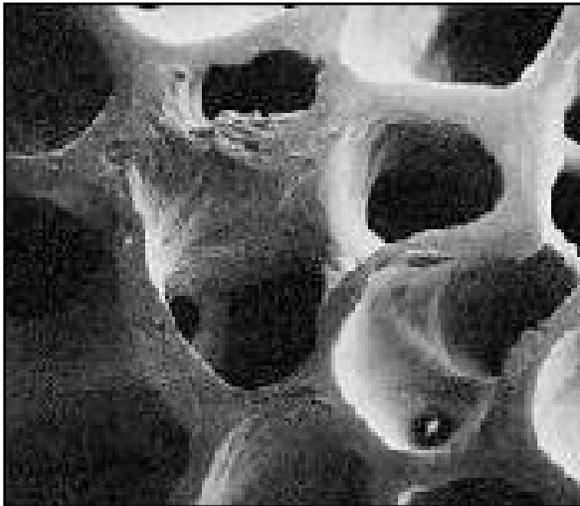


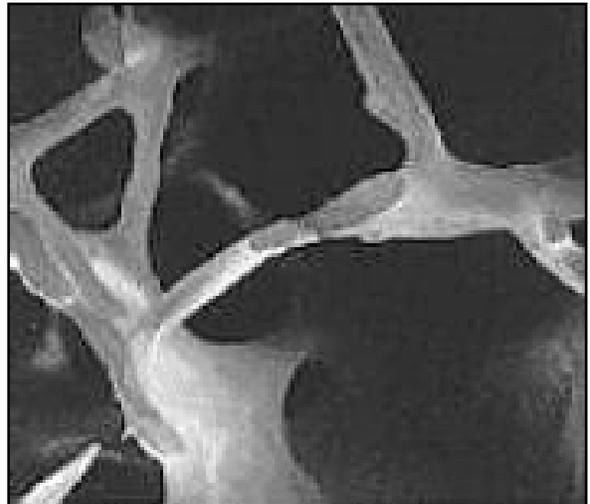
## Bone Health 2017 Leader Lesson

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### Normal bone



### Osteoporotic bone



## Bone Health – Being Dense is Smart

### At a Glance:

Healthy bones are important to all of us and today we'll discuss what you can do to support your bones so they will support you! The picture on the left is normal bone. The picture on the right is of porous bone. You can notice the breakdown of the structure. This is what the bones of someone with osteoporosis look like. They break easily when stressed.

### Time Required:

Approximately 20 minutes

### Objectives:

Through this interactive lesson, participants will 1) learn how to define osteoporosis 2) identify risk factors for getting osteoporosis, and 3) learn healthy life styles changes that can help prevent osteoporosis.

### Materials Needed:

- \*Shredded wheat biscuits (whole biscuit type, mini-wheats or bite-size)
- \*Dog biscuit
- \*Handouts if using Activity 2 - Quiz

## Teaching the Lesson:

Read or present the program. Then do one or more of the activities at the end of the lesson.

## Introduction

Osteoporosis means porous bones. Porous means the bones have lost calcium and other minerals that make them strong. This leaves fragile bones that can fracture easily. Spine, hip and wrist bone fractures are common when bones become porous.

Give everyone a snack baggie with a doggie biscuit to illustrate the strong (dense) bone and a shredded wheat biscuit to illustrate and the osteoporosis bone (porous).

## The Lesson:

So why should you care about osteoporosis?

Well, osteoporosis is more common than you may think. Consider this: Women are more at risk for developing osteoporosis than they are for developing breast cancer.

Osteoporosis is a major health concern for 44 million Americans - 10 million who already have osteoporosis and 34 million who have low bone mass, called osteopenia. While 80% of those affected are women, men get osteoporosis, too.

Osteoporosis often leads to bone fractures that significantly impact a person's life. Nearly half a million Americans are hospitalized with osteoporosis-related fractures each year.

- 1 in 2 women and 1 in 8 men over age 50 sustain an osteoporosis-related fracture.

Of these:

- 1 in 5 die within 1 year.
- 1 in 2 will never be able to live independently again

## The Silent Disease

Osteoporosis is considered a silent disease because bone loss occurs without any symptoms. Often people do not know they have osteoporosis until their bones become so fragile that a sudden strain, bump or fall causes a hip, wrist or rib fracture or collapsed spinal vertebrae.

**Are you at risk?** Everyone stand (or raise their arm). If any of these apply to you sit down (or lower your arm):

- I have a small frame
- I smoke
- I drink 3 or more cola drinks a day
- I had early menopause
- I am over 40
- A family member has osteoporosis
- I am Caucasian or Asian
- High salt/sodium diet
- Low calcium intake as a child
- I am a woman
- And finally, anyone who is getting older is at risk – I think that includes all of us!

## How can you tell if your bones are healthy?

Some symptoms to watch for are:

- Poor posture
- Shrinking
- Increase in Fractures
- Sedentary Lifestyle
- Low body weight (127 lbs or less)
- Vitamin D deficiency
- Back Pain
- Brittle Finger Nails
- Joint or muscle aches - when it is due to osteoporosis it will be the type of pain which comes on in a hurry

Don't wait until symptoms develop. Check your bone health now! Experts recommend all women past age 65 have a Bone Mineral Density test. How many of you have had a bone density test?

