

**Remember: You can live well with osteoporosis!**

## Boning Up on Exercise To Reduce Fracture Risk and Manage Osteoporosis (Issue #1 of 8)



### In this issue

- Boning Up on Exercise – Issue #1 of 8
- Fracture Fact
- Funny Bone
- A Recipe from our Sponsor

### COPING Archives

[Click here to view the COPING archives](#)

### FRACTURE FACT:

Osteoporosis causes 70-90% of 30 000 hip fractures annually.

#### Introduction

This edition of COPING includes the first of eight articles in our new **Boning Up On Exercise** series, which focuses on the importance of exercise for the risk reduction and management of osteoporosis. Much of the material and exercises for this series were originally contributed by Jo-Ann James, a Certified Medical Exercise Specialist who is also certified in Bone Fit™, and a volunteer for Osteoporosis Canada. The series was then further developed and edited specifically for COPN by an impressive team of dedicated COPN and Scientific Advisory Council member volunteers and OC staff, to bring you the most up-to-date information on exercise and osteoporosis – information that you can trust. In this first issue, we provide a refresher on what osteoporosis is, together with its risk factors and risk reduction strategies, with the spotlight on *exercise*.



*Mabel sits in the hospital emergency room for what seems like hours, waiting to be seen by the doctor. This is her second time in the emergency department because of a broken wrist. On her last visit, she left with a splint and was warned by the doctor that surgery may be required if her wrist broke again. Despite her situation, she considers herself lucky; her close friend suffered a hip fracture just a few months ago.*

Osteoporosis is a weakening of bones that occurs over time. Although osteoporosis has no specific symptoms, the main consequence is an unexpected fragility fracture. A fragility fracture is defined as a broken bone that occurs easily from a minor injury, such as falling from a standing height or less while moving at walking speed or slower.

One in three women and one in five men will experience an osteoporotic fracture in their lifetime. There are several factors associated with an increased risk of developing osteoporosis. Some of these include: being older, having a lower body weight, being treated with glucocorticoids (eg. prednisone), and having a parent who had an osteoporotic hip fracture. We have no control over risk factors such as these.

There are, however, additional risk factors many of us can control. For example, excessive amounts of alcohol (more than 2 drinks per day on average) and cigarette smoking have been linked to an increased risk of osteoporosis. A lack of regular exercise can also result in decreased bone mass. New research is beginning to shed more light on how bones respond to mechanical loading which happens during exercise. Our bone cells can actually sense loading, and they respond by increasing or decreasing the production of specific chemicals that affect bone density. Not only does a lack of exercise make bones weaker over time, but it also results in a loss of muscle strength, which can cause poor balance and an increased risk of falls. The combination of weaker bones and more falls increases the risk of fractures (broken bones).



*13-year old Jessica gulps down her glass of milk in order to appease Twi, her 48 year old mother. Twi was diagnosed with low bone density at an early age, partly due to having grown up in an underdeveloped country where she rarely received proper nutrition and where little attention was paid to regular exercise. Because of this, Twi constantly lectures Jessica about getting enough calcium, vitamin D, and other nutrients by eating nutritiously and taking a vitamin D supplement. She also makes sure Jessica is physically active on a regular basis by doing a variety of sports. As much as Jessica dislikes her mother's constant reminders, inwardly she is glad that her mother is taking good care of her and wishes that someone was there to do the same for her mother when she was a child. The road to good bone health is paved early in life.*

Nutrition and exercise play an important role in developing and maintaining strong bones and reducing the risk of developing osteoporosis. Calcium and Vitamin D are two major nutrients responsible for bone health at any age or stage in life. (For more information on Nutrition, click [here](#) for *Nutrition – Healthy Eating for Healthy Bones* fact sheet) Although it is never too late to start exercising, being active as a child or teenager and continuing to exercise as an adult ensures that we maximize our potential for healthy muscles and bones. Bones and muscles follow the “use it or lose it rule”, meaning that a sedentary lifestyle will result in a decrease of bone and muscle mass, often leading to other health problems.



