKE

Calcium

| Age | Daily Needs |
|--|-------------|
| 1-3 years | 500 mg |
| 4-8 years | 800 mg |
| 9-18 years | 1,300 mg |
| 19-49 years | 1,000 mg |
| 50+ years | 1,200 mg |
| 14-18 years, pregnancy/ breastfeeding | 1,300 mg |
| 19-49 years, pregnancy/ breastfeeding | 1,000 mg |

Vitamin D

Experts recommend a daily intake of between 800 and 1,000 international units (IU) of vitamin D for most people age 50 and older. Some people will need even more. People under 50 should get a daily intake of between 400 and 800 IU.

You need vitamin D to absorb calcium

Your body needs vitamin D to absorb calcium. Your skin makes vitamin D when it is exposed to the sun. In fact, sunlight is the main source of vitamin D for many people, but we know that getting sun is a risk factor for skin cancer. Vitamin D is usually added to the milk you buy at the grocery store (but not to other milk-based products, like cheese, yogurt, and butter). Liver, fatty fish, and egg yolks also contain vitamin D. If you don't get enough of the nutrient from food, consider taking a multivitamin or a vitamin D supplement. (Many calcium supplements also contain vitamin D.)

Exercise makes your bones stronger

You know that your muscles get bigger and stronger when you use them. Well, bones are similar: they get stronger and denser when you make them work. And "work," for bones, means handling impact and weight. You can work your bones by doing activities that make you move against gravity, such as fast walking, running, dancing, and playing soccer. Biking and swimming are not weight-bearing exercises, so if you like these activities, try to add in other activities that do work your bones. You can also work your bones by lifting weights or doing resistance exercises. Resistance exercises include certain muscle strengthening exercises, using elastic fitness bands, and using weight machines.

If you can't do high-impact weight-bearing activities, try lower impact ones. For example, try walking or stair-climbing instead of jogging. And if you're not physically fit, start slow. Aim to work up to at least 30 minutes a day, even if it's not all in a row, on most days. If you have a history of falls and are at risk for osteoporosis or already have it, talk to your doctor or health care provider about your activity plan. If you have already had spine fractures from osteoporosis, be careful doing activities that require reaching, bending forward, rapid twisting motions, or heavy lifting.

Smoking weakens bones

Smoking is bad for your bones for many reasons. First, the nicotine and other chemicals in cigarettes are toxic to your bone cells. Smoking also might make it harder for you to absorb calcium. Plus, smoking lowers estrogen levels in women, which is a problem because estrogen helps protect bones. Finally, smoking can make exercise harder. It's no surprise, then, that researchers say smokers are more likely than nonsmokers to break bones.

Heavy drinking weakens bones

Heavy drinking reduces bone formation. It might also affect your body's calcium supply. Drinking alcohol can also make you more likely to fall, which is how many people break bones.

Make your doctor your partner

If your doctor or health care provider hasn't talked to you about your bone health, it is time for you to bring it up. Too many people are not being properly diagnosed or treated for osteoporosis. The two of you can develop a strategy for protecting your bones. Depending on your age and other risk factors, your doctor might recommend a BMD test to check your bone density. Most BMD tests measure the amount of bone in the hip, spine or sometimes other bones. The test is quick, painless, and not invasive. BMD-testing equipment uses radiation, but it's a very low dosage.

SHOULD I HAVE A BMD TEST?

If you think you are at risk for osteoporosis, don't be shy about asking your doctor or health care provider if you need a BMD test. Some good reasons to have one include:

- being a woman older than 65
- being a man older than 70
- being a middle-aged woman or man who also

has broken a bone as an adult

has a family history of osteoporosis or broken bones

currently smokes cigarettes

weighs very little (less than 127 pounds)

- having a medical condition known to cause osteoporosis, such as low testosterone levels in men, rheumatoid arthritis, intestinal disorders, or certain cancers
- taking medications known to cause osteoporosis, such as glucocorticoids (steroid medicine), thyroid medications in excess, antiseizure medications, and certain breast cancer medications
- breaking bones in accidents that seem minor
- losing height or becoming hunched over

HOW DO YOU TREAT OSTEOPOROSIS?

The diet, exercise, and lifestyle recommendations for preventing osteoporosis can also help if you already have the disease or if you have osteopenia. (Osteopenia is the term for low bone mass that is not yet bad enough to be called osteoporosis. It means you're at risk for osteoporosis.) But following these recommendations is not enough. Many people also need to take a prescription medicine to prevent or treat osteoporosis. These drugs fall into two main categories: antiresorptives and anabolics.

Antiresorptives slow bone loss

Antiresorptive medications slow bone loss. When you first start taking these medications, you stop losing bone as quickly as you did before, but you still make new bone at a normal pace. Therefore, your bone density might actually increase. The goal of antiresorptive treatments is to prevent bone loss and to lower your risk of breaking bones.

The antiresorptives available today include

- bisphosphonates
- calcitonin
- estrogen therapy and hormone therapy
- selective estrogen receptor modulators

Anabolics speed up new-bone formation

Anabolic medications speed up bone formation and stimulate the growth of new bone. Only one anabolic drug, teriparatide, has been approved so far for osteoporosis.

To learn more about treatments and medications for osteoporosis, see *How Do You Treat Osteoporosis?* Page 12. The National Osteoporosis Foundation recommends consulting your doctor or health care provider to learn about the benefits and risks of all osteoporosis treatments and to find out if you need a medication.

WHERE CAN I FIND MORE INFORMATION?

The National Osteoporosis Foundation's mission is to prevent osteoporosis, to promote lifelong bone health, to help improve the lives of those affected by osteoporosis and related fractures, and to find a cure. The Foundation publishes information for health care professionals, patients, and the public.

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OSTEOPOROSIS TREATMENTS

WHAT IS OSTEOPOROSIS?

Your skeleton is more than just the frame that your body hangs on. Contrary to popular belief, bone is living, growing tissue. And throughout life, your skeleton loses old bone and forms new bone at the same time.

Osteoporosis occurs when you lose too much bone, make too little of it, or both. When this happens, your bones become less dense, and they get weaker and easier to break. Fractures from osteoporosis can occur in almost any bone, but you are most likely to break bones in your wrist, spine, and hip.

Children and teenagers form new bone faster than they lose old bone. In fact, even after they stop growing taller, young people continue to make more bone than they lose. This means their bones get denser and denser until they reach what experts call peak bone mass. This is the point when you have the greatest amount of bone you will ever have. It usually occurs between the ages of 18 and 25.

After you achieve peak bone mass, the pace of bone loss and bone formation might start to shift. In other words, you may slowly start to lose more bone than you form. In midlife, bone loss usually speeds up in both men and women. For most women, the pace really picks up after menopause, when estrogen levels drop sharply.

HOW DO YOU TREAT OSTEOPOROSIS?

Getting enough calcium and vitamin D, being physically active, not smoking, and drinking only in moderation are important for healthy bones. (See *An Overview*, page 3.) These things can also help if you already have osteoporosis or osteopenia, but they are not enough. (Osteopenia is the term for low bone mass that is not yet bad enough to be called osteoporosis. It means you're at risk for osteoporosis.) Many people also need to take a prescription medicine.

A number of prescription medicines have been approved by the U.S. Food and Drug Administration (FDA) to help prevent and treat osteoporosis. These drugs fall into two main categories: antiresorptives and anabolics.

IN MIDLIFE, BONE LOSS USUALLY SPEEDS UP IN BOTH MEN AND WOMEN.

All medications have potential side effects. When you are making a decision about taking a medication, the National Osteoporosis Foundation encourages you to discuss your treatment options with your health care provider and to look at both the risks and benefits of taking a medication.

Antiresorptives slow bone loss

Antiresorptive medications slow bone loss. When you first start taking these medications, you stop losing bone as quickly as you did before, but you still make new bone at a normal pace. Therefore, your bone density might actually increase. The goal of antiresorptive treatments is to prevent bone loss and to lower your risk of breaking bones.

