

# WHIse Choices

A newsletter for women of the WHI Extension Study who were in the Dietary Change part of the WHI Dietary Study



## BONES, FRACTURES AND A Low-fat Dietary Pattern

**O**steoporosis (low bone mass) is common in postmenopausal women. As a result, nearly 1.5 million bone fractures (breaks) occur every year in older women. Earlier results from the WHI Calcium and Vitamin D Study showed that the risk of breaking bones may be reduced by taking calcium plus vitamin D supplements.

Several factors can lower bone mass. One is a lower blood level of estrogen that occurs with menopause. Weight loss, which was experienced modestly in the dietary change group overall, can raise the risk of bone loss. Low intake of dairy foods, which are rich sources of calcium, can also raise the risk of bone loss. For these reasons, WHI scientists looked at the data from the Dietary Study to see if the low-fat dietary pattern affected bone mass and related bone fractures.

Among the 48,835 women in the Dietary Study, 3,951 were at one of the three Clinical Centers that collected information on bone mass: Tucson/Phoenix, Arizona; Birmingham, Alabama; and Pittsburgh, Pennsylvania. Among the 3,951 participants, 500 (nearly 13%) had a hip fracture. There was no

difference in the number of hip fractures between the dietary change group and the usual diet group during the study.

The WHI scientists also looked at the relationship between hormone therapy and diet and calcium intake and diet. Bone mass was lower in the dietary change group women who were also taking hormones. Participants in the usual diet group who were also receiving hormone therapy had the lowest number of hip fractures. The relationship of being in both the Calcium Study and Diet Study did not appear to increase or decrease the risk of bone fractures.

**In summary, although bone mass was lower among participants in the dietary change group than the usual diet group, there did not appear to be a greater risk of related hip bone breaks from a low-fat dietary pattern.**

Good sources of calcium in the diet are non-fat or low-fat dairy products such as milk, yogurt, or

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### RECIPE

#### Licudo De Naranja (Blended Orange Juice)

- 1 cup non-fat (skim) milk
- 2 tablespoons frozen orange juice concentrate
- 1/2 banana, medium
- 1 ice cube

Blend all ingredients until frothy and well blended. Serve immediately.

*Variations: Instead of orange juice, use mangos, strawberries, blackberries or raspberries.*

Makes 1 serving

Fat: 0 grams per cup  
Fruit/Vegetable Servings: 0.5 per serving  
Grain Servings: 0 per serving



Recipe adapted from El Sabor de Salsa: Cocinando Para La Salud, Project Salsa Community Nutrition Project

**Thank you for your participation in the WHI Extension Study.**

## You are part of the answer!

**WHIse Choices** is produced quarterly by the WHI Coordinating Center at Fred Hutchinson Cancer Research Center. **Editors:** Lesley Tinker and Julie Hunt • **Design:** Sunny Bay Design

If you have questions or do not wish to receive *WHIse Choices* newsletters, please call the WHI Clinical Coordinating Center in Seattle, WA at this toll-free number: 1-800-218-8415.

**Letters ...** We'd love to hear your feedback on the newsletter and your story ideas. We regret that we cannot answer questions about individual medical conditions. Send a letter to: *WHIse Choices*, FHCRC, 1100 Fairview Avenue North, M3-A410, P.O. Box 19024, Seattle, WA 98109



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### BONES, FRACTURES AND A LOW-FAT DIETARY PATTERN

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cheese. Some foods have calcium added, such as some orange juices, soy milk, cereals, and breads. Read the package labels to be sure of the calcium content. Calcium is found in salmon and sardines canned with their soft bones. Other low-fat sources of calcium are green leafy vegetables

such as broccoli, collards, kale, mustard greens, turnip greens, and bok choy or Chinese cabbage. However, sometimes the calcium in green leafy vegetables is not as available to our bodies as the calcium in other foods.



### HOW DOES YOUR CALCIUM INTAKE STACK UP?

The Daily Recommended Intake (DRI) of calcium is 1200 mg. for women 50 years of age and older. The source may be from food or supplements.

