



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

## **Boning Up on Exercise To Reduce Fracture Risk and Manage Osteoporosis (Issue #6 of 8)**

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### **Bone Trivia:**

More than half of the bones in the human body are in the hands and feet.



### **Posture Training and Osteoporosis**

#### **What is Posture Training Exercise?**

Posture training exercises aim to strengthen the muscles important for posture, such as those that run the length of your spine, or those that stabilize your shoulder blades. Posture training also emphasizes good neck, back and shoulder positioning at *all* times. Training the muscles important for posture makes it easier to maintain good posture and to prevent injury during every day activities.

#### **Why is Posture Training Exercise Important?**

Posture training exercise is important for a number of reasons:

- 1) When the spine is properly aligned the weight of the upper body (load) is more evenly distributed across the individual components of the spine.
- 2) Posture training exercises strengthen the muscles important for posture, which may help reduce or prevent kyphosis\*, or a “hunched back”. This in turn may improve general health, appearance and self-esteem.
- 3) Improved posture may *reduce back pain* and the risk of developing a variety of back injuries including *spine fractures*.
- 4) Good spinal alignment:
  - a) provides more room for our *lungs* to expand and our *heart* and *abdominal organs* to function better and stay healthier.
  - b) may help *improve balance* and *reduce* the risk of *falls and fractures* (broken bones).

## \*What is Kyphosis (a Hunched Back) and What Causes it?

Many people associate osteoporosis with the image of an individual hunched over with a pronounced rounding of the back. This condition, known as kyphosis, can be the result of structural changes to the spine, such as spine fracture(s), or habitually poor posture. While it may be difficult to correct structural changes, there is evidence that exercise and practising good posture can improve back muscle strength and kyphosis.

The more an individual bends or slouches forward, the more pressure he or she is putting on the front of the spine. This puts the vertebrae at greater risk for breaking (fracturing) at the front. When a vertebra fractures at the front, it forms a wedge shape, making the spine curve forward even more, and this creates an exaggerated kyphosis. This may start a vicious cycle where as more vertebrae break, even more pressure is exerted on the front of the spine, which can cause even more vertebrae to break.

An exaggerated kyphosis can:

1) make it harder to maintain your balance. Poor balance means more falls and more falls mean more fractures (broken bones).

2) cause height loss and make the chest (thorax) smaller, giving the lungs less room to expand properly.

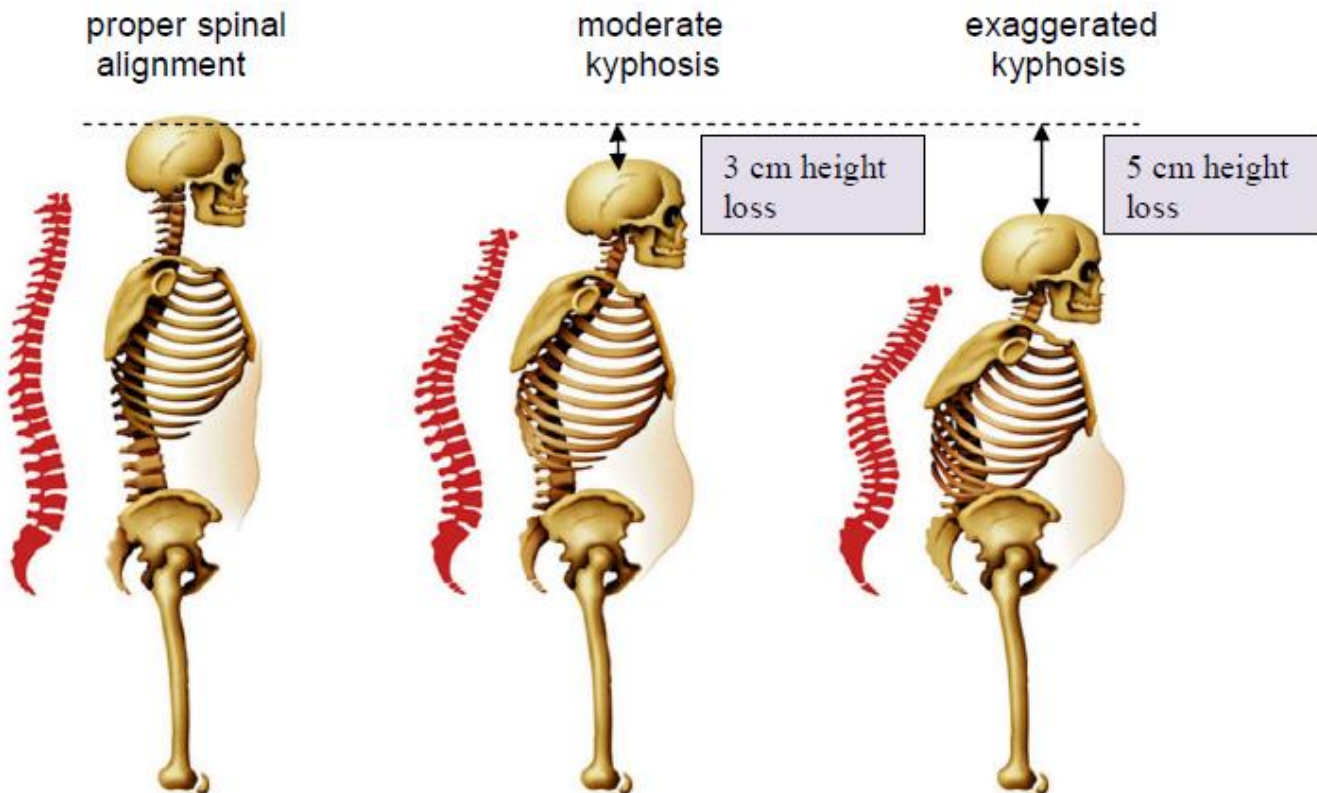
3) leave less room for the stomach and abdominal organs which get pushed outward. This causes the belly to stick out in front and can also result in digestive problems.