The antiresorptives available today include:

- bisphosphonates, a class of antiresorptives that include alendronate (Fosamax®), ibandronate (Boniva®), and risedronate (Actonel®). The FDA has approved alendronate and risedronate for both women and men. Ibandronate has been approved only for women. The side effects of bisphosphonates can include digestive problems and bone and muscle pain. There have been rare reports of osteonecrosis of the jaw and eye inflammation in osteoporosis patients who take bisphosphonates.
- calcitonin (Fortical® and Micalcin®), a hormone that helps regulate calcium and bone processes. The FDA has only approved it for women. The side effects of nasal calcitonin can include nasal irritation, backache, bloody nose, and headaches. Injectable calcitonin can cause an allergic reaction and unpleasant side effects.
- estrogen therapy and hormone therapy, which are only for women. The terms refer to therapy with estrogen alone and to estrogen with progestin therapy. Estrogen is a hormone with a protective effect on bone. Doctors usually prescribe it with progestin because taking estrogen by itself increases a woman's risk for cancer of the uterus. Although estrogen can reduce bone loss, large studies have found that it slightly increases a woman's risk of stroke, blood clots, and other problems. As a result, the FDA strongly recommends that if you need a medicine for osteoporosis and you do not require estrogen for menopause symptoms, then you should look for a non-estrogen alternative.
- selective estrogen receptor modulators (SERMs), which are also for women only. They were developed to provide the benefits of estrogen therapy without all of the drawbacks. The only SERM approved for osteoporosis is raloxifene (Evista®). Raloxifene increases the risk of blood clots, swelling, and hot flashes.

Anabolics speed up new-bone formation

Anabolic medications speed up your rate of bone formation. Only one anabolic drug, teriparatide (Forteo®), has been approved so far for osteoporosis. It is indicated for both men and women. The goal of teriparatide treatment is to build bone and lower your risk of breaking bones. In very high dosages over a long period of time, the drug caused a rare bone cancer in animal studies, so the FDA has approved its use in humans for up to 2 years only.

WHERE CAN I FIND MORE INFORMATION?

The National Osteoporosis Foundation's mission is to prevent osteoporosis, to promote lifelong bone health, to help improve the lives of those affected by osteoporosis and related fractures, and to find a cure. The Foundation publishes information for health care professionals, patients, and the public.

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OSTEOPOROSIS AND AFRICAN AMERICAN WOMEN

TRUE OR FALSE? African American women don't have to worry about their bone health.

False.

Osteoporosis and low bone mass are common among African American women. (It just happens to be even more common among Caucasians and some other groups.)

TRUE OR FALSE? Weak bones caused by osteoporosis are just a part of getting older.

False.

People used to think that osteoporosis was an inevitable part of aging. As it turns out, though, osteoporosis is a disease you can do something about. It can be prevented, detected, and treated.

WHY IS OSTEOPOROSIS SERIOUS?

Half of all women older than 50 will break a bone due to osteoporosis. (And not just women: one in four men will, too.) But the problem with osteoporosis isn't just broken bones. The problem is that when you're older, breaking a bone is serious. It often starts a downward spiral of pain, disability, deformity, and the loss of independence.

Breaking a hip, for example, leads to immobility, which in turn can cause isolation and health problems. Twenty percent of seniors who break a hip will die within one year. Many of those who survive will need long-term nursing home care.

WHAT EXACTLY IS OSTEOPOROSIS?

Throughout life, your skeleton loses old bone and forms new bone. Osteoporosis occurs when you lose too much bone, make too little of it, or both. As your bones become less dense, they get weaker and easier to break. Fractures from osteoporosis can occur in any bone, but you are most likely to break bones in your wrist, spine, and hip.

Children and teenagers form new bone faster than they lose the old bone. In fact, even after they stop growing taller, young people continue to make more bone than they lose. This means their bones get denser and denser until they reach what experts call peak bone mass. This is the point when you have the greatest amount of bone you will ever have. It usually occurs between the ages of 18 and 25.

After you achieve peak bone mass, the balance between bone loss and bone formation might start to shift. In other words, you might slowly start to lose more bone than you form. In midlife, bone loss usually speeds up in both men and women. For most women, the pace really picks up after menopause, when your body's production of estrogen drops sharply. Because estrogen protects bone, not producing as much can cause rapid bone loss.

OF SPECIAL CONCERN FOR AFRICAN AMERICAN WOMEN

- Five percent of African American women older than 50 are estimated to have osteoporosis.
- Another 35 percent are estimated to have low bone mass, which means their bones are getting weak but they don't yet have osteoporosis.
- Recent research shows that even among African American women who do have risk factors for osteoporosis, few are screened for the disease.
- About 70 percent of African Americans are lactose intolerant, which can make it difficult to get enough calcium.
- Many African American women don't get enough vitamin D, which can make it hard for the body to absorb calcium.
- In the United States, African American women are more likely than many other racial or ethnic groups to have diseases that can lead to osteoporosis, such as lupus.

Be good to your bones

It's smart to start protecting your bones when you're young. If you don't form enough bone then, you might be at a disadvantage when you're older, when many women lose bone faster than they make it. However, if you are older and you haven't been focusing on your bone health, don't be discouraged about the bone you might already have lost. You are never too old to protect your bones. But take action now. Once you start to lose bone density, it's hard to build it up again.

What can I do for my bones?

The recipe for bone health is simple:

- get enough calcium and vitamin D, and eat a well balanced diet
- do weight-bearing exercise
- don't smoke
- drink alcohol only in moderation
- talk to your doctor or health care provider about your bone health

Of course, there are risk factors for osteoporosis that you cannot control. These include your family history, your age, being a woman, and having a small frame. But concentrating on the factors that you do control can have a big impact on your bones. Even so, on average, Americans are not getting enough calcium, vitamin D, and exercise to keep their bones healthy.

Calcium and Vitamin D

Calcium is the building block of bone. It's important throughout your life, especially when you are growing or when you are pregnant or breastfeeding. Dairy products (low-fat or non-fat milk, yogurt, and cheese) are good sources of calcium. So are calcium-enriched products, such as certain cereals and juices. Most adults need about three servings of these foods each day. You can get some calcium from broccoli, leafy green vegetables, and almonds, but you would have to eat a lot of these foods to get a full serving of calcium

EVEN AMONG AFRICAN AMERICAN WOMEN WHO DO HAVE RISK FACTORS FOR OSTEOPOROSIS, FEW ARE SCREENED FOR THE DISEASE.

About 70 percent of African American adults are estimated to be lactose intolerant, which means that you have trouble digesting milk. If you are lactose intolerant, you might be able to eat lactose-free dairy products or those with added lactase. Another option is to eat other calcium-rich foods and ones that have added calcium.

If you don't get enough calcium from food, consider taking a multivitamin or a calcium supplement. If you are getting enough calcium from food, there is no need to take a calcium supplement.

RECOMMENDED CALCIUM AND VITAMIN D INTAKE

Calcium

| Age | Daily Needs |
|--|-------------|
| 1-3 years | 500 mg |
| 4-8 years | 800 mg |
| 9-18 years | 1,300 mg |
| 19-49 years | 1,000 mg |
| 50+ years | 1,200 mg |
| 14-18 years, pregnancy/ breastfeeding | 1,300 mg |
| 19-49 years, pregnancy/ breastfeeding | 1,000 mg |

Vitamin D

Experts recommend a daily intake of between 800 and 1,000 international units (IU) of vitamin D for most people age 50 and older. Some people will need even more. People under 50 should get a daily intake of between 400 and 800 IU.

Your body needs vitamin D to absorb calcium. Your skin makes vitamin D when it is exposed to the sun. In fact, sunlight is the main source of vitamin D for many people, but we know that getting sun is a risk factor for skin cancer. Vitamin D is usually added to the milk you buy at the grocery store (but not to other milk-based products, like cheese, yogurt, and butter). Liver, fatty fish, and egg yolks also contain vitamin D. If you don't get enough of the nutrient from food, consider taking a multivitamin or a vitamin D supplement. (Many calcium supplements also contain vitamin D.)

People with darker skin make less vitamin D from sunlight than people with lighter skin. Therefore, many African Americans are at special risk for not getting enough vitamin D. In fact, research suggests that more than 40 percent of African American women under age 50 don't get enough vitamin D.

