



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

## **Boning Up on Exercise To Reduce Fracture Risk and Manage Osteoporosis (Issue #7 of 8)**

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### **Fracture Fact:**

Osteoporotic hip fractures consume more hospital bed days than stroke, diabetes, or heart attack.

### **Core Exercises and Osteoporosis**

#### **What are Core Exercises?**

Core exercises stabilize the spine and strengthen movements around the centre or “core” of your body. Core muscles include the abdominal muscles, the muscles that run the length of your spine and the muscles that run along the sides of your trunk, from your shoulders down to your hips.

#### **Three Reasons Why Core Exercises Are Important**

1. The muscles around the spine allow your spine to move by enabling twisting, forward bending and backward bending movements. Without them, we would be stiff like robots. These same muscles also stabilize the spine. Core exercises help keep the strength of these muscles balanced so that one muscle or muscle group does not become stronger or weaker than another. This helps maintain stability as well as ease of movement in the spine and it also helps prevent spinal injuries such as slipped discs or spine fractures.
2. Balanced core muscle strength also helps maintain or improve posture. The benefits of good posture were covered in [COPING's Exercise Issue #6](#). To review them, click [here](#).

3. A stable, strong core may reduce or prevent back pain and may allow you to lift heavier objects with less risk of injury.

#### **How Should I Do Core Exercises?**

Before beginning any exercise program, it is important to know your fracture risk. You can figure out if your fracture risk is low, moderate or high with the help of your doctor.

*The first and most important step is to calculate your risk of fracture*

If you have **spine fracture(s)** or are at **high risk of fracture**, you should avoid heavy lifting and overhead reaching movements. You should also avoid forward bending, twisting movements while seated or holding loads, or pushing to the end of a range of motion while bending or twisting.

Those who are at **moderate risk of fracture** should also avoid these activities, or at least proceed with caution until, and only after, getting approval from a doctor or physical therapist. If you fall into one of these categories, you should seek professional guidance about the

specific exercises you should do and others you may need to avoid from an instructor who has completed the Bone Fit™ Training Program.

If your **fracture risk is low** you can still seek guidance from a physical therapist, fitness instructor, kinesiologist or personal trainer who has experience working with individuals who have osteoporosis. These exercise specialists will help you select appropriate exercises and will ensure proper form and appropriate progression of exercise intensity so that you get the most out of your exercise program while avoiding injury.

Whenever exercising the core, it is important to consciously think about “engaging” the muscles you are trying to target. If these muscles are weak, or you are not used to using them, you might not have a feel for what engaging them feels like. In addition, you may not know which muscles in your body to target – some people have weak abdominal muscles and others have weak back extensor muscles. For these reasons, it is not advisable for anyone with osteoporosis or who is at moderate or high fracture risk to engage in a core training program without the advice of a physical therapist. A physical therapist can assess you to determine which muscles you need to target. A physical therapist or kinesiologist can also give you exercises and cues so that you can learn to target your weaker muscles effectively. Without the help of a trained professional, you risk strengthening muscles that are already too strong and/or missing muscles that are weak. This would create more of an imbalance in your core, which may increase the risk of injury.

### Examples of Core Exercises

When we think of core exercises we often think of strengthening the abdominal muscles. Although it is important to have strong abdominal muscles, strengthening the abdominals even more if the back extensor muscles are already weak can create a greater imbalance in core muscle strength, so caution is needed.

Many popular core exercises involve twisting movements of the spine, or crunches that bend and compress the spine in a forward direction.

**These movements are not recommended for those who have spine fractures or are at moderate or high risk of spine fractures because they can *cause* spine fractures.**

Most people with osteoporosis may benefit from performing strengthening exercises for the back extensor muscles. These should be done several times a week, or even daily. Back extensors often become weak as we age, which results in poor posture. To maintain upright posture we need back extensor muscles that have “endurance,” meaning that they can work for a long time without getting tired. Therefore, we need to exercise our back extensor muscles regularly so that they will be able to hold us up all day long without becoming fatigued.

There are three main types of exercises that may be less risky for individuals with osteoporosis:

1. Those that are done while holding a position that challenges muscles but does not involve movement.
2. Those that involve slow, controlled movements but do not include forward bending or twisting of the spine.
3. Those that are done while lying on your back. This minimizes the load on the spine because it removes the weight of your upper body from the spine. For example, exercises performed with resistance bands while lying on your back will allow the spine to stretch into an extended position without gravity adding the extra load of the upper body. At the same time as the spine is being stretched, the back extensor muscles are being strengthened by working against the resistance of the resistance bands. **The seated position loads the spine the most**, so exercising in the seated position should be avoided if you are at high risk of spine fractures unless it is done under the guidance of a physical therapist.