4) increase the fear of falling, lower self esteem, and reduce overall health and quality of life

Posture training that reduces kyphosis may improve overall health.

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**The most common cause of an exaggerated kyphosis is spine fractures and MOST spine fractures are NOT painful. If you think you have kyphosis (a hunched back) or you think you have lost height since you were a young adult, you may have a spine fracture from osteoporosis. If you have a spine a fracture, you are at *high* risk for having both *another* spine fracture and other types of fracture. Therefore, before engaging in any type of exercise activity, see your doctor for discussion about your fracture risk.**



## How Should I Do Posture Training Exercise?

Exercises that emphasize back extension and reduce forward head posture, along with continuous posture correction, may prevent the development of a hunched back and improve posture.

**If you think you have lost height or have kyphosis, first see your doctor for an assessment. Your doctor may send you for a spine X-ray to see if you have broken a bone in your spine. He or she may also send you for a bone mineral density test to figure out your fracture risk.**

**If you have a spine fracture or you have a moderate or high risk of fracture, it is important to have an assessment done by a physical therapist *before* you begin posture training, to evaluate your posture and develop training goals and an individual exercise plan just for you. There are many reasons why your posture might not be at its best, and therefore, each person might need a slightly different plan and different exercises.**

**After you have been assessed both by your doctor and a physical therapist, it is recommended that you then begin your individual exercise plan under the supervision of a bonefit trained instructor or someone with similar certification. As mentioned in our [Exercise Fact Sheet](#) which can be found at [www.osteoporosis.ca](http://www.osteoporosis.ca) individuals with spine fractures or those at high risk of developing a spine fracture should avoid high impact sports or exercises that require bouncing, jumping or jerky movements as well as forward bending, heavy lifting, reaching overhead and twisting of the spine. Many exercises for improving back muscle strength involve bending the spine backward. If performing these types of exercises, it is important not to bend too far backward in order to avoid compressing the posterior parts of the vertebrae, as this can also lead to spine fractures.**

If you do not have any spine fracture(s) or you are at low risk of fracture, you may choose not to consult a physical therapist and you may start following the **Table** and exercise examples described below. These provide some good general recommendations for practising good posture and eventually incorporating regular posture checks during your everyday activities so that you are *always* practising good posture.