Weight-bearing Exercise

Just as your muscles get bigger and stronger when you use them, your bones get stronger and denser when you make them work. And "work," for bones, means handling impact and weight. You can work your bones by doing activities that make you move against gravity, such as fast walking, running, dancing, and playing soccer. Biking and swimming are not weight-bearing exercises, so if you like these activities, try to add in other activities that do work your bones. You can also work your bones by lifting weights or doing resistance exercises. Resistance exercises include certain muscle strengthening exercises, using elastic fitness bands, and using weight machines. Aim to exercise at least 30 minutes a day on most days.

SHOULD I HAVE A BMD TEST?

Osteoporosis is a silent disease. You might not know you have it until you break a bone. With a bone mineral density (BMD) test, however, your doctor or health care provider can probably detect the disease before you start breaking bones. Good reasons to have one include:

- being a woman older than 65
- being middle-aged and
 - _having a family history of osteoporosis
 - _being a cigarette smoker
 - _weighing very little (less than 127 pounds)
- a medical condition known to cause osteoporosis, such as rheumatoid arthritis, early menopause, intestinal disorders, or certain cancers
- taking medications known to cause osteoporosis, such as glucocorticoids (steroid medicine), thyroid medications in excess, antiseizure medications, and certain breast cancer medications
- breaking bones in accidents that seem minor
- losing height or becoming hunched over

Smoking and Drinking

Smoking is toxic to bone cells. It might make it harder for you to absorb calcium. It lowers estrogen levels in women, and it can make it harder to exercise. It's no surprise, then, that researchers say smokers are more likely than nonsmokers to break bones.

Drink alcohol in moderation. Heavy drinking reduces bone formation, and it might also affect your body's calcium supply. Drinking can also make you more likely to fall, which is how many people break bones.

Talk to a Doctor

If your doctor or health care provider hasn't talked to you about your bone health, it is time for you to bring it up. Too many people are not being properly diagnosed or treated for osteoporosis. The two of you can develop a strategy for protecting your bones. Depending on your age and other risk factors, your doctor might recommend a bone mineral density (BMD) test. The test is quick and painless.

HOW DO YOU TREAT OSTEOPOROSIS?

The diet, exercise, and lifestyle recommendations for preventing osteoporosis can also help if you already have the disease or are at risk for it, but they are not enough. Many people also need to take a prescription medicine to prevent or treat osteoporosis. These drugs fall into two main categories: antiresorptives and anabolics. Antiresorptives slow bone loss. Anabolics speed up bone formation.

The antiresorptives are

- bisphosphonates
- calcitonin
- estrogen therapy and hormone therapy
- selective estrogen receptor modulators (SERMs)

Only one anabolic drug, teriparatide, has been approved so far for osteoporosis.

To learn more about treatments and medications for osteoporosis, see *How Do You Treat Osteoporosis?* Page 12. The National Osteoporosis Foundation recommends consulting your doctor or health care provider to learn about the benefits and risks of all osteoporosis treatments and to find out if you need a medication.

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OSTEOPOROSIS AND ASIAN WOMEN

TRUE OR FALSE? Being an Asian woman puts you at great risk for osteoporosis.

True.

Asian women are at high risk for osteoporosis.

TRUE OR FALSE? Weak bones caused by osteoporosis are just a part of getting older.

False.

People used to think that osteoporosis was an inevitable part of aging. As it turns out, though, osteoporosis is a disease you can do something about. It can be prevented, detected, and treated.

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WHAT EXACTLY IS OSTEOPOROSIS?

Throughout life, your skeleton loses old bone and forms new bone. Osteoporosis occurs when you lose too much bone, make too little of it, or both. As your bones become less dense, they get weaker and easier to break. Fractures from osteoporosis can occur in any bone, but you are most likely to break bones in your wrist, spine, and hip.

Children and teenagers form new bone faster than they lose the old bone. In fact, even after they stop growing taller, young people continue to make more bone than they lose. This means their bones get denser and denser until they reach what experts call peak bone mass. This is the point when you have the greatest amount of bone you will ever have. It usually occurs between the ages of 18 and 25.

After you achieve peak bone mass, the balance between bone loss and bone formation might start to shift. In other words, you might slowly start to lose more bone than you form. In midlife, bone loss usually speeds up in both men and women. For most women, the pace really picks up after menopause, when your body's production of estrogen drops sharply. Because estrogen protects bone, not producing as much can cause rapid bone loss.

OF SPECIAL CONCERN FOR ASIAN WOMEN

- About 20 percent of Asian women age 50 and older are estimated to have osteoporosis.
- More than half of all Asian women age 50 and older are estimated to have low bone mass, which means their bones are getting weak but they don't yet have osteoporosis.
- Many Asians are lactose intolerant, which can make it difficult to get enough calcium.

Be good to your bones

It's smart to start protecting your bones when you're young. If you don't form enough bone then, you might be at a disadvantage when you're older, when many women lose bone faster than they make it. However, if you are older and you haven't been focusing on your bone health, don't be discouraged about the bone you might already have lost. You are never too old to protect your bones. But take action now. Once you start to lose bone density, it's hard to build it up again.

What can I do for my bones?

The recipe for bone health is simple:

- get enough calcium and vitamin D, and eat a well-balanced diet
- do weight-bearing exercise
- don't smoke
- drink alcohol only in moderation
- talk to your doctor or health care provider about your bone health

Of course, there are risk factors for osteoporosis that you cannot control. These include your family history, your age, being a woman, having a small frame, and your race. But concentrating on the factors that you do control can have a big impact on your bones. Even so, on average, Americans are not getting enough calcium, vitamin D, and exercise to keep their bones healthy.

Calcium and Vitamin D

Calcium is the building block of bone. It's important throughout your life, especially when you are growing or when you are pregnant or breastfeeding. Dairy products (low-fat or non-fat milk, yogurt, and cheese) are good sources of calcium. So are calcium-enriched products, such as certain cereals and juices. Most adults need about three servings of these foods each day. You can get some calcium from broccoli, leafy green vegetables, and almonds, but you would have to eat a lot of these foods to get a full serving of calcium.

MORE THAN HALF OF ALL ASIAN WOMEN AGE 50 AND OLDER ARE ESTIMATED TO HAVE LOW BONE MASS.

About 90 percent of Asian American adults are estimated to be lactose intolerant, which means that you have trouble digesting milk due to a shortage of a protein called lactase. If you are lactose intolerant, you might be able to eat lactose-free dairy products or those with added lactase. Another option is to eat other calcium-rich foods and ones that have added calcium.

If you don't get enough calcium from food, consider taking a multivitamin or a calcium supplement. If you are getting enough calcium from food, there is no need to take a calcium supplement.

RECOMMENDED CALCIUM AND VITAMIN D INTAKE

Calcium

| Age | Daily Needs |
|--|-------------|
| 1-3 years | 500 mg |
| 4-8 years | 800 mg |
| 9-18 years | 1,300 mg |
| 19-49 years | 1,000 mg |
| 50+ years | 1,200 mg |
| 14-18 years, pregnancy/ breastfeeding | 1,300 mg |
| 19-49 years, pregnancy/ breastfeeding | 1,000 mg |

Vitamin D

Experts recommend a daily intake of between 800 and 1,000 international units (IU) of vitamin D for most people age 50 and older. Some people will need even more. People under 50 should get a daily intake of between 400 and 800 IU.

Your body needs vitamin D to absorb calcium. Your skin makes vitamin D when it is exposed to the sun. In fact, sunlight is the main source of vitamin D for many people, but we know that getting sun is a risk factor for skin cancer. Vitamin D is usually added to the milk you buy at the grocery store (but not to other milk-based products, like cheese, yogurt, and butter). Liver, fatty fish, and egg yolks also contain vitamin D. If you don't get enough of the nutrient from food, consider taking a multivitamin or a vitamin D supplement. (Many calcium supplements also contain vitamin D.)

Weight-bearing Exercise

Just as your muscles get bigger and stronger when you use them, your bones get stronger and denser when you make them work. And "work," for bones, means handling impact and weight. You can work your bones by doing activities that make you move against gravity, such as fast walking, running, dancing, and playing soccer. Biking and swimming are not weight-bearing exercises, so if you like these activities, try to add in other activities that do work your bones. You can also work your bones by lifting weights or doing resistance exercises. Resistance exercises include certain muscle strengthening exercises, using elastic fitness bands, and using weight machines. Aim to exercise at least 30 minutes a day on most days.

