

HEALTH EDUCATION: OSTEOPOROSIS

- Knowledge Attitude Practice** After working through this lesson, participants will be able to
1. Describe the bone changes in osteoporosis
 2. List factors that may lead to osteoporosis, or that may protect from osteoporosis
 3. Teach others with the *Osteoporosis* picture book.
- Overview** This series of lessons is based on the *Health Education Program for Developing Communities*, which is available from <http://hepfcd.info/>. These lessons are accompanied by a series of health teaching booklets on the individual topics. These lessons are based on information and standards from the World Health Organization. The lessons can be used with adults or with older children and teens.
- Materials** *Collect these items before beginning the lesson:*
- Poster-size paper, markers, and masking tape
 - Role Play
 - *Osteoporosis* picture book
 - Handouts:
 - *Bone with Osteoporosis*
 - *Making Strong Bones*
 - *Osteoporosis*

LESSON

60 minutes

Role play: (5 minutes)

Instructions: An older woman with a cane is walking down a street. She slips and falls down.

1st: Oh! That hurt! My hip really hurts! (She lies down, holding her hip.)

2nd: Can I help you?

1st: Help me get up! Oh, I can't move. My hip hurts! I must have broken my hip!

2nd: Wait a minute. I will call a doctor.

Ask SHO Questions:

*What did you **S**ee?*

*What was **H**appening?*

*Does this happen in **O**ur place?*

Osteoporosis (15 minutes)

Instructions: Discuss as large group.

A. Why did she break her hip?

1. She fell down.

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2. She is old.
 3. Her bones are weak.
 4. She may have osteoporosis.
- B.** Perhaps she has weak bones. Why are your bones important?
1. Bones support your body.
 2. Bones give structure to the body.
 3. Your muscles are anchored to bones, so bones are needed for movement.
 4. Bones protect your body.
 5. Bones store calcium.
- C.** She may have thin bones osteoporosis. Show the picture, *Bone with osteoporosis*.
1. What is this a picture of?
 - This is a picture of a hip bone.
 - One slice or section of the is enlarged to show a comparison of a normal bone with a bone with osteoporosis.
 2. What is happening here?
 - The hip bone is not solid. It has a framework of bone combined with air spaces.
 - The bone with osteoporosis has a thin bone structure.
 - The bone with osteoporosis has more air spaces or pores.
 - So the bone with osteoporosis is weaker.
 - The bone with osteoporosis will break more easily.
- D.** What does the word “osteoporosis” mean? Can you break the word into parts? (Hint: “Osteo” means “bone”)
1. “Osteo” means “bone”.
 2. Porosis” means “porous”.
 3. So “osteoporosis” means “porous bones”, or bones with a lot of pores.
- E.** What problems does osteoporosis cause?
1. Many people with osteoporosis have no symptoms.
 2. But their bones are weak.
 3. Their bones break easily.
 4. They may have hip fractures.
 5. They may have spine fractures.
 6. They may have leg or wrist fractures.

Making Strong Bones (20 minutes)

Instructions: Start in a large group.

- A.** What are bones made of? What do bones need in order to be strong?
1. Bones are made of calcium and other minerals.
 2. Bones need calcium to be strong.
 3. Vitamin D also helps make bones to be strong.
 4. Sunlight helps your body to build Vitamin D.
- B.** Divide into small groups. Sort the *Making Strong Bones* cards into two piles. Which factors make your bones stronger, and which can lead to osteoporosis? Give a reason for your choices.
1. Young men
 - Young men usually have strong bones
 2. Drink milk
 - Milk is high in calcium, which builds the bones
 3. Eat yogurt and cheese

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- Yogurt and cheese are high in calcium
- 4. Breastfeeding
 - Breastfeeding protects against osteoporosis
- 5. Eat dark green, leafy vegetables
 - They are high in calcium
- 6. Eat clams and sardines
 - They are high in calcium
- 7. Sunlight
 - Sunlight helps build Vitamin D, but too much sunlight can cause sunburns and lead to skin cancer and eye damage
- 8. Play soccer
 - Regular weight-bearing exercise builds strong bones
- 9. Lift weights
 - This also builds strong bones
- 10. Take antacids
 - Many antacids contain calcium carbonate, which is high in calcium
 - They may also take calcium supplements
- 11. Other races
 - People with darker skin are less likely to have osteoporosis
- C. May lead to osteoporosis**
 1. Smoking
 - Smoking causes thinning of the bones. It also causes thin skin and wrinkling.
 2. Heavy drinking
 - Heavy drinking can lead to osteoporosis.
 3. “Couch potatoes”
 - Exercise is needed for stronger bones.
 4. Coke and chips
 - Coke and chips are “junk foods” that contain little calcium and little nutrition.
 5. White skins (Caucasian)
 - They are more likely to have osteoporosis.
 6. Older women
 - Older women are more likely to have osteoporosis.
 7. Watching television
 - People who watch a lot of television may not get much exercise.
- D. Give out the *Osteoporosis* handout.**

Picture Books (20 minutes)

- A.** Divide into pairs. Practice teaching each other the *Osteoporosis* picture book.
- B.** During the week, visit your friends and neighbors to teach about *Osteoporosis* using the picture book.

