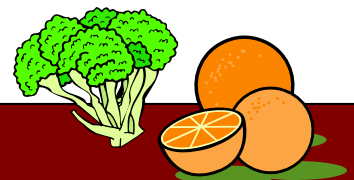


BONES SAVVY Patch Program



Girl Scouts – North Carolina Coastal Pines
6901 Pinecrest Road
Raleigh, NC 27613



BONES SAVVY

Patch Requirements

Girl Scout Daisies:

Activity #1
Activity #4

Girl Scout Brownies:

Activity #1
Activity #6
Activity #11
Activity #12

Girl Scout Juniors:

Activity #1
Activity #2
Activity #6
Activity #11

Girl Scout Cadettes, Seniors, and Ambassadors:

Activity #1
Activity #3
Activity #5
Activity #6
Activity #8
Activity #11

PATCH REQUIREMENTS



Related Badges

Girl Scout Brownies:

Eat Right, Stay Healthy, Healthy Habits

Girl Scout Juniors:

Food Power, A Healthier You

Girl Scout Cadettes, Seniors, and Ambassadors:

The Food Connection

Beautiful Bones

Introduction

Osteoporosis is a bone disease that is often called a "silent thief" because it robs people of their bone strength without showing any signs or symptoms.

Osteoporosis can be a debilitating disease hindering the simplest daily task. Since Osteoporosis is a disease of the bones, it is important to know how bones change and grow. Bone is a living, growing tissue. Our skeleton has an outer shell of dense bone surrounding a honeycomb-like structure. The bone will harden when minerals called calcium and phosphorus are deposited on it. Mineral deposits make the bone strong, without them bones become dense and weak. Bone remodeling occurs continuously in the body when the bone is broken down and removed, and then replaced by new bone. When the bone removal occurs too quickly or its new replacement occurs too slowly, the bone may become fragile and at risk for Osteoporosis. A person will reach their peak bone mass, which is the maximum amount of bone a person can have, between 20 and 30 years of age.

Risk Factors

Osteoporosis can be caused by factors that you both can change and cannot change.

Risk factors that you can change: your hormone levels, diet, exercise, and lifestyle choices.

- ♥ During the middle of their life, women go through many changes that affect their hormone levels. Sometimes physicians may prescribe a hormone supplement for them to help them maintain a good balance in their body.
- ♥ Calcium and Vitamin D must be in your daily diet to assist the bones with calcium absorption. People from 4-8 years old should have 800/mg of calcium a day, people from 9-18 years old should have 1300/mg of calcium a day, and people 19-50 years old should have 1000/mg a day for optimal bone growth.
- ♥ Physical exercise, particularly weight-bearing exercise (which we will discuss later), is very important in maintaining a healthy life and healthy bones.

- ♥ Excessive alcohol intake and smoking are extremely bad for your skeleton because they result in poor nutrition and low estrogen levels.

Factors you cannot change include: your gender, age, heredity, bone size, and ethnicity.

- ♥ You are either a girl (female gender) or a boy (male gender). Women are more likely to develop Osteoporosis than men are, however men can be affected as well.
- ♥ Age affects the onset of Osteoporosis. The older you get the more likely you are to develop weak bone tissue.
- ♥ You can inherit the tendency for low bone mass from your mother or father.
- ♥ Women with small frames and small bones are more likely to develop Osteoporosis than those with large bones.
- ♥ Asian women and white women are more likely to develop osteoporosis than their African-American counterparts.

Men, Women, and Bone Fractures

A woman's risk for developing Osteoporosis equals her combined risk of developing breast, uterine, and ovarian cancer! One out of every two women will be affected by Osteoporosis during her lifetime. While they are young, men, in general, build larger and thicker bones than women. However, after middle age men and women lose bone mass at the same rate. One out of every eight men over the age of 50 will have an osteoporotic fracture. This means that the fractures are caused by unhealthy bones with low density. Men have a reported 80,000 hip fractures a year. Because osteoporosis is less common in men, doctors sometimes overlook a diagnosis for osteoporosis. Fractures are harmful and painful, especially in adults with osteoporosis, because it keeps them from being healthy and active.