SHOULD I HAVE A BMD TEST?

Osteoporosis is a silent disease. You might not know you have it until you break a bone. With a bone mineral density (BMD) test, however, your doctor or health care provider can probably detect the disease before you start breaking bones. Good reasons to have one include:

- being a woman older than 65
- being middle-aged and
 - _having a family history of osteoporosis
 - _being a cigarette smoker
 - _weighing very little
- a medical condition known to cause osteoporosis, such as rheumatoid arthritis, early menopause, intestinal disorders, or certain cancers
- taking medications known to cause osteoporosis, such as glucocorticoids (steroid medicine), thyroid medications in excess, antiseizure medications, and certain breast cancer medications
- breaking bones in accidents that seem minor
- losing height or becoming hunched over

Drinking and Smoking

Smoking is toxic to bone cells. It might make it harder for you to absorb calcium. It lowers estrogen levels in women, and it can make it harder to exercise. It's no surprise, then, that researchers say smokers are more likely than nonsmokers to break bones.

Drink alcohol in moderation. Heavy drinking reduces bone formation, and it might also affect your body's calcium supply. Drinking can also make you more likely to fall, which is how many people break bones.

Talk to a Doctor

If your doctor or health care provider hasn't talked to you about your bone health, it is time for you to bring it up. Too many people are not being properly diagnosed or treated for osteoporosis. The two of you can develop a strategy for protecting your bones. Depending on your age and other risk factors, your doctor might recommend a bone mineral density (BMD) test. The test is quick and painless.

HOW DO YOU TREAT OSTEOPOROSIS?

The diet, exercise, and lifestyle recommendations for preventing osteoporosis can also help if you already have the disease or are at risk for it, but they are not enough. Many people also need to take a prescription medicine to prevent or treat osteoporosis. These drugs fall into two main categories: antiresorptives and anabolics. Antiresorptives slow bone loss. Anabolics speed up bone formation.

The antiresorptives are

- bisphosphonates
- calcitonin
- estrogen therapy and hormone therapy
- selective estrogen receptor modulators

Only one anabolic drug, teriparatide, has been approved so far for osteoporosis.

To learn more about treatments and medications for osteoporosis, see *How Do You Treat Osteoporosis?* Page 12. The National Osteoporosis Foundation recommends consulting your doctor or health care provider to learn about the benefits and risks of all osteoporosis treatments and to find out if you need a medication.

WHERE CAN I FIND MORE INFORMATION?

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1232 22nd Street NW
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Phone: (202) 223-2226
Toll free: 1 (800) 223-9994
Web site: www.nof.org

OSTEOPOROSIS AND CAUCASIAN WOMEN

TRUE OR FALSE? Being a Caucasian puts you at great risk for osteoporosis.

True.

Caucasian women are at high risk for osteoporosis.

TRUE OR FALSE? Weak bones caused by osteoporosis are just a part of getting older.

False.

People used to think that osteoporosis was an inevitable part of aging. As it turns out, though, osteoporosis is a disease you can do something about. It can be prevented, detected, and treated.

WHY IS OSTEOPOROSIS SERIOUS?

Half of all women older than 50 will break a bone due to osteoporosis. (And not just women: one in four men will, too.) But the problem with osteoporosis isn't just broken bones. The problem is that when you're older, breaking a bone is serious. It often starts a downward spiral of pain, disability, deformity, and the loss of independence.

Breaking a hip, for example, leads to immobility, which in turn can cause isolation and health problems. Twenty percent of seniors who break a hip will die within one year. Many of those who survive will need long-term nursing home care.

WHAT EXACTLY IS OSTEOPOROSIS?

Throughout life, your skeleton loses old bone and forms new bone. Osteoporosis occurs when you lose too much bone, make too little of it, or both. As your bones become less dense, they get weaker and easier to break. Fractures from osteoporosis can occur in any bone, but you are most likely to break bones in your wrist, spine, and hip.

Children and teenagers form new bone faster than they lose the old bone. In fact, even after they stop growing taller, young people continue to make more bone than they lose. This means their bones get denser and denser until they reach what experts call peak bone mass. This is the point when you have the greatest amount of bone you will ever have. It usually occurs between the ages of 18 and 25.

After you achieve peak bone mass, the balance between bone loss and bone formation might start to shift. In other words, you may slowly start to lose more bone than you form. In midlife, bone loss usually speeds up in both men and women. For most women, the pace really picks up after menopause, when your body's production of estrogen drops sharply. Because estrogen protects bone, not producing as much can cause rapid bone loss.

OF SPECIAL CONCERN FOR CAUCASIAN WOMEN

- Twenty percent of Caucasian women age 50 and older are estimated to have osteoporosis.
- More than half of all Caucasian women age 50 and older are estimated to have low bone mass, which means their bones are getting weak but they don't yet have osteoporosis.
- Between the ages of 20 and 80, Caucasian women lose one-third of the bone mineral density in their hip.
- About 15 percent of Caucasians are lactose intolerant, which can make it difficult to get enough calcium.

Be good to your bones

It's smart to start protecting your bones when you're young. If you don't form enough bone then, you will be at a disadvantage when you're older, when many women lose bone faster than they make it. However, if you are older and you haven't been focusing on your bone health, don't be discouraged about the bone you might already have lost. You are never too old to protect your bones. But take action now. Once you start to lose bone density, it's hard to build it up again.

What can I do for my bones?

The recipe for bone health is simple:

- get enough calcium and vitamin D, and eat a well-balanced diet
- do weight-bearing and resistance exercises
- don't smoke
- drink alcohol only in moderation
- talk to your doctor or health care provider about your bone health

Of course, there are risk factors for osteoporosis that you cannot control. These include your family history, your age, being a woman, having a small frame, and your race. But concentrating on the factors that you do control can have a big impact on your bones. Even so, on average, Americans are not getting enough calcium, vitamin D, and exercise to keep their bones healthy.

Calcium and Vitamin D

Calcium is the building block of bone. It's important throughout your life, especially when you are growing or when you are pregnant or breastfeeding. Dairy products (low-fat or non-fat milk, yogurt, and cheese) are good sources of calcium. So are calcium-enriched products, such as certain cereals and juices. Most adults need about three servings of these foods each day. You can get some calcium from broccoli, leafy green vegetables, and almonds, but you would have to eat a lot of these foods to get a full serving of calcium.

20 PERCENT OF SENIORS WHO BREAK A HIP WILL DIE WITHIN ONE YEAR.

Lactose intolerance means that you have trouble digesting milk due to a shortage of a protein called lactase. It is not as common among Caucasians as it is in most other races. Still, it affects roughly 15 percent of Caucasians. If you are lactose intolerant, you might be able to eat lactose-free dairy products or those with added lactase. Another option is to eat other calcium-rich foods and ones that have added calcium.

If you don't get enough calcium from food, consider taking a multivitamin or a calcium supplement. If you are getting enough calcium from food, there is no need to take a calcium supplement.

RECOMMENDED CALCIUM AND VITAMIN D INTAKE

Calcium

| Age | Daily Needs |
|--|-------------|
| 1-3 years | 500 mg |
| 4-8 years | 800 mg |
| 9-18 years | 1,300 mg |
| 19-49 years | 1,000 mg |
| 50+ years | 1,200 mg |
| 14-18 years, pregnancy/ breastfeeding | 1,300 mg |
| 19-50 years, pregnancy/ breastfeeding | 1,000 mg |

Vitamin D

Experts recommend a daily intake of between 800 and 1,000 international units (IU) of vitamin D for most people age 50 and older. Some people will need even more. People under 50 should get a daily intake of between 400 and 800 IU.

Your body needs vitamin D to absorb calcium. Your skin makes vitamin D when it is exposed to the sun. In fact, sunlight is the main source of vitamin D for many people, but we know that getting sun is a risk factor for skin cancer. Vitamin D is usually added to the milk you buy at the grocery store (but not to other milk-based products, like cheese, yogurt, and butter). Liver, fatty fish, and egg yolks also contain vitamin D. If you don't get enough of the nutrient from food, consider taking a multivitamin or a vitamin D supplement. (Many calcium supplements also contain vitamin D.)