References:

Centers for Disease Control and Prevention. 2008. *Calcium and Bone Health*. Available from: <http://www.cdc.gov/nutrition/everyone/basics/vitamins/calcium.html>

Health Education Program for Developing Communities. Available from: <https://hepfdc.org/>

National Osteoporosis Foundation. 2008. *Prevention*. Available from: <http://www.nof.org/prevention/risk.htm>

National Osteoporosis Foundation. 2008. *Prevention*. Available from: <http://www.nof.org/prevention/risk.htm>

HEALTH EDUCATION: OSTEOPOROSIS - STARTER

Role play:

Instructions: An older woman with a cane is walking down a street. She slips and falls down.

1st: Oh! That hurt! My hip really hurts! (She lies down, holding her hip.)

2nd: Can I help you?

1st: Help me get up! Oh, I can't move. My hip hurts! I must have broken my hip!

2nd: Wait a minute. I will call a doctor.

Instructions: An older woman with a cane is walking down a street. She slips and falls down.

1st: Oh! That hurt! My hip really hurts! (She lies down, holding her hip.)

2nd: Can I help you?

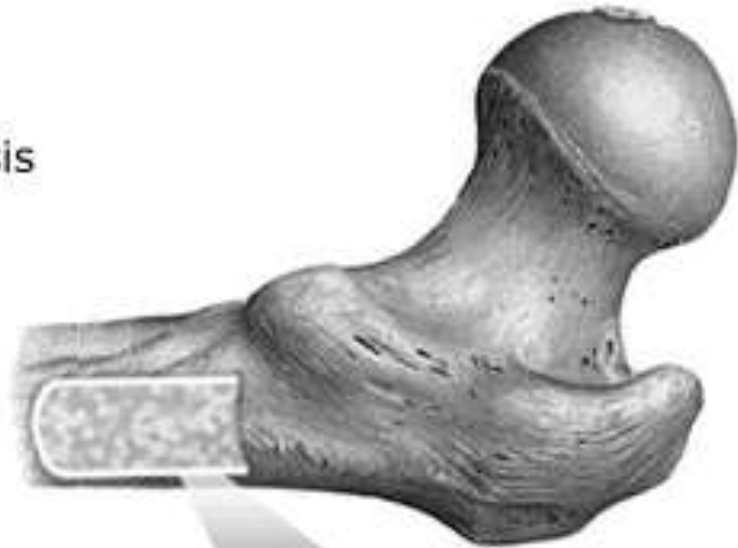
1st: Help me get up! Oh, I can't move. My hip hurts! I must have broken my hip!

2nd: Wait a minute. I will call a doctor.

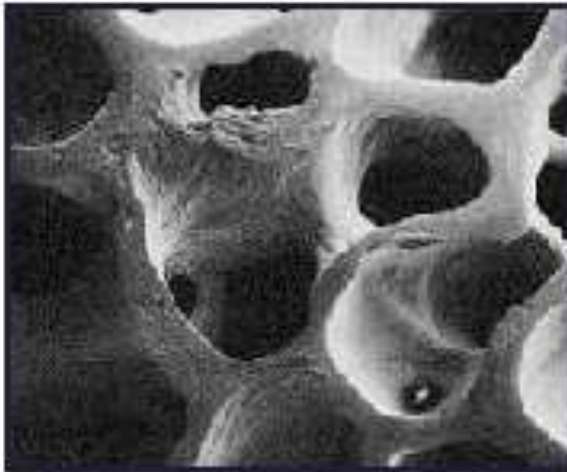
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BONE WITH OSTEOPOROSIS

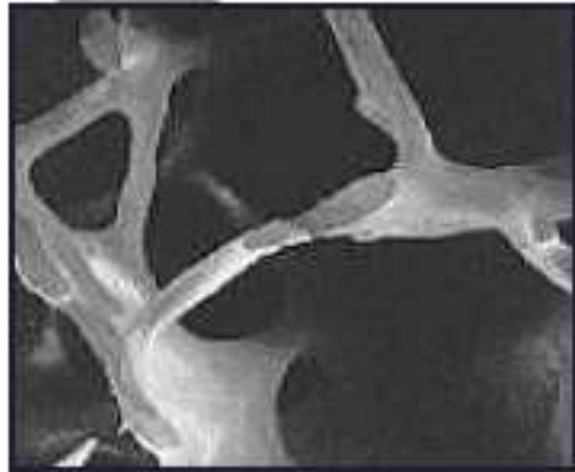
Section of bone
showing osteoporosis



Normal Bone



Osteoporotic Bone



Reproduced from *J Bone Miner Res* 1986;1:16-21 with
permission of the American Society for Bone and Mineral Research