*Susan waves farewell to her “Bone Building” friends in the early afternoon. Her doctor confirmed that she has low bone mineral density, and may be at increased risk of a fragility fracture in future. He recommended that she exercise and Susan now participates in an exercise program twice a week. The program is designed to help decrease her risk of fracture by incorporating strength training, aerobic training and challenging balance exercises. She has also made friends and feels more energetic. Overall, Susan feels that the program has put her one step ahead in the game of aging, helping her reduce the consequences of aging.*

Exercise at any stage in life, for both men and women, may help prevent fractures (broken bones) by maintaining bone mineral density and by improving balance that reduces the risk of falls. Combining weight bearing aerobic exercise and strength training exercises tends to be the most effective for maintaining bone mass. Balance exercises reduce the risk of fractures by reducing unexpected falls. (For more information on Exercise, click [here](#) for the *Exercise for Healthy Bones* fact sheet)



*Mabel reviews the osteoporosis brochure she received from the emergency room. The doctor explained that because she has already had two fragility fractures, she is at high risk for another broken bone. In addition to giving her a prescription for a bone drug, the doctor also ordered a bone mineral density test to monitor her bone health. What surprised Mabel was that he was just as stringent about changing her eating habits to include more calcium-rich foods, taking a Vitamin D supplement, and starting an exercise program. Not being accustomed to exercise, Mabel promises to begin a walking program. Gradually, she hopes to include weight-bearing aerobic exercise, strength training and balance exercises. Her doctor emphasized that she needed all three in order to give her bones the best advantage. Mabel never realized that simple lifestyle changes like diet and exercise could make a difference. She also never realized the importance of different types of exercises. Now it is time to take action. Mabel is determined*

not to see the inside of the emergency room for a very long time.

Our next issue in this series will discuss the importance of having a fracture risk assessment prior to starting an exercise program, and how you can customize your own approach to exercise, an approach that is safe and beneficial for your unique needs. (For more information on Fracture Risk Assessment, click [here](#) for the *Diagnosis – The Importance of a Comprehensive Fracture Risk Assessment* fact sheet) Then, stay tuned for more. Issues 3 to 8 will cover many important details on all of the different types of exercises that can help you reduce your risk of fractures.

**FUNNY BONE:** “My memory really sucks, so I changed my password to ‘incorrect’. That way when I log in with the wrong password, the computer will tell me... ‘Your password is incorrect.’”

## [A Recipe from Our Sponsor – Grilled Beef and Mozzarella Salad](#)

### Preparation

1 1/3 lb (600 g) sirloin steaks  
1 tbsp (15 ml) steak spices  
1/4 cup (60 ml) mayonnaise  
2 tbsp (30 ml) barbecue sauce  
2 tbsp (30 ml) **milk**  
4 cups (1 l) lettuce, washed and shredded  
1 cup (250 ml) green peas, fresh or thawed  
1 cup (250 ml) tomatoes, diced  
1 cup (250 ml) cauliflower florets  
1/4 cup (60 ml) red onion, chopped  
2 cups (500 ml) mushrooms, sliced  
1 1/2 cups (375 ml) **Canadian Mozzarella**, diced or grated  
Hot peppers (optional)

**Instructions:** Rub steaks with steak spices and let rest a few minutes. Preheat grill to high heat or use a frying pan to cook steaks to desired doneness. In a large bowl, mix mayonnaise with barbecue sauce and milk. Add remaining ingredients and toss to thoroughly coat salad with dressing. Slice steaks and serve on top of salad.



Course: *Salads*

Prep. Time: *20 mins*

Cooking Time: *10 mins*

Yields: *4 to 6 servings*

*3/4 milk product serving(s) per person*

For more information about this recipe:

<http://www.dairygoodness.ca/getenough/recipes/grilled-beef-and-mozzarella-salad/>

**This issue of COPING is sponsored by Dairy Farmers of Canada**



**NUTRITION**  
DAIRY FARMERS OF CANADA



[getenough.ca](http://getenough.ca)