FOOD	CALCIUM (MG)	CHECK IF YOU ATE THIS FOOD YESTERDAY	YOUR MG CALCIUM
Milk, lactose reduced, 8 fl oz.	285-302	<input type="checkbox"/>	
Sardines, canned, with bones, 3 oz.	324	<input type="checkbox"/>	
Milk, non-fat or reduced fat, 1 cup	302	<input type="checkbox"/>	
Mozzarella cheese, part skim 1 1/2 oz.	275	<input type="checkbox"/>	
Orange juice, calcium fortified, 6 fl oz.	200-260	<input type="checkbox"/>	
Tofu, made with calcium sulfate, 1/2 cup	138-204	<input type="checkbox"/>	
Yogurt, non-fat or low fat, 4 oz.	125-200	<input type="checkbox"/>	
Salmon, pink, canned, solids with bone, 3 oz.	181	<input type="checkbox"/>	
Cottage cheese, 1% milk fat, 1 cup unpacked	138	<input type="checkbox"/>	
Spinach, turnip or other greens, cooked, 1/2 cup	90-120	<input type="checkbox"/>	
Ready to eat cereal, calcium fortified, 1 cup	100-1000	<input type="checkbox"/>	
Soy beverage, calcium fortified, 8 fl oz.	80-500	<input type="checkbox"/>	
Chinese cabbage, bok choy, raw, 1 cup	74	<input type="checkbox"/>	
Other		<input type="checkbox"/>	
Other		<input type="checkbox"/>	

Your Total



### RESOURCES

WHI Dietary Change Manual, Session Three: Goals for Tomorrow (for low-fat calcium sources)



### Did you know?

73% of calcium in what people in the U.S. eat is from dairy foods. 9% is from fruits and vegetables. The remaining 18% is from a variety of foods.

### Salute to Motivation

When we are motivated, we act. That's clear. Every participant in WHI was once inspired to join the study and stay in the study. What prompted each person to join and what keeps them going is unique. Here's what motivates some of the Dietary Change group participants across the country.

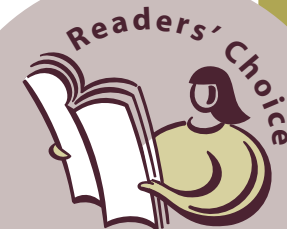
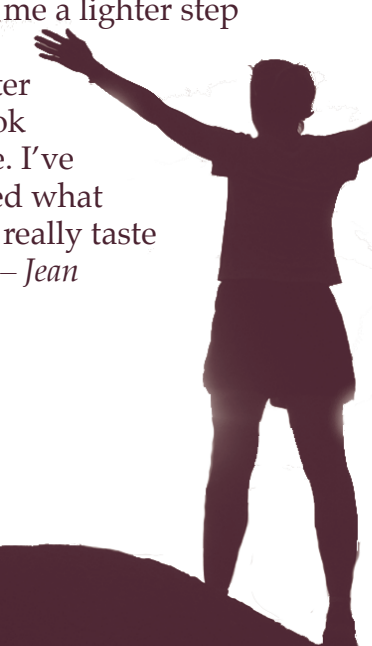
#### Why did you join WHI?

- "The fact that this study is a national groundbreaking effort that will help women for years to come makes me proud." – Linda
- "I have never had much time to do something just for me, and this is just for me." – Gertrude
- "I wanted to contribute to a better future." – Elaine
- "For my own health and to help the next generation." – Rose Marie
- "Research helps us move forward in the health field and without participants, research comes to a standstill." – Tammie

#### How do you stay motivated?

- "I now realize that the quality of my life and health are greatly dependent on my eating style." – Charmaine

- "Commitment to something I believe will help women everywhere." – Marlis
- "The challenge is sort of fun." – Minneapolis participant
- "My family and friends help me stay motivated." – Detroit participant
- "My healthier lifestyle has given me a lighter step and a brighter outlook on life. I've learned what foods really taste like." – Jean



A reader from Michigan asks for more information about the doubly labeled water that was described in the "Diet and Cancers" article in the Spring 2009 WHIse Choices.

**Response:** Water, on its own, is made from two elements, hydrogen and oxygen. Doubly labeled water is made from regular water that has had extra amounts of naturally occurring special forms of hydrogen and oxygen. These special forms of hydrogen and oxygen are measurable in the water and in our urine. From these measurements, we can estimate calories consumed and calories used when people are at a stable weight. Doubly labeled water is tasteless, odorless, and colorless.



WHIse Choices invites readers to send tips about how to continue eating low-fat! Tips will be shared in future issues of WHIse Choices. Send your tips to: WHIse Choices, FHCRC, 1100 Fairview Avenue North, M3-A410, P.O. Box 19024, Seattle, WA 98109