Source: Centers for Disease Control and Prevention. 2008. *Calcium and Bone Health*. Available from:
<http://www.cdc.gov/nutrition/everyone/basics/vitamins/calcium.html>

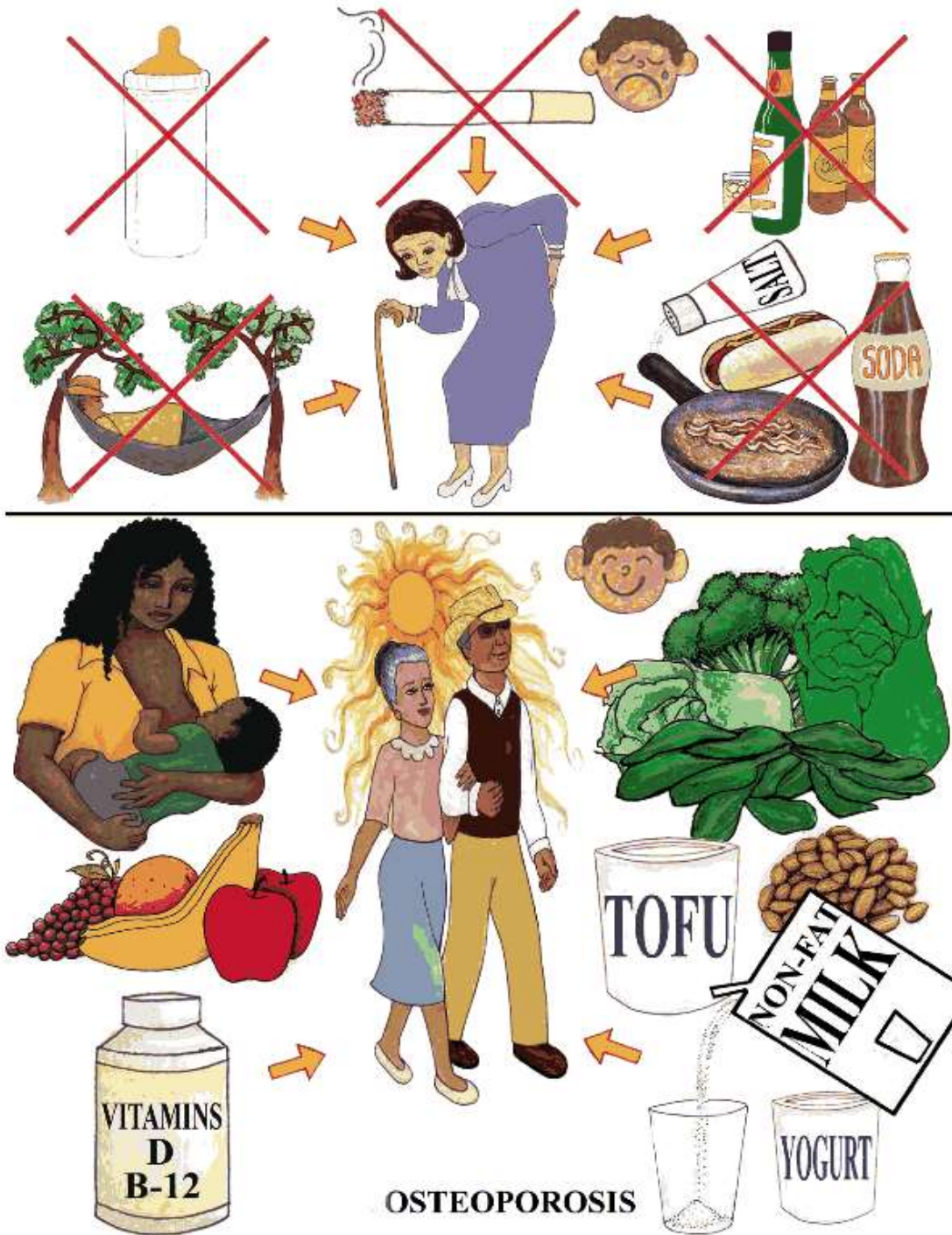
Which things make your bones stronger?
Which can lead to osteoporosis?
Give a reason for your choices.
(Prepare one set of cards for each small group.)

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|---|--|
| OLDER WOMEN | DRINKING MILK |
| YOUNG MEN | WHITE SKIN (CAUCASIANS) |
| “COUCH POTATO” (LITTLE EXERCISE) | SMOKING |
| EAT YOGHURT AND CHEESE | COKE AND CHIPS |
| HEAVY DRINKING | BREAST FEEDING |
| SUNLIGHT (BUT NOT TOO MUCH!) | EATING GREEN LEAFY VEGETABLES |
| EATING SARDINES, CLAMS AND OYSTERS | ANTACIDS |
| PLAYING SOCCER | WATCHING TELEVISION |
| LIFTING WEIGHTS | OTHER RACES WITH DARKER SKIN |

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OSTEOPOROSIS



Source: Health Education Program for Developing Communities. Available from: <https://hepfdc.org/>