Ohio SNAP-Ed Adult & Teen Programs
Bone-Building Calcium

Task Topic: Dairy

Task Title: Bone-Building Calcium

Teaching Message(s):
- ☑ When consuming dairy products like milk, cheese, yogurt, etc., choose low fat or fat free options.
- ☑ Be physically active for at least 30 minutes most days of the week.

Resources: Adapted from *ChooseMyPlate.gov, Dietary Guidelines,* and the American Dairy Association – Mideast

Objectives for the Task:
1. Explain the role of calcium in the body and identify ways to include it in the diet.
2. Describe how diet and exercise impact bone health.

Materials needed for the Task (including Handouts):
- Recipe Cards – Hot Chocolate Mix
- Worksheet – Calcium Calculator
- Fact Sheet – Tips for Increasing Calcium in Your Diet

Food and Equipment for Demonstration and Sampling:
- Hot chocolate mix
  - Small box nonfat dry milk (32 oz.)
  - Small bag powdered (confectioner's) sugar (16 oz.)
  - Non-dairy coffee creamer (16 oz. or smaller)
  - Instant chocolate drink mix (16 oz.)
- Small Styrofoam cups (8 oz.)
- Hot water
- Disposable gloves
- Mixing bowl
- Dry measuring cups
- Liquid measuring cups

Some ingredients may not be available in your area. Feel free to make ingredient substitutions as necessary. If you decide to make a recipe substitution, please use a SNAP-Ed approved recipe from the What's Cooking? USDA Mixing Bowl website: http://www.whatscooking.fns.usda.gov/

General Materials List:

- Flip chart paper
- Thought box
- Highlighters
- VOICE principles
- Post-it notes
- Markers
- Masking tape
- Participant evaluation forms
- Index cards
- Pens
- Name tags

Preparation:

- Set out ingredients and equipment for hot chocolate mix.

Key Points to Review:

- Introduce yourself. Give brief description of the program (program name, length of sessions, duration of program).
- Include your purpose as the facilitator (i.e. to introduce ideas that are supported by research, to give them the tools to make informed decisions about areas that affect their health & nutritional needs, and to identify topics that might be covered based on the curricula used in the program).
- Review the V.O.I.C.E. Principles.
- Ask participants to sign in on the SNAP-Ed sign-in sheet.
- Remember to pass out the appropriate participant evaluation form at the end of the session, making sure to read the questions out loud to the participants.

Transition:

Last time we met, we discussed…. We also …. Who would like to share an example of …?

Today we will be discussing the role of calcium in our bodies and how to prevent osteoporosis. We'll learn about calcium intake throughout the life cycle and when your body is most likely to need calcium.

As we usually do, let's begin today's lesson by talking about physical activity. Activities that require your body to make impact with the ground, such as walking, jogging, hiking, and dance, are all excellent activities that help build bone strength. These are called weight bearing activities. Other forms of exercise, like swimming or biking, are great cardiovascular activities but do not build bone. What types of weight bearing activities do you like to do?

Physical activity guidelines can be found at the following websites:

- *Office of Disease Prevention and Health Promotion: www.health.gov/paguidelines/*
- *CDC: http://www.cdc.gov/physicalactivity/everyone/guidelines/index.html*
- *President's Council on Fitness, Sports, and Nutrition: www.fitness.gov/be-active/physical-activity-guidelines-for-Americans/*

Anchor

Let's take a moment to think about some of your relatives or friends. Have any of them become shorter as they have aged? Can you think of someone who has broken his or her hip? Why do you think this has happened?

Add

Calcium is a mineral that helps make/keep the bones hard. Calcium also helps muscles work, teeth form, and hearts beat. You could say our bones are a storage depot for calcium. When we don't get enough calcium in the foods we eat, our bodies take the calcium from our bones and teeth to make sure we have enough for other important needs within our muscle and nervous systems. This leads to tiny pores in the bones which weaken them and make them more likely to break, which leads to osteoporosis.

Calcium is necessary in the growth cycle. Our bones need plenty of calcium throughout childhood and adolescence to reach their peak strength and calcium content by about age 30. After that, bones slowly lose calcium, but we can help reduce these losses and maintain strength by getting recommended amounts of calcium throughout adulthood and by having a healthy, active lifestyle that includes weight-bearing physical activities.

Vitamin D is another nutrient found in some dairy products. Vitamin D helps the body use the calcium we eat, so it is important to get adequate Vitamin D along with calcium. Vitamin D can come from food sources or from exposure to sunlight.

Let's make a high-calcium hot chocolate mix using non-fat dry milk. Nonfat dry milk is an excellent item to keep on hand. Since it is a powder and contains no fat, it's a great staple to have in your pantry. When eating dairy products, it's recommended to use non-fat (also called skim) or low-fat (1%) versions to limit the amount of excess calories and saturated fat.

Invite participants to gather around a table to make the hot chocolate mix. Make sure to tell anyone who makes the drink mix to wash their hands and put on disposable gloves.

Was this drink mix easy to make? One 8-oz. cup of hot chocolate made from this mix supplies 260 milligrams of calcium, with minimal fat. Is this something you would make for yourself or your family?

Pass out a copy of the Recipe Cards – Hot Chocolate Mix to each participant.

Apply

Pass out a copy of the Worksheet – Calcium Calculator to each participant.

Let's do a fun activity to add up how much calcium is in our diets. This worksheet I passed out has a list of different dairy foods and non-dairy foods that contain calcium. Next to each food is a typical serving size.

Think of what you ate for breakfast, lunch, dinner, and snacks yesterday.

- For each of the foods on the list, if you ate the serving listed next to the food, circle the number of stars that appear next to the food.
- If you ate MORE than the serving size, give yourself extra stars. For example, if you had two 8-oz. cups of milk, you would have 6 stars next to "milk."
- If you ate LESS than the serving size, only circle some of the stars. For example, if

you had a half of a cup of milk on your cereal, you would circle 2 stars next to "milk."
- When you have completed the front and back of this page, add the number of stars you have.

Give participants up to 10 minutes to complete the activity.

Let's see how you did. If you have 12 or more stars, you are probably getting the recommended amount of calcium. Keep eating foods that contain calcium for strong bones. If you have 8 – 11 stars, you ate several foods with calcium, but you could increase your calcium intake by eating one or two additional servings of calcium-rich foods. If you have fewer than 8 stars, you may not be getting enough calcium. Aim to eat a few more servings of calcium-rich foods every day for optimal bone health.

Based on the number of stars you may be doing great or need to add a little calcium to your diet. If you are low in calcium can you think of some items you might be able to add to make your total fall into the higher range?

Away

Pass out a copy of the Fact Sheet – Tips for Increasing Calcium in Your Diet to each participant.

This fact sheet contains several tips for choosing high-calcium foods that are part of the dairy group. Choose at least one tip you can do and encourage your family to do as well.

Facilitator's Notes:

Facilitator's Checklist:

- ☐ Have I gathered all of the pertinent materials needed for the lesson?
- ☐ Did I spend the requisite amount of time covering each targeted message?
- ☐ Did I apply the principles of adult learning to my program?
- ☐ Did I create a comfortable and functional learning atmosphere?
- ☐ Did I fill out a Program Log with the necessary program information?
- ☐ Did I ensure that all participants signed the sign-in sheet?
- ☐ Did I read the survey instrument out loud to the participants?
- ☐ Did I collect all requisite survey instruments needed for today's lesson?