Weight-bearing Exercise

Just as your muscles get bigger and stronger when you use them, your bones get stronger and denser when you make them work. And "work," for bones, means handling impact and weight. You can work your bones by doing activities that make you move against gravity, such as fast walking, running, dancing, and playing soccer. Biking and swimming are not weight-bearing exercises, so if you like these activities, try to add in other activities that do work your bones. You can also work your bones by lifting weights or doing resistance exercises. Resistance exercises include certain muscle strengthening exercises, using elastic fitness bands, and using weight machines. Aim to exercise at least 30 minutes a day on most days.

SHOULD I HAVE A BMD TEST?

Osteoporosis is a silent disease. You might not know you have it until you break a bone. With a bone mineral density (BMD) test, however, your doctor or health care provider can probably detect the disease before you start breaking bones. Good reasons to have one include:

- being a woman older than 65
- being middle-aged and
 - _having a family history of osteoporosis
 - _being a cigarette smoker
 - _weighing very little
- a medical condition known to cause osteoporosis, such as rheumatoid arthritis, early menopause, intestinal disorders, or certain cancers
- taking medications known to cause osteoporosis, such as glucocorticoids (steroid medicine), thyroid medications in excess, antiseizure medications, and certain breast cancer medications
- breaking bones in accidents that seem minor
- losing height or becoming hunched over

Drinking and Smoking

Smoking is toxic to bone cells. It might make it harder for you to absorb calcium. It lowers estrogen levels in women, and it can make it harder to exercise. It's no surprise, then, that researchers say smokers are more likely than nonsmokers to break bones.

Drink alcohol in moderation. Heavy drinking reduces bone formation, and it might also affect your body's calcium supply. Drinking can also make you more likely to fall, which is how many people break bones.

Talk to a Doctor

If your doctor or health care provider hasn't talked to you about your bone health, it is time for you to bring it up. Too many people are not being properly diagnosed or treated for osteoporosis. The two of you can develop a strategy for protecting your bones. Depending on your age and other risk factors, your doctor might recommend a bone mineral density (BMD) test. The test is quick and painless.

HOW DO YOU TREAT OSTEOPOROSIS?

The diet, exercise, and lifestyle recommendations for preventing osteoporosis can also help if you already have the disease or are at risk for it, but they are not enough. Many people also need to take a prescription medicine to prevent or treat osteoporosis. These drugs fall into two main categories: antiresorptives and anabolics. Antiresorptives slow bone loss. Anabolics speed up bone formation.

The antiresorptives are

- bisphosphonates
- calcitonin
- estrogen therapy and hormone therapy
- selective estrogen receptor modulators

Only one anabolic drug, teriparatide, has been approved so far for osteoporosis.

To learn more about treatments and medications for osteoporosis, see *How Do You Treat Osteoporosis?* Page 12. The National Osteoporosis Foundation recommends consulting your doctor or health care provider to learn about the benefits and risks of all osteoporosis treatments and to find out if you need a medication.

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OSTEOPOROSIS AND LATINAS

TRUE OR FALSE? Latinas rarely get osteoporosis.

False.

Osteoporosis is very common among Latinas. In fact, the U.S. Surgeon General reports that among Latinas living in the United States, osteoporosis is almost as common as it is in Caucasian women, the group most at risk.

TRUE OR FALSE? Weak bones caused by osteoporosis are just a part of getting older.

False.

People used to think that osteoporosis was an inevitable part of aging. As it turns out, though, osteoporosis is a disease you can do something about. It can be prevented, detected, and treated.

WHY IS OSTEOPOROSIS SERIOUS?

Half of all women older than 50 will break a bone due to osteoporosis. (And not just women: one in four men will, too.) But the problem with osteoporosis isn't just broken bones. The problem is that when you're older, breaking a bone is serious. It often starts a downward spiral of pain, disability, deformity, and the loss of independence.

Breaking a hip, for example, leads to immobility, which in turn can cause isolation and health problems. Twenty percent of seniors who break a hip will die within one year. Many of those who survive will need long-term nursing home care. And for some reason, hip fractures seem to be on the rise among Latinas. A two-decade study in California found that the percentage of Latinas breaking their hips each year increased substantially, even as the percentage of broken hips among Caucasian women went down.

WHAT EXACTLY IS OSTEOPOROSIS?

Throughout life, your skeleton loses old bone and forms new bone. Osteoporosis occurs when you lose too much bone, make too little of it, or both. As your bones become less dense, they get weaker and easier to break. Fractures from osteoporosis can occur in any bone, but you are most likely to break bones in your wrist, spine, and hip.

Children and teenagers form new bone faster than they lose the old bone. In fact, even after they stop growing taller, young people continue to make more bone than they lose. This means their bones get denser and denser until they reach what experts call peak bone mass. This is the point when you have the greatest amount of bone you will ever have. It usually occurs between the ages of 18 and 25.

After you achieve peak bone mass, the balance between bone loss and bone formation might start to shift. In other words, you may slowly start to lose more bone than you form. In midlife, bone loss usually speeds up in both men and women. For most women, the pace really picks up after menopause, when your body's production of estrogen drops sharply. Because estrogen protects bone, not producing as much can cause rapid bone loss.

OF SPECIAL CONCERN FOR LATINAS

- Ten percent of Latinas have osteoporosis.
- Half of all Latinas older than 50 have low bone mass, which means their bones are getting weak but they don't yet have osteoporosis.
- Many Latinas are lactose intolerant, which can make it difficult to get enough calcium.
- Hip fractures among Latinas in the United States appear to be on the rise.

Be good to your bones

It's smart to start protecting your bones when you're young. If you don't form enough bone then, you might be at a disadvantage when you're older, when many women lose bone faster than they make it. However, if you are older and you haven't been focusing on your bone health, don't be discouraged about the bone you might already have lost. You are never too old to protect your bones. But take action now. Once you start to lose bone density, it's hard to build it up again.

What can I do for my bones?

The recipe for bone health is simple:

- get enough calcium and vitamin D, and eat a well-balanced diet
- do weight-bearing and resistance exercises
- don't smoke
- drink alcohol only in moderation
- talk to your doctor or health care provider about your bone health

Of course, there are risk factors for osteoporosis that you cannot control. These include your family history, your age, being a woman, having a small frame, and your race. But concentrating on the factors that you do control can have a big impact on your bones. Even so, on average, Americans are not getting enough calcium, vitamin D, and exercise to keep their bones healthy.

Calcium and Vitamin D

Calcium is the building block of bone. It's important throughout your life, especially when you are growing or when you are pregnant or breastfeeding. Dairy products (low fat or non-fat milk, yogurt, and cheese) are good sources of calcium. So are calcium-enriched products, such as certain cereals and juices. Most adults need about three servings of these foods each day. You can get some calcium from broccoli, leafy green vegetables, and almonds, but you would have to eat a lot of these foods to get a full serving of calcium.

AMONG LATINAS LIVING IN THE UNITED STATES, OSTEOPOROSIS IS ALMOST AS COMMON AS IT IS IN CAUCASIAN WOMEN, THE GROUP MOST AT RISK.

Many Latinas – perhaps more than half – are lactose intolerant, which means that you have trouble digesting milk. If you are lactose intolerant, you might be able to eat lactose-free dairy products or those with added lactase. Another option is to eat other calcium-rich foods and ones that have added calcium.

If you don't get enough calcium from food, consider taking a multivitamin or a calcium supplement. If you are getting enough calcium from food, there is no need to take a calcium supplement.

RECOMMENDED CALCIUM AND VITAMIN D INTAKE

Calcium

| Age | Daily Needs |
|--|-------------|
| 1-3 years | 500 mg |
| 4-8 years | 800 mg |
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| 19-49 years | 1,000 mg |
| 50+ years | 1,200 mg |
| 14-18 years, pregnancy/ breastfeeding | 1,300 mg |
| 19-49 years, pregnancy/ breastfeeding | 1,000 mg |

Vitamin D

Experts recommend a daily intake of between 800 and 1,000 international units (IU) of vitamin D for most people age 50 and older. Some people will need even more. People under 50 should get a daily intake of between 400 and 800 IU.

