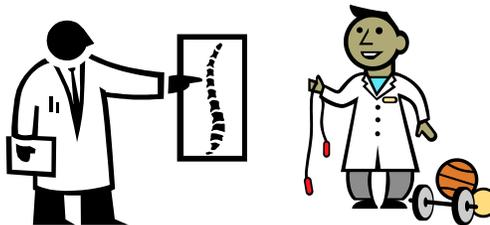


**Remember: You can live well with osteoporosis!**

## Boning Up on Exercise To Reduce Fracture Risk and Manage Osteoporosis (Issue #2 of 8)

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### A Customized Approach to Exercise and Personal Fitness

#### WHY SHOULD I EXERCISE?

Regular exercise improves health in many ways. People who engage in regular exercise have lower rates of depression, heart disease, dementia, cancer, diabetes and many other chronic diseases. Exercise can improve physical fitness, strength, energy levels, stamina and mental health. In children and teens, frequent and vigorous exercise helps to increase bone strength. In older adults, certain types of exercise help to prevent bone loss. Exercise also improves balance and coordination, which helps prevent falls and this in turn may reduce fractures. Exercise is very important for all, but especially for those with osteoporosis and those who are at risk of a broken bone (fracture) caused by osteoporosis. **Because everyone is different, it is impossible to develop a “one size fits all” program for exercise.** Each person is unique and should have a personalized program to meet their specific needs in order for the exercise program to be safe and effective.

#### HOW DO I DETERMINE WHAT EXERCISE PROGRAM IS RIGHT FOR ME?

##### STEP 1 – Consult Your Doctor

*Always* consult your doctor *before* you start a new exercise program. Any exercise may carry with it a certain amount of risk. Even if you don't have osteoporosis, you may need to have certain medical tests done (such as cardiac testing) to ensure that you can safely begin an exercise program.

##### STEP 2 – Know Your Fracture Risk

Knowing your *fracture risk* can help you figure out if there are certain exercises or movements that you should avoid. A *comprehensive fracture risk assessment* performed by your doctor will tell you if you are at low, medium or high risk of fracture. This in turn will assist your doctor and your physiotherapist or exercise trainer in designing an exercise program that is safe and most beneficial for you.

### COPING Archives

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### FRACTURE FACT:

Each hip fracture costs the system \$21,285 in the 1<sup>st</sup> year after hospitalization and \$44,156 if the patient is institutionalized.

(For more information on fracture risk assessment, contact Osteoporosis Canada, 1-800-463-6842, and ask for the [Diagnosis fact sheet](#) or download it from the Osteoporosis Canada website by [clicking here](#).)

### STEP 3 – Choose Your Exercises Carefully

Once your doctor has assessed your general health (including your heart health) as well as your fracture risk and given you the go-ahead to start an exercise program, it is important to be sure you know exactly which exercises are safe for you to do, and which ones are not. When starting an exercise program, many individuals choose to hire and work with a qualified exercise trainer one on one before joining a class or before exercising on their own. The trainer can design a program specifically for your needs and health problems as he or she prepares you for independent exercise or group training.

**If you are at high risk of fracture you should avoid high impact exercises or sports (such as running, jumping, bouncing, jerking and uncontrolled movements) and spinal flexion (bending forward, twisting). You should also avoid heavy lifting and overhead reaching movements. People who are at moderate risk of fracture may wish to avoid these activities too, or at least proceed with caution until, and only after getting approval from a doctor or physical therapist.** If you fall into this category, before choosing a program, ensure that the instructor is certified in training individuals who have osteoporosis (e.g. Bone Fit certified or equivalent). These programs should include an educational aspect so that you can learn which exercises are appropriate for people with osteoporosis, and which exercises are not safe. Ask to meet with the instructor before you join an exercise program to discuss their qualifications and the results of your fracture risk assessment. This meeting is also a good opportunity for you to mention any additional health problems you may have. Once the instructor has this information they can design a more customized program and exercise modifications to suit your needs. Communicating your concerns to the instructor ahead of time will reduce the risk of injury.