Frequently unhealthy bones are disabling and take a long time to heal after they have been broken. Osteoporosis is a threat to over 1 million North Carolinians age 50 and over. Each year more than 13,000 North Carolinians are hospitalized for osteoporosis-related fractures costing \$145 million in medical costs from hip

fractures alone. In the United States, 1.5 million fractures occur a year and cost \$14 billion in medical costs. Other common areas for fractures are the wrist, ankle, or spine.

Remember that it is important to study about Osteoporosis because it is preventable and treatable with good nutrition and exercise!

Exercise for Beautiful Bones

Weight bearing exercise is needed to keep your bones beautiful. Weight bearing and resistance exercises strengthen both muscles and bones. A weight bearing exercise is one that requires you to support your own body weight and should be done 3 times each week. Select an exercise that is fun. Always stretch before and after exercising and wear comfortable clothing, including sneakers.



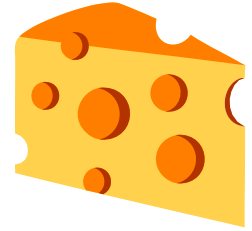
ACTIVITY 1: Choose a weight bearing exercise from the list below that you have never tried before and do it three days each week for two weeks. Write down what you liked and disliked about the exercise you chose.

Walking	Aerobics	Jumping Rope
Golf	Stair Climbing	Skipping
Basketball	Tap Dancing	Volleyball
Soccer	Jazz Ballet	Skating
Tennis	Gardening	Flag Football
Jogging	Softball	Racquetball

ACTIVITY 2: Encourage friends in your troop! Hold a relay race or tug of war competition at the beginning of your meeting. Briefly explain the importance of weight bearing exercise in preventing osteoporosis.



Nutrition for Beautiful Bones



Calcium is the main building block for developing healthy and strong bones.

Your calcium needs will change throughout your lifetime. Calcium needs are particularly high during your youth because the body is growing rapidly.

Older women need more calcium daily because their bodies cannot absorb calcium easily. Below is a chart indicating calcium needs throughout your life. You should have at least three servings of calcium-rich products each day.

Ages	Per day (mg)
1-6 months	210
6-12 months	270
1-3 years	500
4-8 years	800
9-18 years	1300
19-50 years	1000
51 years and older	1200

What are some good choices of calcium that you can add to your daily diet? Try milk, ice cream, yogurt, frozen yogurt, grilled cheese on whole wheat bread, almonds, English muffins, pudding, hard cheese, milkshakes, oranges, or broccoli.

ACTIVITY 3: Go to the powerful bones Web site at http://www.cdc.gov/powerfulbones/games_fun/index.html to play the Crazy Calcium Caper game. What foods did you choose for Carla that equaled 1300 mg of calcium a day? Write down the foods you selected for her.



ACTIVITY 4: For a delicious calcium boost, grab your blender and whip up one of the following great smoothie drinks for yourself and a family member.

Sunshine Smoothie: 1 cup of orange juice with added calcium, fat-free or low-fat milk, ice cubes, and a handful of fruit.

Very Berry Smoothie: 1 cup of fat-free or low-fat milk, a handful of fresh or frozen blueberries, and a dash of honey. Toss in some ice cubes to make it extra thick.

Fruit Smash Smoothie: 1 cup of fat-free or low-fat milk, a bunch of frozen strawberries, apricots, bananas, and fresh raspberries. Toss in some ice cubes to make it extra thick.

Vanilla Smoothie: 1 cup of orange juice with added calcium, a handful of strawberries, a banana, and 1 container of fat-free or low-fat vanilla yogurt.