**Table:**

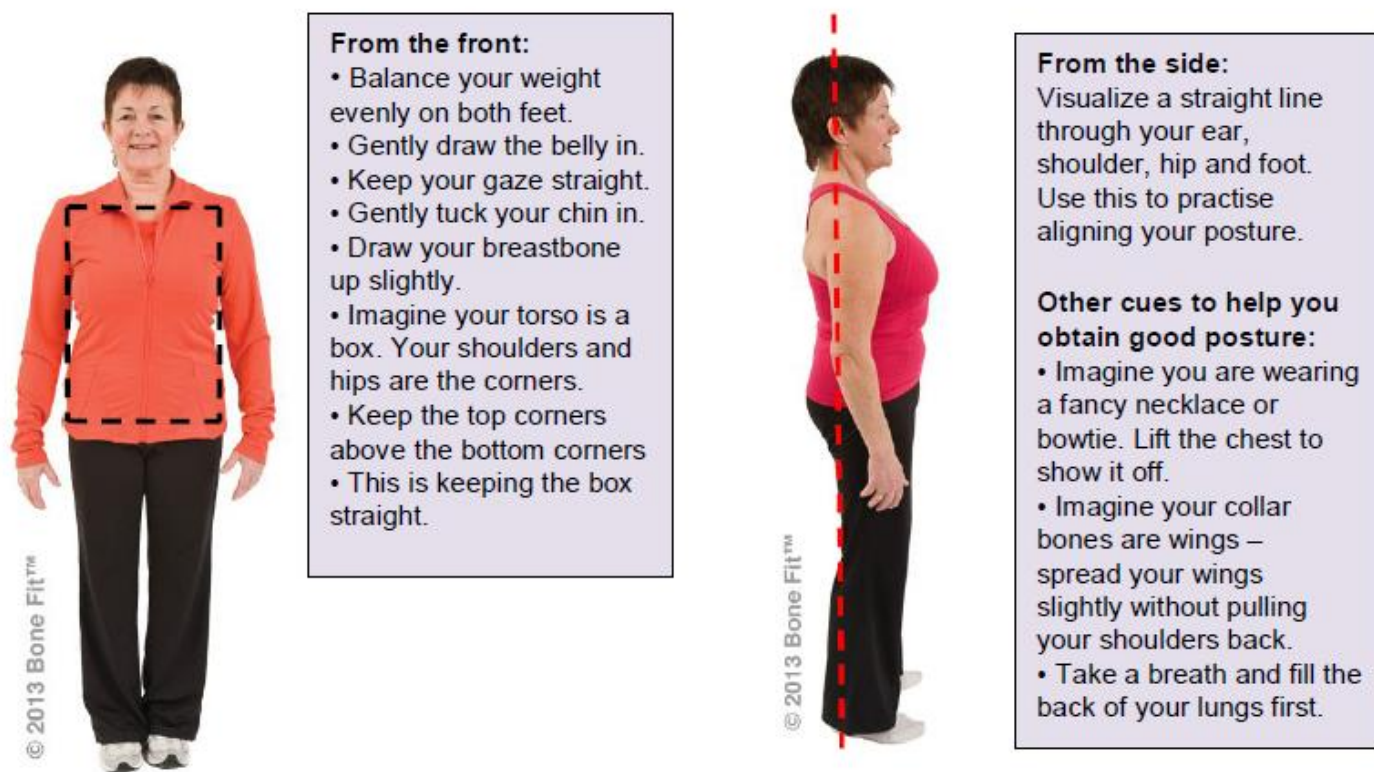
Types of Posture Training Exercise (Examples)	<ul style="list-style-type: none"> <li>- strengthening the muscles that extend the spine (see strength training in issue #4).</li> <li>- practise spine sparing techniques**.</li> <li>- learn the cues to help you maintain good posture.</li> <li>- use mirrors to check your posture.</li> </ul>
How often should I practise good posture? (Frequency)	<ul style="list-style-type: none"> <li>- perform spine extension exercises daily.</li> <li>- learn to continuously become aware of your posture and how you perform daily movements.</li> </ul>
How hard should I work? (Intensity)	<ul style="list-style-type: none"> <li>-2-3 sets of 8-12 repetitions for back strengthening exercises.</li> <li>- choose an intensity that you can do with good form but that the last few repetitions are a little challenging.</li> <li>- there is no recommended intensity for good posture practice; just pay regular attention to it.</li> </ul>
For how long should I practise good posture? (Duration)	<ul style="list-style-type: none"> <li>- perform spinal extension exercises for at least 5-10 minutes at a time.</li> <li>- practise spine sparing techniques** during both exercise and activities of daily living.</li> </ul>
What are the benefits of this type of exercise?	<ul style="list-style-type: none"> <li>- less compression and twisting of the spine.</li> <li>- improved posture and sense of well-being.</li> </ul>