Your body needs vitamin D to absorb calcium. Your skin makes vitamin D when it is exposed to the sun. In fact, sunlight is the main source of vitamin D for many people, but we know that getting sun is a risk factor for skin cancer. Vitamin D is usually added to the milk you buy at the grocery store (but not to other milk-based products, like cheese, yogurt, and butter). Liver, fatty fish, and egg yolks also contain vitamin D. If you don't get enough of the nutrient from food, consider taking a multivitamin or a vitamin D supplement. (Many calcium supplements also contain vitamin D.)

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SHOULD I HAVE A BMD TEST?

Osteoporosis is a silent disease. You might not know you have it until you break a bone. With a bone mineral density (BMD) test, however, your doctor or health care provider can probably detect the disease before you start breaking bones. Good reasons to have one include:

- being a woman older than 65
- being middle-aged and
 - _having a family history of osteoporosis
 - _being a cigarette smoker
 - _weighing very little
- a medical condition known to cause osteoporosis, such as rheumatoid arthritis, early menopause, intestinal disorders, or certain cancers
- taking medications known to cause osteoporosis, such as glucocorticoids (steroid medicine), thyroid medications in excess, antiseizure medications, and certain breast cancer medications
- breaking bones in accidents that seem minor
- losing height or becoming hunched over

Drinking and Smoking

Smoking is toxic to bone cells. It might make it harder for you to absorb calcium. It lowers estrogen levels in women, and it can make it harder to exercise. It's no surprise, then, that researchers say smokers are more likely than nonsmokers to break bones.

Drink alcohol in moderation. Heavy drinking reduces bone formation, and it might also affect your body's calcium supply. Drinking can also make you more likely to fall, which is how many people break bones.

Talk to a Doctor

If your doctor or health care provider hasn't talked to you about your bone health, it is time for you to bring it up. Too many people are not being properly diagnosed or treated for osteoporosis. The two of you can develop a strategy for protecting your bones. Depending on your age and other risk factors, your doctor might recommend a bone mineral density (BMD) test. The test is quick and painless.

HOW DO YOU TREAT OSTEOPOROSIS?

The diet, exercise, and lifestyle recommendations for preventing osteoporosis can also help if you already have the disease or are at risk for it, but they are not enough. Many people also need to take a prescription medicine to prevent or treat osteoporosis. These drugs fall into two main categories: antiresorptives and anabolics. Antiresorptives slow bone loss. Anabolics speed up bone formation.

The antiresorptives are

- bisphosphonates
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- estrogen therapy and hormone therapy
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Only one anabolic drug, teriparatide, has been approved so far for osteoporosis.

To learn more about treatments and medications for osteoporosis, see *How Do You Treat Osteoporosis?* Page 12. The National Osteoporosis Foundation recommends consulting your doctor or health care provider to learn about the benefits and risks of all osteoporosis treatments and to find out if you need a medication.

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OSTEOPOROSIS AND MEN

TRUE OR FALSE? Men rarely get osteoporosis.

False.

Osteoporosis is common among men. Men older than 50 are more likely to break a bone due to osteoporosis than they are to get prostate cancer.

TRUE OR FALSE? Weak bones caused by osteoporosis are just a part of getting older.

False.

People used to think that osteoporosis was an inevitable part of aging. As it turns out, though, osteoporosis is a disease you can do something about. It can be prevented, detected, and treated.

WHY IS OSTEOPOROSIS SERIOUS FOR MEN?

One in four men older than 50 will break a bone due to osteoporosis. But the problem with osteoporosis isn't just broken bones. The problem is that when you're older, breaking a bone is serious. It often starts a downward spiral of pain, disability, deformity, and the loss of independence.

Breaking a hip, for example, leads to immobility, which in turn can cause isolation and health problems. Twenty percent of seniors who break a hip will die within one year. Many of those who survive will need long-term nursing home care.

WHAT EXACTLY IS OSTEOPOROSIS?

Throughout life, your skeleton loses old bone and forms new bone. Osteoporosis occurs when you lose too much bone, make too little of it, or both. As your bones become less dense, they get weaker and easier to break. Fractures from osteoporosis can occur in any bone, but you are most likely to break bones in your wrist, spine, and hip.

Children and teenagers form new bone faster than they lose the old bone. In fact, even after they stop growing taller, young people continue to make more bone than they lose. This means their bones get denser and denser until they reach what experts call peak bone mass. This is the point when you have the greatest amount of bone you will ever have. It usually occurs between the ages of 18 and 25.

After you achieve peak bone mass, the balance between bone loss and bone formation might start to shift. In other words, you may slowly start to lose more bone than you form. In midlife, bone loss usually speeds up in both men and women.

OF SPECIAL CONCERN FOR MEN

- Two million U.S. men are estimated to have osteoporosis.
- An estimated 12 million U.S. men have low bone mass, which means their bones are getting weak but don't yet have osteoporosis.
- 80,000 men fracture their hips each year due to osteoporosis.
- Men are more likely than women to die in the first year following a hip fracture.
- Men who break a hip or wrist are less likely than women to receive treatment for osteoporosis.

Be good to your bones

It's smart to start protecting your bones when you're young. If you don't form enough bone then, you might be at a disadvantage when you're older, when many men lose bone faster than they make it. However, if you are older and you haven't been focusing on your bone health, don't be discouraged about the bone you might already have lost. You are never too old to protect your bones. But take action now. Once you start to lose bone density, it's hard to build it up again.

What can I do for my bones?

The recipe for bone health is simple:

- get enough calcium and vitamin D, and eat a well-balanced diet
- do weight-bearing and resistance exercises
- don't smoke
- drink alcohol only in moderation
- talk to your doctor or health care provider about your bone health

Of course, there are risk factors for osteoporosis that you cannot control – for example, your race. Caucasian and Asian men appear to be at the greatest risk for osteoporosis. Other risk factors that you don't control include your family history, your age, and having a small frame. But concentrating on the factors that you do control can have a big impact on your bones. Even so, on average, Americans are not getting enough calcium, vitamin D, and exercise to keep their bones healthy.

Calcium and Vitamin D

Calcium is the building block of bone. It's important throughout your life. Dairy products (low-fat or non-fat milk, yogurt, and cheese) are good sources of calcium. So are calcium-enriched products, such as certain cereals and juices. Most adults need about three servings of these foods each day. You can get some calcium from broccoli, leafy green vegetables, and almonds, but you would have to eat a lot of these foods to get a full serving of calcium.

MEN OLDER THAN 50 ARE MORE LIKELY TO BREAK A BONE DUE TO OSTEOPOROSIS THAN THEY ARE TO GET PROSTATE CANCER.

If you are lactose intolerant (which means that you have trouble digesting milk due to a shortage of a protein called lactase), you might be able to eat lactose-free dairy products or those with added lactase. Another option is to eat other calcium-rich foods and ones that have added calcium.

If you don't get enough calcium from food, consider taking a multivitamin or a calcium supplement. If you are getting enough calcium from food, there is no need to take a calcium supplement.

RECOMMENDED CALCIUM AND VITAMIN D INTAKE

Calcium

| Age | Daily Needs |
|-------------|-------------|
| 1-3 years | 500 mg |
| 4-8 years | 800 mg |
| 9-18 years | 1,300 mg |
| 19-49 years | 1,000 mg |
| 50+ years | 1,200 mg |

Vitamin D

Experts recommend a daily intake of between 800 and 1,000 international units (IU) of vitamin D for most people age 50 and older. Some people will need even more. People under 50 should get a daily intake of between 400 and 800 IU.

Your body needs vitamin D to absorb calcium. Your skin makes vitamin D when it is exposed to the sun. In fact, sunlight is the main source of vitamin D for many people, but we know that getting sun is a risk factor for skin cancer. Vitamin D is usually added to the milk you buy at the grocery store (but not to other milk-based products, like cheese, yogurt, and butter). Liver, fatty fish, and egg yolks also contain vitamin D. If you don't get enough of the nutrient from food, consider taking a multivitamin or a vitamin D supplement. (Many calcium supplements also contain vitamin D.)

Weight-bearing Exercise

Just as your muscles get bigger and stronger when you use them, your bones get stronger and denser when you make them work. And "work," for bones, means handling impact and weight. You can work your bones by doing activities that make you move against gravity, such as fast walking, running, dancing, and playing soccer. Biking and swimming are not weight-bearing exercises, so if you like these activities, try to add in other activities that do work your bones. You can also work your bones by lifting weights or doing resistance exercises. Resistance exercises include certain muscle strengthening exercises, using elastic fitness bands, and using weight machines. Aim to exercise at least 30 minutes a day on most days.

