

# ***You Can Do It! LLC***

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## **Welcome to December!**

**Welcome to cold weather and the holiday season ...**

I've been talking to people who typically feel depressed and tired during the winter because of the darkness and clouds. However, a few of these people have been feeling differently this year ... not as depressed, and more energetic. It turns out they've been exercising outdoors more this year. Even though it's cloudy and cold, people are getting out of the house and walking and/or biking.

Their outdoor exercise is lifting their moods and eliminating their depression. Why not try a little outdoor exercise yourself, if you suffer with the wintertime blues. After all, it's no fun to be depressed and feel bad because it's cold and gloomy outside. Do some regular physical activity, get some fresh air, and get into the exercise habit. Remember, you have control over your life – you get to make it what you want it to be.

And speaking of taking control, this month's newsletter focuses on what YOU can do to personally prevent or mitigate the symptoms of osteoporosis. We provide an excellent selection of physical activities to ensure your bones stay good and strong. Later this month we'll send out another newsletter that focuses on nutrition – there is simply too much information to include in this newsletter alone!

Carol Lee

P.S. I got a lot of requests to provide a table of contents to help you get to the “juicy bits” of the newsletter faster—so here it is!

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## Another Reminder: New Email Address

I figure I better remind everyone again to use my NEW email address for correspondence:

**CarolLee@YouCanDoItNow.net**

Please make sure your messages reach me by using the new email address.

Thanks!

## Don't Forget the DVDs for Christmas

This Christmas, give your friends and family the gift of health—give them Carol Lee's new DVD, *Building Bones Step by Step for Osteoporosis Prevention*. It stars me and two students from my Building Bones Step by Step classes.

If you know someone (including yourself) who's worried about osteoporosis and wants to strengthen their bones, buy this DVD today. When you purchase a DVD, you'll be able to get all the benefits of my regular Building Bones Step by Step class ... in the privacy of your home!

To purchase a DVD, contact Carol Lee at: [CarolLee@YouCanDoItNow.net](mailto:CarolLee@YouCanDoItNow.net) or 541-482-1887

## Updates and Happenings

### December

- Building Bones Step by Step, Series 3 continues through Dec 21.
- For the rest of 2007, I provide Nordic Walking classes on an on-demand basis. That means you get to call me to schedule it.
- Yoga and Stretching classes are ongoing at Baxter Fitness Solutions and Mountain Meadows.
- One-on-one personal training continues at BFS, Mountain Meadows, YMCA, your house or my office. Call 482-1887 or email me to schedule.

**See our new Website for November schedule details:**

[http://www.youcandoitnow.net/class\\_schedule.shtml](http://www.youcandoitnow.net/class_schedule.shtml)

## Osteoporosis ... The Silent Killer: Part 3

Earlier, in Part 1 and Part 2 of our osteoporosis articles, we described osteoporosis and how it works. We also looked at the various factors that increase the risk of osteoporosis. Today we'll look at the two factors most responsible for shaping our skeleton (the third, nutrition, will be the focus of a future article):

- [Estrogen and testosterone](#)
- [Physical activity](#)

In examining these factors, we'll show you how to personally take physical action to strengthen your skeleton to combat osteoporosis!

### Estrogen and Testosterone

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Hormones like estrogen and testosterone stimulate the building process for bones. Men who develop osteoporosis do so at a later age than women, usually due to calcium deficiency, age-related loss of bone and muscle strength, and physical inactivity. In men, **testosterone** is the hormone that helps prevent osteoporosis by improving bone thickness, especially in the small bones of the spine.

Women typically are at a greater risk for developing osteoporosis than men, usually due to calcium deficiency and/or estrogen deficiency, related to menopause. In women, **estrogen** is the hormone that helps prevent osteoporosis. It helps the intestine absorb calcium from food and helps the kidneys conserve calcium, a mineral that is vital to bone building. Estrogen also stimulates vitamin D activity, which helps your body absorb calcium. The benefits of estrogen include increased bone density and a reduced risk of hip fractures.

### Physical Activity

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Physical activity is one of the greatest factors that combat osteoporosis. The mechanical forces that act on bone during exercise stimulate bone building. Even the force of muscles pulling against bone stimulates bone building. Better yet, during exercise, hormones are secreted that encourage both bone and muscle growth.

Osteoporosis research clearly shows that exercise helps pre-menopausal women increase their bone density and post-menopausal women prevent bone loss. In fact, even a 1% reduction in bone loss can lead to a significant reduction in fracture risk. If you are exercising for bone strength, work out for a minimum of 6 months before having another bone density test. It takes that long, if not longer, to see results.