## \*\*Spine Sparing Techniques:

- During activities of daily living or during exercise, choose to bend forward by using your hips as a "hinge" instead of bending forward with your spine; turn by stepping with your feet rather than by twisting the spine.
- Be aware of activities that require you to bend forward, twist the spine or lift loads overhead. Avoid doing these movements repeatedly throughout the day, while holding heavy objects (like groceries or laundry), or holding these positions for a prolonged period of time. If you must do these activities, keep the loads light and keep your movements gentle and controlled. Avoid activities that combine these types of movements. e.g. avoid lifting while twisting or bending.
- If you must lift something heavy, use your lower body muscles to help you.
- When you are sitting, the weight of your upper body places more load on your spine than when you are standing, so it is more dangerous to twist or lift objects in a seated position. Lying down on your back is the position where your spine is under the least amount of load – this is often the best position to start to exercise your spine extensor muscles. If you have an exaggerated kyphosis, you might need a pillow under your head to lie down comfortably.
- Only extend the spine to the position where you are most upright (as if you are standing as tall as you could, as in the pictures below) – do not try to extend past that (i.e. backwards).

## One of Many Examples of Posture Training Exercise

Check regularly that you stand with good posture, by reminding yourself of the following:



## Safety

If you are not accustomed to exercise **or if you have recently broken a bone**, consult your doctor or physical therapist before starting any type of exercise program. You are encouraged to start slowly and build up gradually – if you progress too quickly you may increase your risk of injury.

Not every exercise is for everyone. The safety of any activity will depend on your age, fitness level and your fracture risk. It is also important to consider your past experience with the activity and your current health status. When in doubt, start low and go slow! You can gradually increase the duration and intensity of your exercise to meet the recommended levels.

## Are You Standing Tall?

If you have kyphosis or have lost height, you may have a spine fracture. A spine fracture puts you at *high* risk for having *another* spine fracture or other type of fracture. You can protect your spine by checking out Osteoporosis Canada's "Stand Tall Canada!" campaign, click [here](#).

## Coming up Next!

It is important to combine posture training with some form of weight bearing (see Issue #3), strength training (see Issue #4) and balance training (see Issue #5) exercise as well as flexibility (stretching) and core exercises. These will be described in subsequent issues of COPING, so be sure to *stay tuned!*

*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 !*



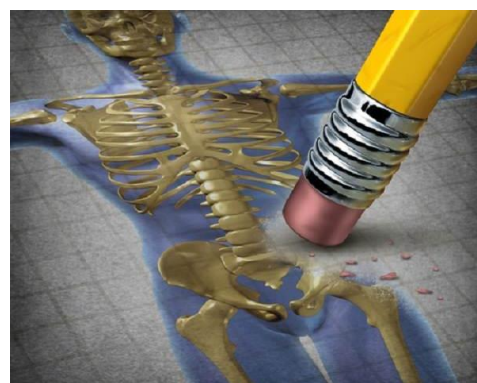
**Bone Fit™** is the name of Osteoporosis Canada's specialized non-profit training program that is taken by health and fitness professionals who want to learn effective and appropriate exercises for people with osteoporosis. The training provides knowledge and practical skills to prescribe exercise and adapt safe exercise programs to reduce the risk of fractures. Are you looking for an exercise professional to teach you the right exercises for osteoporosis? BoneFit™ is a growing program that now has trained professionals in seven provinces. Find a BoneFit™ trained professional in your area with our BoneFit™ locator at: [www.bonefit.ca/locator/](http://www.bonefit.ca/locator/)

**FUNNY BONE:** The teacher asked, "What is the shin bone for?" The student replied, "To find the furniture in the dark."

## [Public Education Forum "Osteoporosis Myth Busters – What You Thought You Knew and What You Need to Know" offered as a Virtual Forum – March 27, 2013](#)

Can't attend in person? Join us via webcast!

<http://www.osteoporosis.ca/event/osteoporosis-myth-busters/>



## A winning recipe!

March is Nutrition Month, so why not take this great opportunity to pay special attention to your eating habits? This year, the campaign goal is to help consumers make healthier choices by giving them tips to better plan, buy, cook and enjoy their food.

The ideal partners in a daily balanced diet, milk products have broad appeal and go well in any type of recipe. Make sure you always have milk, yogurt and cheese on hand to enhance the flavour of homemade meals.

To learn more about Nutrition Month 2013 and for delicious recipes, visit [nutrition2013.ca](http://nutrition2013.ca).

This issue of COPING is sponsored by Dairy Farmers of Canada



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