**Some medical conditions can harm your bones.** These include:

- rheumatoid arthritis
- thyroid and parathyroid
- Type 1 diabetes that is poorly controlled have a higher risk for developing osteoporosis (*for reasons that are not known yet*)
- lactose intolerant
- digestion problems, like colitis, Crohn’s disease or Celiac may not absorb calcium very well

If you have any of these disorders, you should talk to your doctor or health care provider about your bone health.

**Some Medications Can Increase Risk**

- Long-term corticosteroid use (used to treat inflammation of arthritis)
- High doses of thyroid hormone
- Anti-seizure or epilepsy medications
- Certain diuretics
- Excessive aluminum-containing antacids

If you are taking any of these medications, it is very important that you do NOT stop taking them. You do not want to make your condition worse. Talk to your doctor about how to protect your bones while on this medicine or if there is a safer medicine available. You have to work harder to build/keep strong bones while on these medications.

**Five steps to strong bones**

It is hard for any of us to not have some risk factors for osteoporosis – after all, we’re all getting older. The more risk factors you have, the more important it is you take care of your bones. The best advice for you is to follow these 5 steps to strong bones so you do not end up with weakened bones or fractures when you are older

**Step 1: Eat a healthy diet** that includes milk and other dairy foods for calcium and

vitamin D. Calcium gives your bones strength and structure. Vitamin D helps you absorb and get calcium to your bones. Calcium without vitamin D is almost useless – you require vitamin D to absorb calcium and get calcium to bones.

Calcium and/or vitamin D supplements are absolutely necessary if diet does not supply enough. Other good sources are drinks that have calcium added. You can buy orange juice and almond, rice, and soy milks with extra calcium. If you drink anything fortified with calcium, though, be sure to shake the container first; the calcium can settle to the bottom.

**Step 2: Get Regular Sun Exposure.** People age 50 and older do not make enough vitamin D from sun exposure. Plus, their vitamin D needs are higher. They have to consume enough from milk, other fortified foods and supplements.

**Step 3: Maintain an Active Lifestyle**

Look for opportunities to move throughout your day, whether it’s gardening, a short walk, or dancing to your favorite song. Know the three types of exercises and try to incorporate them into your daily routine.

1. weight-bearing exercises – walking, hiking, jogging, climbing stairs, dancing, treadmill
2. Strength-training exercises - Muscles pulling on bone builds bone. For example, tennis players have stronger muscles and denser bones in their playing arms. Cyclists may have stronger leg muscles and denser leg bones.
3. Balance & stretching exercises - Daily activities such as hand washing clothes, kneading bread, raking, sweeping, and rolling down a car window are strengthening activities

### Step 5. Decrease Lifestyle Risks!

- Get active!
- Eat a well balanced diet!
- Get a little sun!
- Avoid excessive alcohol (> 7 drinks/week).
- Stop smoking.
- Reduce caffeine - Do not consume more than 4 cups coffee, 8 cups of tea or 8 caffeinated soft drinks daily.

How many risk factors did you count for yourself? (can allow time for discussion if desired)

You should talk to your doctor about medications that treat/help prevent osteoporosis if you have any risk factors.

Go make a plan to change them today!

### Activities:

Choose one or more of the following activities to go with the lesson:

1. Brain Storm Activity.
2. Osteoporosis Quiz

### Evaluation:

Ask the following questions at the end of the lesson.

1. True or False. Usually a person will have symptoms of osteoporosis before she breaks a bone.
2. Name two ways to strengthen your bones.
3. Name two medicines that can weaken your bones.

Answers:

1. False. Osteoporosis is a silent disease so people often have no symptoms before they break a bone.
2. To strengthen bones, eat a healthy diet high in calcium and Vitamin D and fruits and vegetables; get daily sun exposure for about 10-15 minutes; do weight-bearing exercise; do exercises to increase balance; take medicines to increase bone density if needed; have bone density test; avoid excess alcohol and smoking.
3. Medicines that reduce bone density are cortisone; high dose thyroid hormone; anti-seizure medicines, some diuretics, too much of aluminum-containing antacids

## Source of Information:

<http://www.webmd.com/osteoporosis/rm-quiz-osteoporosis-facts>

American Academy of Orthopaedic Surgeons: “Exercise and Bone Health,” “Healthy Bones at Every Age.”

Cleveland Clinic: “Exercising Safely with Osteoporosis,” “Osteoporosis.”

Harvard School of Public Health: “Calcium Content of Common Foods in Common Portions,” “The Nutrition Source: Calcium and Milk: What’s Best for Your Health and Bones?”

National Institute of Arthritis and Musculoskeletal and Skin Diseases: “Osteoporosis Handout on Health,” “What is Osteoporosis?”

National Osteoporosis Foundation: “A Guide to Calcium-Rich Food,” “Are You at Risk?” “Debunking the Myths,” “Calcium and Vitamin D: What You Need to Know,” “Having a Bone Density Test,” “What is Calcium and What Does It Do?” “What is Osteoporosis?” “What Women Need to Know.”