*Avoid exercising in the seated position if you are at high risk of spine fractures.*

## Safety

As with any type of exercise, to avoid injury, you need to practise "good form" by having someone watch you do the exercise or watching yourself in a mirror to ensure that you are doing it properly. You should also practise safe techniques for getting down on the floor and getting back up.

Anyone who is not accustomed to exercise, **or has recently broken a bone**, is advised to consult a doctor or physical therapist *before* starting any type of exercise program. You are encouraged to start slowly and build up gradually under the guidance of a physical therapist or kinesiologist who is knowledgeable about your bone health – if you progress too quickly you may increase your risk of injury.

Not every exercise is for everyone. The safety of each 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 or to safely keep challenging yourself to higher levels of fitness.

## My Core Exercise Program Checklist

- ☐ *I know my fracture risk*
- ☐ *I have consulted an osteoporosis-qualified exercise expert*
- ☐ *I do only the exercises that are safe for me*

## Coming up Next!

At the end all other forms of exercise, but especially after weight bearing (see Issue #3), strength training (see Issue #4) and core exercises, it is important to do stretching or flexibility training exercise. This is coming up next in our final COPING issue on exercise 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 trouble with being punctual is that nobody's there to appreciate it

## A Recipe from our Sponsor



### Asian Steamed Fish & Coconut Rice

This is a one-skillet meal that uses the traditional Asian technique of steaming fish and vegetables. There's little clean-up and you get the four food groups in one flavourful dish.

Course: *Main Dishes*      Preparation Time: *10 mins*  
Cooking Time: *30 mins*      Yields : *4 servings*

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

#### Preparation

1 tbsp (15 ml) **butter**  
3 green onions, sliced  
1/2 cup (125 ml) sweet red pepper, diced or baby carrots, thinly sliced  
1/2 tsp (2 ml) salt, divided  
1/8 tsp (0.50 ml) hot pepper flakes  
1 cup (250 ml) jasmine rice, rinsed  
1/4 cup (50 ml) unsweetened coconut, shredded  
1 cup (250 ml) water  
1 tbsp (15 ml) all-purpose flour  
2 cups (500 ml) **milk**  
2 cups (500 ml) snow peas, trimmed or green beans, chopped  
1 lb (500 g) thin skinless white fish fillets, (about 1/2 inch/1 cm thick), cut into 4 pieces  
Pepper  
1/4 cup (50 ml) fresh cilantro, chopped or basil  
1 lime, cut into 4 wedges

#### Instructions

In a large skillet, melt butter over medium heat. Sauté green onions, red pepper or carrots, three-quarters of the salt and hot pepper flakes for 3 min or until softened. Stir in rice and coconut until coated. Add water and bring to a boil.

Whisk flour into milk and pour into skillet, stirring. Bring to a simmer, stirring often. Cover, reduce heat to low and simmer for 5 min.

Gently stir rice. Place fish fillets on top of rice; sprinkle with remaining salt and pepper, to taste. Sprinkle with snow peas. Cover and simmer, for 15 min or until rice is tender and fish flakes easily with a fork. Remove from heat and let stand for 5 min. Sprinkle with cilantro or basil. Serve with lime wedges to squeeze over top.

#### Tips

If you enjoy a little more heat, increase the hot pepper flakes to 1/4 tsp (1 mL) or add hot pepper sauce to taste.

Thin fish fillets work best for this recipe, such as tilapia, pickerel or Pacific cod. If your fillets are thicker than 1/2-inch (1 cm), add the fish to the rice, cover and simmer for 5 minutes, then add the snow peas and simmer for 15 minutes as directed to allow the fish to cook without overcooking the snow peas.

When buying fish, be sure to choose a variety that is sustainable and ethically fished.

Jasmine rice has a fragrant aroma and floral flavour and cooks quickly. It's readily available at most major supermarkets. You can use long-grain parboiled (Converted) rice instead; just increase the water by 1/4 cup (50 mL) and simmer for 10 minutes before adding the fish.

#### For more information about this recipe:

<http://www.dairygoodness.ca/getenough/recipes/asian-steamed-fish-coconut-rice/>

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