A comprehensive exercise program should, at minimum, include all of the following types of exercise:

- 4) weight-bearing exercise
- 5) strength training exercise
- 6) exercises that challenge your balance

Other types of exercise for you to consider include:

- 1) posture training
- 2) flexibility and stretching
- 3) core training

A good exercise program is like a healthy diet. Both are “balanced” with variety. A knowledgeable exercise instructor will understand how to incorporate all six types of exercise during a one hour exercise session. Some instructors will alternate exercises from one session to the next and some will do a bit of everything at each exercise session, but will focus on your weak areas or areas of greater need. **Although most individuals can perform all six types of exercise, some exercises may need to be modified or avoided altogether by those who have a moderate or high risk of fracture, especially those individuals with spine fractures.**

### STEP 4 – Create an Exercise Schedule

**Commitment** – Exercise is a life-long lifestyle change that doesn’t just happen. In order to make it happen you first have to make a commitment and then you need to plan ahead. Once you have identified what types of exercises you are going to be doing, think about when and where you are going to carry out your exercise program and how you are going to prepare yourself. You may also consider making a back-up plan in case your first choice doesn’t work out by identifying things that might keep you from exercising, and then outline what you will do if you face those barriers. For example, pick a day that you can move your exercise to if you can’t do it on the planned day, or decide how you will change your plan if the weather isn’t co-operating etc.

In order for your commitment to exercise to be a success, you need to know not only which exercises work for you, but also how often you should do those exercises. Beginners need more time to recover between routines than advanced trainees or well-conditioned athletes. For some, this may mean exercising a half hour per day for 5-6 days of the week. For others one hour 3-4 times per week may work well. If you cannot exercise for longer than 10 minutes

because of health issues or availability of time you may do a 10 minute exercise routine 3 times per day in order to accumulate 30 minutes of exercise. All of these exercise schedules need to be planned ahead of time to help you "stick" with the program and ensure its long-term success. Again, your physiotherapist or instructor can advise you about how frequently you should exercise.

**Meals & Snacks** – Avoid exercising on a full stomach. When we eat, more blood flows to the stomach in order to digest our food. As a result, less blood flow is available to the heart and the muscles of the arms and legs. The bigger the meal, the more blood is shifted to the digestive track, the less is available to the heart and the extremities, and the harder exercise becomes. In order to get the most out of your exercise routine more easily and safely, wait at least 1 hour after a meal before you exercise.

The reverse is also important. If you have not eaten for over 2-3 hours, you may find that you don't have the energy to finish your exercise routine, or you may feel weak or dizzy or hungry during exercise. Dizziness can lead to falls and fractures. If you haven't eaten for over 2 hours and you plan to exercise, have a snack (eg. a fruit) *half an hour before* you "hit" the gym, or have a cup of juice *just before* you exercise, or sip on a sports drink or watered down fruit juice *during* exercise instead of water. Any of these healthy snacks or drinks will keep you fuelled during exercise to make sure that you will "finish up strong". Just make sure that you avoid eating too much protein *just before* you exercise such as a protein bar or protein shake etc. Protein is harder to digest and will make your exercise more difficult.

Equally important is the timing of food after exercise. Because our bodies continue to burn calories even after our exercise routine, be sure to eat again no later than one hour after vigorous exercise to avoid dizziness and falls from low blood sugar. This is a good time for a cup of chocolate milk, a protein bar or a protein shake, or a well balanced meal with protein. Eating high protein foods *after* exercise helps repair the body so that you become stronger.

**Water** – Good hydration (drinking plenty of fresh water) throughout the day is very important for everyone, but it is especially important when you exercise. Everyone should try to drink between 6 and 8 glasses (2 litres) of fluids daily and water is usually best. Make sure to drink plenty of water before and after your exercise

routine and to *sip* water, diluted fruit juice or a sports drink frequently *during* exercise. Good hydration helps maintain good blood flow to your muscles, lubricates your joints, maintains a normal blood pressure, and will replace any fluids lost through perspiration. The end result is that you will feel more energetic and you will be less prone to injury if you hydrate properly.

## STEP 5 – Monitor Your Progress

Consider monitoring your progress by keeping a simple log or journal of when you exercise, how long you exercise for, what specific type(s) of exercise(s) you did and how well you did them. For example, you may log the number of steps you took if you walked, or the distance (number of blocks or laps) you ran or jogged or how long it took you to walk or jog the same distance. You could also keep track of how much weight you lifted, or how long you were able to hold a balance posture. If some exercises seem too easy, write that down so that you can challenge yourself more the next time you exercise. If they seem too hard, write it down and "back off" the next time you exercise to avoid injury. It can be very rewarding to see how you have progressed over time.