So, just what types of physical activity are we talking about when it comes to increasing bone density and decreasing bone loss? You need to do activities that "stress" the bones and force them to bear some weight, such as:

- Walking (done with impact and intensity)
- Aerobic Exercise
- Strength Training
- Jumping
- Flexibility and Balance Exercises (work these in between impact exercises)

Now, before we explain these various forms of activity and how to tailor them for building bones, let's review some guidelines for safe exercise.

### **American College of Sports Medicine Guidelines for Safe Exercise**

- Inform your physician before beginning an exercise program.
- Include a warm-up and cool-down period as part of your exercise.
- If possible, exercise in a group or with a partner.
- If exercising alone, have a plan for what to do if you get hurt.
- If you exercise outdoors, wear proper clothing and sunscreen.
- Stay hydrated.

### **Walking**

You probably remember me mentioning that walking alone does not build bone strength. According to osteoporosis research on walking, here's why. When you walk, your legs and hip bones are stimulated every time your feet hit the ground. However, if you walk at a low intensity (less than 3 miles per hour), the stimulation on your muscles is slight, and the beneficial effects on your bones may take years to realize. This means you need to walk faster or increase the intensity of your steps.

If you are a walker, absolutely keep on walking, but do so with a few changes to improve your bone health:

- Gradually add hills to your routine.
- Add bursts of interval walks to your usual walking pace. This means walking fast for 15 seconds, slowing to your normal pace for 15-60 seconds, and repeating this sequence a total of three times. Try injecting three to six of these interval sequences into your daily walks each week. It is important NOT to do interval walks every day—just like strength training, you should give yourself a day of rest between interval walks.

The reality is walking is the perfect aerobic activity for most people. It's simple, convenient, requires no special equipment, and is easy to fit into your day. It's great for your heart and helps prevent diabetes. And as you just learned, with some interval bursts worked into your walking routine, you can build your bone strength as well.

### **Aerobic Exercise**

Aerobic exercise that is weight bearing can build your bones. At present, neither swimming nor cycling is considered weight bearing, but there is some ongoing research looking at osteoporosis and water exercise. The results are not yet out.

So, let's look at aerobic exercises that involve enough impact to preserve your bones (make sure you have good shoes to prevent shin splints or joint injuries). Such exercises include:

- Brisk or race walking over 3.5 miles per hour (greatest benefit is achieved at 5 miles per hour).
- Jogging
- Jumping
- Moderate intensity dancing
- Step aerobics
- Stair climbing
- Playing tennis
- Walking with a weighted vest
- Playing active team sports (volleyball, basketball, etc.)

However, it's important to remember that if you already have osteoporosis, you need to:

- Choose safe exercises that avoid running, jumping, rapid twisting or jerking motions, uneven twisting motions (bowling), swinging motions (golf), or rowing.
- Start with an easy activity, such as walking, and gradually work up to an increased level of activity or harder exercises.

### Monitoring Aerobic Exercise

- Work with a qualified medical professional to determine your appropriate exercise heart rate or "rate of perceived exertion" (RPE).
- Heart rate and RPE effectively monitor the appropriate intensity level for exercise and your response to exercise.
- If you use medications that affect or slow the exercise heart rate (some blood pressure medications and beta or calcium channel blockers), you must rely on the RPE scale instead of heart rate to monitor exercise intensity. Heart rate values will not accurately reflect exercise intensity or response to exercise.

The RPE scale is simple to use. Just look at the table and RPE explanations below.

Exercise Intensity	Aerobic Exercise Heart Rate Range	Resistance Training Repetitions	Rate of Perceived Exertion (RPE) *
Low	20-39% of maximum heart rate	13-20	4-5
Moderate	40-58% of maximum heart rate	8-12	5-6
Vigorous (high)	60-84% of maximum heart rate	1-7	6-7

\*RPE is explained below:

1-2	Very easy. Conversation requires no effort.
3	Easy. Conversation requires almost no effort.
4	Moderately easy. Conversation may require a little effort.
5	Moderate. Conversation requires some effort.
6	Moderately hard. Conversation requires quite a bit of effort.
7	Difficult. Conversation requires a lot of effort.
8	Very difficult. Conversation requires maximum effort.
9-10	Peak effort. It's impossible to carry on a conversation.

### Strength Training

If going to the gym and working out with weights is your thing, strength training is a great bone builder, according to numerous osteoporosis studies. And just how does this work? Muscles are attached to bones by tendons. As the muscles contract, the tendons tug against the bones. This stimulates the bone to grow stronger.