ACTIVITY 5: Record everything you eat for one week in a food journal. On your last day review all the foods you have consumed. Did you make good choices for calcium intake? What foods will you add to your daily diet to increase the level of calcium in your body to build stronger bones?

Adult Risk Assessment

- | | | | |
|-----|---|-----|----|
| 1. | Are you a female? | YES | NO |
| 2. | Are you Caucasian or Asian? | YES | NO |
| 3. | Do you have a family history of osteoporosis? | | |
| | YES NO | | |
| 4. | Is your diet low in calcium? | YES | NO |
| 5. | Do you exercise less than 3 times per week? | | |
| | YES NO | | |
| 6. | Do you have a small, thin frame? | YES | NO |
| 7. | Are you 35 years of age or older? | | |
| | YES NO | | |
| 8. | Have you had an early or surgically induced Menopause, or irregular menses? | | |
| | YES NO | | |
| 9. | Do you smoke cigarettes? | YES | NO |
| 10. | Do you consume more than 2 alcoholic beverages per day? | | |
| | YES NO | | |

Preventing falls is important because falls cause bone fractures. Fall prevention is especially important for older people, like your grandparents. Some helpful tips to remember are:

- Keep floors in your house free of clutter and loose wires.
- Tack down carpets or use non-skid backing on rugs to preventing slipping.
- Always use handrails when climbing stairs.
- Have light switches at the top and bottom of the stairs to keep the area well lit.
- Place a nightlight between bedrooms and hallway bathrooms.
- Sprinkle sand and salt on your walkways and stairs during icy conditions.
- Use bath mats with rubber suction cups to avoid slipping in the shower.

ACTIVITY 8: Using the suggestions above, make a checklist for your home or an older adult's home to see if it is free of fall hazards. Make suggestions for change if needed.



Careers in Beautiful Bones



Many adults in the healthcare field today educate, test, and assist people with osteoporosis. These can be pharmacists, nurses, dieticians, rheumatologists, physical therapists, orthopedic surgeons, family practitioners, physician assistants, adult health care coordinators, fitness professionals, or long term care administrators - to name a few.

ACTIVITY 9: Interview someone from one of the occupations listed above. In your interview, make sure to ask them the following questions in addition to any other questions that you may have.

What is their role?

Ask them to describe their education?

Is special education or training required for what they do?

What do they do related to osteoporosis?

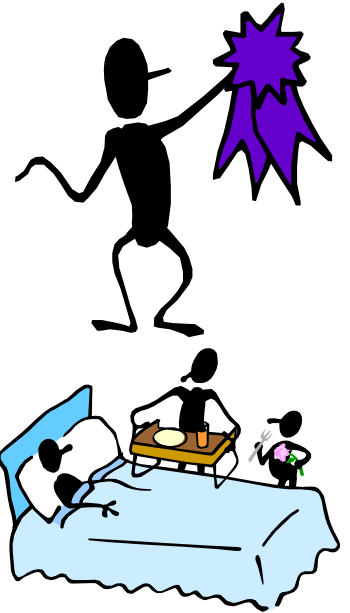
What do they like the best about their job?

ACTIVITY 10: Ask a local nurse, dietician, or nutritionist in your community to meet with you to teach you how to read labels on food boxes. This will help to ensure you are getting essential vitamins, including calcium, in your diet each day.



Beautiful Bones: Putting It All Together

A Quiz and Word Find to Test Your Knowledge!



ACTIVITY 11: Complete the following quiz to find out how much you have learned about Osteoporosis. Circle your answer.