Recording your exercises may help you to:

- 1) Maintain your level of motivation to exercise
- 2) Exercise more regularly
- 3) Progress your exercises more easily and safely
- 4) Be more aware of what is or isn't working for you and how to modify or adjust your exercise routine to better suit your changing needs or abilities.

## Step 6 – Be Patient and Be Realistic

Rome wasn't built in a day, so don't expect results overnight. It can take several weeks or even months before you start to notice improvements. Making both short and long term goals will help maintain your motivation and prevent you from getting discouraged. For example, a short term goal might be "I will exercise three times per week" and a long term goal might be "I will lose 10 lbs by..." or "I will be

able to walk 5 kilometers by...” Even if your progress is slow, some progress will be made by the time you see your doctor again for your next annual check-up. “Just do it” and “stick with it” and before long, you *will* see results.

### Coming Up Next!

The next 6 issues of COPING will focus in more depth on each of these six different types of exercise, so stay tuned as more great information is yet to come.

*The Boning Up on Exercise articles come from a collaboration of experts. Initiated by a contribution of material from Jo-Ann James, a Certified Medical Exercise Specialist who is Bone Fit™ trained, an impressive team of dedicated volunteers from COPN and the Scientific Advisory Council and OC staff further developed the material into a comprehensive series of eight articles that are all being published for the first time here in COPING*

### Reminder: An invitation to all COPN Members: We need your help!

Are you too fit to fracture?

Exercise is an important strategy in the management of osteoporosis. We are looking to improve our educational tools and programs on exercise and we would like input from you. The researchers at the University of Waterloo want to find out how active you are and to determine what things help or hinder you from being active. Your input will be used to develop future educational tools and inform future research. You may recall from the November 23 COPING issue, where you were invited to fill out an online survey about osteoporosis and exercise that takes 30-40 minutes to complete. Your contribution will make a positive impact on the lives of individuals living with osteoporosis! If you haven't already completed this survey, please click the link below and fill out the survey.

<http://fluidsurveys.com/surveys/uwaterloobonelab/osteoporosis-exercise/>

Please note that if you have already completed a portion of the survey, you can complete the rest of it by simply clicking on the invite link. Your answers should have been saved from your last visit.

We really appreciate your help!

## FUNNY BONE:

Middle age is when you choose your cereal for the fibre, not the toy.

## A Recipe from Our Sponsor – Hearty Root Vegetable Soup

Root vegetables and soup are a perfect match and along with your favourite sandwich, make a terrific lunch.

### Preparation

2 carrots, diced  
1 small onion, finely chopped  
1 cup (250 ml) diced peeled rutabaga or turnip  
1 cup (250 ml) diced peeled celery root or celery  
3/4 tsp (3 ml) salt  
1/2 tsp (2 ml) pepper

1 bay leaf  
2 cups (500 ml) water  
3 tbsp (45 ml) all-purpose flour, divided  
2 cups (500 ml) **milk**  
1/2 cup (125 ml) **2% plain yogurt**  
2 tbsp (30 ml) chopped fresh chives or green onions

## Instructions

In a pot, combine carrots, onion, rutabaga, celery root, salt, pepper, bay leaf and water. Bring to a boil over high heat. Cover, reduce heat to medium-low and boil gently for 20 min or until vegetables are tender.

Whisk 2 tbsp (30 mL) of the flour into milk and gradually stir into pot. Increase heat to medium and simmer, stirring often, for about 5 min or until thickened (do not let boil). Discard bay leaf.

Whisk remaining flour into yogurt. Stir yogurt into soup and heat, stirring, for 2 to 3 min. Stir in chives or green onions.

## Tips

Cut the vegetables into equal size pieces so they cook evenly and a size that will fit on the spoon. Between 1/4- and 1/2-inch (0.5 and 1 cm) works for these root vegetables.

Whisking some of the flour into the yogurt helps it blend better into the hot soup.

Make this soup in the evening (without adding yogurt), let it cool and refrigerate overnight. Reheat in the morning, adding the yogurt as directed, to pack into a thermos for lunch, or just reheat before serving.



Course: *Soups & Creams*

Cooking Time: *15 mins*

Refrigeration Time: *20-30 mins*

Yields : *4 servings*

*1/2 milk product serving(s) per person*

**For more information about this recipe:**

<http://www.dairygoodness.ca/getenough/recipes/hearty-root-vegetable-soup>

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



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