SHOULD I HAVE A BMD TEST?

Osteoporosis is a silent disease. You might not know you have it until you break a bone. With a bone mineral density (BMD) test, however, your doctor or health care provider can probably detect the disease before you start breaking bones. Good reasons to have one include:

- Being a man older than 70
- Being middle-aged and
 - _having a family history of osteoporosis
 - _being a cigarette smoker
 - _weighing very little (less than 127 pounds)
- A medical condition known to cause osteoporosis, such as rheumatoid arthritis, early menopause, intestinal disorders, or certain cancers
- Taking medications known to cause osteoporosis, such as glucocorticoids (steroid medicine), thyroid medications in excess, antiseizure medications, and certain prostate cancer medications
- Breaking bones in accidents that seem minor
- Losing height or becoming hunched over

Drinking and Smoking

Smoking is toxic to bone cells. It might make it harder for you to absorb calcium. It lowers estrogen levels in women, and it can make it harder to exercise. It's no surprise, then, that researchers say smokers are more likely than nonsmokers to break bones.

Drink alcohol in moderation. Heavy drinking reduces bone formation, and it might also affect your body's calcium supply. Drinking can also make you more likely to fall, which is how many people break bones.

Talk to a Doctor

Even some doctors think of osteoporosis as a woman's disease, so if your doctor or health care provider hasn't talked to you about your bone health, it is time for you to bring it up. That way, the two of you can develop a strategy for protecting your bones. Depending on your age and other risk factors, your doctor might recommend a bone mineral density (BMD) test. The test is quick and painless.

HOW DO YOU TREAT OSTEOPOROSIS?

The diet, exercise, and lifestyle recommendations for preventing osteoporosis can also help if you already have the disease or are at risk for it, but they are not enough. Many people also need to take a prescription medicine to prevent or treat osteoporosis.

These drugs fall into two main categories: antiresorptives and anabolics. Antiresorptives slow bone loss. They include a class of drugs called bisphosphonates, two of which – alendronate (Fosamax®) and risedronate (Actonel®) – have been approved by the U.S. Food and Drug Administration for men. Anabolics speed up bone formation. Only one anabolic drug, teriparatide, has been approved so far for osteoporosis. It is approved for men.

Because testosterone can help protect your bones, testosterone replacement therapy might be a treatment option if your osteoporosis is due to low testosterone levels.

To learn more about treatments and medications for osteoporosis, see *How Do You Treat Osteoporosis?* Page 12. The National Osteoporosis Foundation recommends consulting your doctor or health care provider to learn about the benefits and risks of all osteoporosis treatments and to find out if you need a medication.

WHERE CAN I FIND MORE INFORMATION?

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OSTEOPOROSIS AND WOMEN IN THEIR 20s, 30s, AND 40s

TRUE OR FALSE? Osteoporosis is common in women.

True.

Eighty percent of people who have osteoporosis are women. A woman's risk of osteoporosis is equal to her combined risk of breast, ovarian, and uterine cancer.

TRUE OR FALSE? Weak bones and osteoporosis are only a concern for older people.

False.

It's older people who often have to deal with the consequences of weak bones, but the best time to strengthen them is when you're younger.

WHY IS OSTEOPOROSIS SERIOUS?

Half of all women older than 50 will break a bone because of osteoporosis. (And not just women: one in four men will, too.) But the problem with osteoporosis isn't just broken bones. The problem is that when you're older, breaking a bone is serious. It often starts a downward spiral of pain, disability, deformity, and the loss of independence.

For example, breaking a hip leads to immobility, which in turn can cause isolation and health problems. Twenty percent of seniors who break a hip will die within one year. Many of those who survive will need long-term nursing home care.

BE GOOD TO YOUR BONES WHEN YOU'RE YOUNG

Osteoporosis is not an inevitable part of aging. It can be prevented, detected, and treated. Although you can improve your bone health at any age, it's smart to build up your bones when you're young. If you don't, you will be at a disadvantage when you're older, when women are most likely to develop the disease.

WHAT EXACTLY IS OSTEOPOROSIS?

Throughout life, your skeleton loses old bone and forms new bone. Osteoporosis occurs when you lose too much bone, make too little of it, or both. As your bones become less dense, they get weaker and easier to break. Fractures from osteoporosis can occur in any bone, but you are most likely to break bones in your wrist, spine, and hip.

Children and teenagers form new bone faster than they lose the old bone. In fact, even after they stop growing taller, young people continue to make more bone than they lose. This means their bones get denser and denser until they reach what experts call peak bone mass. This is the point when you have the greatest amount of bone you will ever have. It usually occurs when you are a young adult, sometime between the ages of 18 and 25.

After you achieve peak bone mass, the balance between bone loss and bone formation might start to shift. In other words, you may slowly start to lose more bone than you form. In midlife, bone loss usually speeds up in men and women. For most women, the pace really picks up after menopause, when your body's production of estrogen drops sharply. Because estrogen protects bone, not producing as much can cause rapid bone loss.

Taking good care of your bones before menopause is wise. It can make you less likely to develop osteoporosis after menopause. And don't be discouraged about the bone you might already have lost. You can always take steps to strengthen your bones. But take action now. Once you start to lose bone density, it's hard to reverse.

OF SPECIAL CONCERN FOR YOUNG ADULT WOMEN

- Calcium is critical for healthy bones, but many U.S. women consume less than half of what they need each day.
- Young women whose mothers have a history of spine fractures are also at risk for weak bones.
- Being small-boned and thin (under 127 pounds) increases your risk of developing osteoporosis.
- Anorexia nervosa, bulimia, early menopause, and surgical menopause can all increase your risk of osteoporosis.

What can I do for my bones?

The recipe for bone health is simple:

- get enough calcium and vitamin D, and eat a well-balanced diet
- do weight-bearing and resistance exercises
- don't smoke
- drink alcohol only in moderation
- talk to your doctor or health care provider about your bone health

Of course, there are risk factors for osteoporosis that you cannot control. In addition to being a woman, these include your family history, your race, getting older, and having a small frame. But concentrating on the factors that you do control can have a big impact on your bones. Even so, on average, Americans are not getting enough calcium, vitamin D, and exercise to keep their bones healthy.

Calcium and Vitamin D

Calcium is the building block of bone. It's important throughout your life, and your needs change over time. (See page 48.) It's especially important when you are pregnant or breastfeeding. Dairy products (low fat or non-fat milk, yogurt, and cheese) are good sources of calcium. So are calcium-enriched products, such as certain cereals and juices. Most adults need about three servings of these foods each day. You can get some calcium from broccoli, leafy green vegetables, and almonds, but you would have to eat a lot of these foods to get a full serving of calcium.

Many people have trouble digesting milk because of lactose intolerance (which means that you have trouble digesting milk due to a shortage of a protein called lactase). It is a common condition, especially among African Americans, Asians, Latinos, and Native Americans. If you are lactose intolerant, you might be able to eat lactose-free dairy products or those with added lactase. Another option is to eat other calcium-rich foods and ones that have added calcium.

If you don't get enough calcium from food, consider taking a multivitamin or a calcium supplement. If you are getting enough calcium from food, there is no need to take a calcium supplement.

Your body needs vitamin D to absorb calcium. Your skin makes vitamin D when it is exposed to the sun. In fact, sunlight is the main source of vitamin D for many people, but we know that getting sun is a risk factor for skin cancer. Vitamin D is usually added to the milk you buy at the grocery store (but not to other milk-based products, like cheese, yogurt, and butter). Liver, fatty fish, and egg yolks also contain vitamin D. If you don't get enough of the nutrient from food, consider taking a multivitamin or a vitamin D supplement. (Many calcium supplements also contain vitamin D.)