Office of Dietary Supplements, National Institutes of Health: “Dietary Supplement Fact Sheet: Calcium.”

[chfs.ky.gov](http://chfs.ky.gov) (Kentucky: Cabinet for Health and Family Services - CHFS)

## Activity 1:

### BRAIN STORM:

Read the following quote and then let the club members brain storm answers to the questions.

“Exercise a key factor in preventing osteoporosis and in slowing bone loss— but I just don’t see how I can do any exercise at my age.”

Invite members of the audience to share their insights about exercise with each other. The following questions may be helpful in encouraging discussion:

1. What do they do each day to be physically active?
2. Which exercises do they prefer or enjoy the most? Why?
3. How do they make exercise more interesting?
4. Does anyone walk in a group? Are there any mall walkers present?
5. Where do they walk in the communities? Where do they enjoy walking locally?
6. How do they exercise in inclement weather?
7. What activities are offered in their communities, at the local senior center, “Y” or religious center?

### Supplemental Information:

It is possible to add more movement to one’s daily activities by making simple changes like:

- parking the car at the far end of the parking lot
- taking the stairs instead of the elevator
- standing instead of sitting
- standing and stretching or lifting light weights while watching television

Any kind of exercise, no matter how simple, is beneficial. The intensity and duration of the exercise should increase gradually.

#### Special Considerations for Mature Adults/Seniors:

- Seniors should begin with 5 to 10 minutes twice a week and build up slowly, adding a few minutes each week until they build up to 30 minute periods, three times a week.
- Lifting small objects or light weights help seniors build muscle, which strengthens bones.
- Exercises that improve balance are very important for elders.
- Do not over-exercise. Women who over-exercise to the point of stopping menstruation weaken their bones.
- Stand or sit up straight. Poor posture interferes with breathing, raises blood pressure, contributes to dowagers hump, and increases the risk of falling. Correcting posture helps improve balance and strengthen muscles

## Activity 2:

# Osteoporosis Quiz

## How much do you know about Osteoporosis?

1. The major cause of osteoporosis is lower levels of estrogen after menopause.
2. To absorb calcium, your body needs which of these:
  - Vitamin D
  - Potassium
  - Vitamin C
3. You can feel your bones getting weaker:  
True or False
4. Your body takes calcium from your bones when you don't get enough.  
True or False
5. Your bones start to thin when you reach your:  
Mid 30s  
Mid 40s
6. If you're over 50, exercising won't help your bone health.  
True or False
7. Who is most likely to get osteoporosis?  
Men  
Women  
Children
8. Which is the best exercise for your bones?  
Bicycling  
Walking  
Swimming
9. If your mom had osteoporosis, you might, too.  
True or False
10. Which of these will give you the most calcium?  
A cup of low-fat cottage cheese  
A cup of low-fat yogurt  
A cup of low-fat milk

## Answers to Osteoporosis Quiz

1. **False.** “While lower estrogen levels in menopause can increase your osteoporosis risk, it is not the only cause of bone loss. Many other factors contribute to osteoporosis, including genetics, age, ethnicity, medications, lack of exercise, smoking, eating disorders and alcohol consumption.”
2. **Vitamin D**, which you can get from the sun and from food, is important to bone health. Your body can’t absorb calcium without it. Your doctor can help you know if you’re getting enough Vitamin D.
3. **False.** When you have osteoporosis, you can’t feel your bones getting weaker. You probably won’t know it has happened until it’s too late. You could break a bone in a fall, but it also might happen from just bumping into furniture or even sneezing.
4. **True.** Your body needs calcium to function. When it doesn’t have enough, it pulls calcium from your bones. Not getting enough calcium can lead to bone thinning and raises your chance of fractures.
5. **Correct Answer: Mid 30s.**  
Your bones are living, growing tissue that store calcium and other minerals. Up until about age 30, your body will build bone tissue faster than you’ll lose it. After age 35, the process starts to reverse. Bones break down quicker and that leads to a higher chance of osteoporosis.
6. **False.** It can’t help build new bone at that age, but exercise can help slow bone loss and can also build or maintain muscles.
7. **Correct Answer: Women**  
About 80% of people with osteoporosis are women. Women’s bones are smaller and thinner than men’s.
8. **Correct Answer: Walking**  
You may have heard that weight-bearing exercises help strengthen your bones, but that doesn’t mean you need to lift barbells. Any exercise that you do with your feet on the ground forces your bones to support your weight. And that helps your bones. Walking, jogging, hiking, climbing, aerobics, tennis, and weight training are good options for most people. But check with your doctor first.
9. **Correct Answer: True**  
Family history does play a role, just like your age and gender. But there’s a lot you can do to protect your bones and keep them strong:
  - Drink milk.
  - Eat foods high in calcium and vitamin D.
  - Exercise regularly.
  - Get plenty of fruit and vegetables.
  - Be mindful of how much alcohol you drink.
10. **Correct Answer: Yogurt**  
It’s no secret that dairy products are calcium powerhouses, but yogurt has a slight edge over milk. An 8-ounce cup of yogurt gives you about a third of your daily calcium needs.