- 1). Osteoporosis is caused by a loss of:
 - a. Calcium from the bones
 - b. Iron from the blood
 - c. Sodium from body tissues

- 2). Which of the following are considered risk factors for osteoporosis?
 - a. female, white, Asian
 - b. thin and small frames
 - c. smoking and excess alcohol consumption
 - d. all of the above

- 3). Which foods provide the most calcium in our diet?
 - a. breads, pastas, and starches
 - b. meat, fish, poultry, and beans
 - c. fruits and vegetables
 - d. milk and dairy products

- 4). Which of the following is not a weight-bearing exercise?
- a. walking
 - b. soccer
 - c. aerobics
 - d. yoga
- 5). The best way to prevent falls in your home is to:
- a. install additional lights in hard to see places
 - b. keep a bath mat in your shower
 - c. sand your driveway when it's icy
 - d. all of the above
- 6). True or false. Only women are affected by Osteoporosis.
- 7). True or false. Only senior citizens get Osteoporosis.
- 8). True or false. There is nothing you can do to prevent getting Osteoporosis.

ACTIVITY 12: Locate the Beautiful Bones related words in the search puzzle below. Circle your finds.

C	R	E	T	H	R	T	E	D	E	C	V	T	S	A	P	A	Y
T	R	N	O	C	E	M	C	G	S	S	O	B	T	N	U	P	O
Y	O	E	Y	S	D	I	E	X	E	R	C	I	S	E	A	D	G
I	S	T	A	L	O	L	H	L	A	I	F	L	K	I	N	R	U
C	W	B	E	M	G	K	I	R	B	D	E	O	Y	M	O	A	R
E	R	A	X	P	T	S	M	E	N	T	P	C	U	H	E	T	T
C	M	L	W	I	R	H	P	T	J	A	D	C	B	P	R	S	E
R	N	L	A	H	E	A	L	T	H	Y	B	O	N	E	S	U	R
E	M	U	Y	R	P	K	R	U	I	R	Y	R	O	E	V	C	A
A	U	I	S	B	U	E	G	B	A	L	G	B	N	W	O	F	D
M	I	L	K	J	P	N	K	B	J	E	H	I	T	C	M	S	D
E	C	A	D	C	O	E	U	D	S	A	D	A	I	R	Y	C	E
E	L	T	W	R	G	H	A	E	C	R	U	N	N	I	N	G	H
H	A	G	T	O	R	F	E	T	A	R	T	U	M	G	I	B	C
E	C	S	A	R	F	H	O	S	K	I	P	P	I	N	G	A	T
S	P	I	N	A	C	H	B	N	R	S	K	I	M	M	I	L	K

Word List

- | | | | |
|----------|---------------|-----------|-----------|
| Broccoli | Custard | Milk | Skim Milk |
| Butter | Dairy | Milkshake | Skipping |
| Calcium | Exercise | Ball | Spinach |
| Cheddar | Feta | Rhubarb | Strong |
| Cheese | Healthy Bones | Running | Yogurt |
| Cream | Ice Cream | Sardines | |

Patch Order Form

BONES SAVVY
A Girl Scout Patch Program



Please send me _____ of the "BONES SAVVY" patches.

Troop # _____ Level _____

Total # of Patches _____ x \$1.25 = _____

NC Sales Tax (6.75% of subtotal) = _____

Shipping and Handling = _____
(see chart below)

Total Amount Enclosed = _____

Patches are available at the Fayetteville, Goldsboro, and Raleigh Council Shops. Mail and phone orders are also accepted. For Mail Orders, send order form with check to:

Girl Scouts - North Carolina Coastal Pines
 6901 Pinecrest Road
 Raleigh, NC 27613
 Attn: Council Shop

Make checks payable to: Girl Scouts – North Carolina Coastal Pines

Mail patches to:

Name: _____

Address: _____

_____ Zip _____

Phone: (H) _____ (W) _____



Shipping & Handling Charges

Purchase Amount	Shipping Charge	Purchase Amount	Shipping Charge
Up to \$25.00	\$ 5.95	\$100.01 to \$200.00	\$ 14.95
\$25.01 to \$50.00	\$ 7.95	\$200.01 to \$300.00	\$ 20.95
\$50.01 to \$75.00	\$ 9.95	\$300.01 to \$500.00	\$ 25.95
\$75.01 to \$100.00	\$ 11.95	Over \$500.00	\$ 45.95