RECOMMENDED CALCIUM AND VITAMIN D INTAKE

Calcium

| Age | Daily Needs |
|--|-------------|
| 1-3 years | 500 mg |
| 4-8 years | 800 mg |
| 9-18 years | 1,300 mg |
| 19-49 years | 1,000 mg |
| 50+ years | 1,200 mg |
| 14-18 years, pregnancy/ breastfeeding | 1,300 mg |
| 19-49 years, pregnancy/ breastfeeding | 1,000 mg |

Vitamin D

Experts recommend a daily intake of between 800 and 1,000 international units (IU) of vitamin D for most people age 50 and older. Some people will need even more. People under 50 should get a daily intake of between 400 and 800 IU.

Weight-bearing Exercise

Just as your muscles get bigger and stronger when you use them, your bones get stronger and denser when you make them work. And “work,” for bones, means handling impact and weight. You can work your bones by doing activities that make you move against gravity, such as fast walking, running, dancing, and playing soccer. Biking and swimming are not weight-bearing exercises, so if you like these activities, try to add in other activities that do work your bones. You can also work your bones by lifting weights or doing resistance exercises. Resistance exercises include certain muscle strengthening exercises, using elastic fitness bands, and using weight machines. Aim to exercise at least 30 minutes a day on most days.

Smoking and Drinking

Smoking is toxic to bone cells. It might make it harder for you to absorb calcium. It lowers estrogen levels in women, and it can make it harder to exercise. It's no surprise, then, that researchers say smokers are more likely than nonsmokers to break bones.

Drink alcohol in moderation. Heavy drinking reduces bone formation, and it might also affect your body's calcium supply. Drinking can also make you more likely to fall, which is how many people break bones.

Talk to a Doctor

If your doctor or health care provider hasn't talked to you about your bone health, it is time for you to bring it up. Too many people are not being properly diagnosed or treated for osteoporosis. Even though you are young, you and your doctor can develop a strategy for protecting your bones. Your doctor might recommend a bone mineral density (BMD) test if you have significant risk factors for osteoporosis. The test is quick and painless.

A WOMAN'S RISK OF OSTEOPOROSIS IS EQUAL TO HER COMBINED RISK OF BREAST, OVARIAN, AND UTERINE CANCER.

SHOULD I HAVE A BMD TEST?

You might not know you have osteoporosis until you break a bone, but with a BMD test, your doctor or health care provider can probably detect the disease before that happens. The test is usually recommended for women older than 65. Reasons to have one before then could include:

- Being middle-aged and
 - _having a family history of osteoporosis
 - _being a cigarette smoker
 - _weighing very little (less than 127 pounds)
- A medical condition known to cause osteoporosis, such as rheumatoid arthritis, early menopause, intestinal disorders, or certain cancers
- Taking medications known to cause osteoporosis, such as glucocorticoids (steroid medicine), thyroid medications in excess, antiseizure medications, and certain breast cancer medications
- Breaking bones in accidents that seem minor
- Losing height or becoming hunched over

WHAT DO I NEED TO KNOW ABOUT PREGNANCY AND MOTHERHOOD?

If you are pregnant or breastfeeding a baby, be sure to get enough calcium. It's good for you and for your baby's growing bones. If you don't get enough of the nutrient, your baby's calcium needs will be met by taking calcium from your bones. If you are younger than 19-years-old, you need 1,300 mg of calcium per day. If you are 19 or older, you need 1,000 mg per day. Getting enough calcium during pregnancy is a great way to start building healthy bones for both you and your child.

HOW DO YOU TREAT OSTEOPOROSIS?

The diet, exercise, and lifestyle recommendations for preventing osteoporosis can also help if you already have the disease or are at risk for it, but they are not enough. Many people also need to take a prescription medicine to prevent or treat osteoporosis. The U.S. Food and Drug Administration has approved most of these medicines for use after menopause. Your doctor or health care provider can prescribe some of them earlier, however, if he or she thinks you need them.

Osteoporosis medications fall into two main categories: antiresorptives and anabolics. Antiresorptives slow bone loss. Anabolics speed up bone formation.

To learn more about treatments and medications for osteoporosis, see *How Do You Treat Osteoporosis?* Page 12. The National Osteoporosis Foundation recommends consulting your doctor or health care provider to learn about the benefits and risks of all osteoporosis treatments and to find out if you need a medication.

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OSTEOPOROSIS AND TEENS (FEMALE)

TRUE OR FALSE? Weak bones are a serious problem for a lot of women.

True.

About 10 million people have osteoporosis, the disease that causes most weak bones; 80 percent of them are women.

TRUE OR FALSE? Teens don't have to worry about weak bones.

False.

The best time to prevent weak bones is when you're young. That way, you might avoid the problems that weak bones cause when you're older.

BUILD STRONG BONES NOW

Osteoporosis is the disease that causes most weak bones. It is very common in older people, especially women. But it doesn't have to happen to YOU when you get older. That's because, most of the time, osteoporosis can be prevented.

Throughout life you are constantly forming new bone and losing old bone. These two processes go on at the same time. But children and teens form new bone faster than they lose the old bone. Older people, on the other hand, eventually lose bone faster than they form it. Osteoporosis occurs when you lose too much bone, make too little of it, or both.

Most people don't have the opportunity that you have right now: YOU can actually build denser, stronger bones now in a way that isn't possible later. This will make you healthier, and it will set you up to have stronger bones when you are older – when weak bones can be serious.

YOU CAN BUILD STRONGER BONES NOW IN A WAY THAT IS NOT POSSIBLE WHEN YOU'RE OLDER.

YOUR SKELETON IS ALIVE!

Your skeleton is more than just the frame that your body hangs on. Contrary to popular belief, bone is living, growing tissue.

Bone is made up mostly of three things:

1. collagen, a protein that gives bones a soft frame work
2. calcium-phosphate mineral complexes that give bones hardness and strength
3. living bone cells that remove and replace weakened sections of bone.

This soft-hard combination makes your bones both flexible and strong.

Bone changes over a lifetime

The recipe for bone health is simple:

- get enough calcium and vitamin D, and eat a well balanced diet
- exercise (do weight-bearing exercise)
- don't smoke or drink

Even so, on average, Americans are not getting enough calcium, vitamin D, and exercise to keep their bones healthy.

Calcium and Vitamin D

The nutrient calcium is the building block of your bones. So, it's important that you get enough. Until you're 18, you should get 1,300 mg each day. After you're 19, you will still need about 1,000 mg per day.

A cup of skim milk has about 30 percent of the recommended calcium and 25 percent of the vitamin D you need each day. Dairy products (milk, yogurt, and cheese) are good sources of calcium. So are certain cereals and juices that have calcium added to them. You can get some calcium from broccoli, leafy green vegetables, and almonds, but you would have to eat a lot of these foods to get a full serving of calcium. Many foods list the amount of calcium in each serving on the label.

You need another nutrient, vitamin D, because it helps you absorb calcium. Your skin makes vitamin D when it is exposed to the sun. Because too much sun exposure can cause skin cancer, though, you might want to consider other sources of vitamin D. Some foods contain the vitamin. For example, it is added to most milk. Some fish and egg yolks also contain it. It is available in supplements, too. You should have between 400 and 800 international units (IU) each day.

Calcium and Vitamin D

The same way your muscles get bigger and stronger when you use them, your bones get stronger when you make them work. You can “work” your bones by lifting weights, but you can also work them by doing activities where your body has to work against gravity. Some examples are walking, running, dancing, and playing soccer. Many sports involve some weight-bearing activity, although swimming and biking do not. Aim to be active for part of each day on almost every day.

Smoking and Drinking

You probably know that smoking is bad for your health. It also damages your bones. Plus, smoking might make it harder for your body to absorb calcium. And, as it turns out, smokers are more likely than nonsmokers to break bones.

Drinking too much alcohol is also bad for your bones, and it might hurt your body’s calcium supply.

Eating Disorders and Other Warning Signs

The eating disorders anorexia and bulimia can weaken your bones and increase your risk of osteoporosis when you are older. If you have anorexia you become very thin, but you don’t eat enough because you think you are fat. Bulimia involves periods of overeating followed by purging, sometimes through vomiting or using laxatives.

You should talk to a parent, doctor, or health professional immediately if you have one of these disorders or if you stop getting your period for more than three months in a row (and you are not pregnant). This is a condition called amenorrhea and it is also bad for your bones.

WHERE CAN I FIND MORE INFORMATION?

If you would like more information about bone health, contact:

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