For example, when you sit at the seated row machine, your latissimus dorsi muscle (beneath the shoulder blade) and spine are both stimulated every time you pull the machine to your chest. And that's what you're looking for, weight-bearing exercise that stimulates your muscles and your bones. Remember, the stronger the muscles,

the more powerfully they stimulate the bone. By building stronger muscles, strength training helps your bones ... even between workouts!

As with walking, if you work out with only light weights (weights that let you do 15-20 reps without fatigue), the stimulation is slight and the beneficial effects on the spine may take years to notice. So, you need to use enough weight to give your muscles and bones the resistance they need to simulate their growth.

Here's what we suggest:

- Perform your weight training 2-3 days per week.
- Gradually work up to moderate intensity resistance training for the greatest bone density improvement.
- Use strength training to prevent falls—it's more effective than balance training.
- When strength training, change your workout every 6-8 weeks to shock the muscles and build the bone.
- Begin using weights that let you comfortably perform at least 12-15 repetitions.
- Begin with one set of 15 repetitions at least once a week. Then increase your weights so that 8-12 repetitions become challenging and your muscles feel fatigued at 12 reps. The greatest bone density improvements occur at this level.
- Progress to at least 2 sets of 8-12 reps at the heavier weights.

#### **Caution for Those of You with Osteoporosis!**

- If you have osteoporosis, you must progress very slowly, gradually, and carefully with resistance exercises. You should only increase resistance by the smallest possible increment and stay at each new level for at least one week or longer before increasing resistance again.
- Avoid high impact exercises such as jumping, running, playing tennis, practicing your golf swing, and jerky or quick twisting movements.
- Avoid flexing your spine against resistance, such as lifting your back off the floor from a lying position with a weight in your arms, or doing sit-ups with resistance.
- Avoid bending at the back and waist or lifting loads overhead.
- If you are very frail, severely osteoporotic, or are recovering from recent fractures, you may only be able to perform low-level exercises WITHOUT any weights. And if those exercises prove too difficult, you can focus on balance exercises or postural exercises. Remember, any exercise is better than none at all!

#### **Strength Training Tips**

- Use cool down time for stretching, or stretch between sets.
- Don't hold your breath when you exercise.
- Exhale when you move against the resistance and inhale when returning to your starting position.
- If needed, lower the resistance level so you can maintain proper form.
- Move against the resistance slowly for a count of three in each direction.
- Don't push yourself beyond your capabilities, or exercise when you are ill. Instead, very gradually increase or decrease resistance if necessary.
- Stop if you feel unusual, have shortness of breath, or suffer from pain of any kind (including joint pain).

## **Jumping**

**Caution! Do NOT perform jumping exercises if you have osteoporosis.**

Jumping is a great impact activity that stimulates bone growth like nothing else. Jumping programs improve bone density, especially when combined with aerobic exercise and strength training. And remember, jumping is appropriate for those of you with osteopenia ... but NOT for those of you with osteoporosis.

## **Flexibility and Balance Exercises**

Flexibility exercises prevent injury, as well as improve your posture. These exercises are easy to incorporate into your regular exercise routine without consuming a significant amount of time. You can perform them during warm up, cool down, or as you rest between resistance exercises.

Balance exercises tend to be helpful and fun to perform. However, strength training tends to improve your balance even more and greatly reduces the risk of falls. So, your best bet is to combine strength training for the legs and trunk with balance exercises. Just make sure to be safe! Talk to your fitness trainer or class instructor to discover some fun and effective balance exercises.

## **Use it or Lose It**

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When it comes to bones and exercise, the old adage holds true: "Use it or lose it!"

Unfortunately, when we stop exercising, we lose the benefits of exercise twice as fast as we gained them. Wow! That's right—all the hard work that went into strengthening your muscles and bones—loses its effectiveness rather quickly when you stop exercising. For example, if you work out for one month and then suddenly stop, you'll lose all the benefits you gained in only two weeks!

In reality, you really only need to spend a minimum of 30 minutes a day doing moderate-to-vigorous exercise. You can do your exercises in one 30-minute time period, or you can split your time into three 10-minute bursts of exercise. Your commitment to 30 minutes of exercise on most days (five to six days per week) will bring about amazing results. If you have time for more than 30 minutes, that's an extra bonus for your body. I ask you to commit to 30 minutes a day, 5 or 6 days per week, and see what happens.

The moral of this exercise story is this: keep on exercising if you want to keep your muscles and bones strong, and prevent falls and fractures. Hopefully I've given you enough ideas for exercising to keep you busy! Keep your eyes open for another article later this month that will focus on the final component of osteoporosis prevention—nutrition.

## **A Final Word**

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If osteoporosis runs in your family, I encourage you to have a bone density test so you know where you are right now and what activities you can safely do. If you are pre-menopausal, this is a good time for a bone density test so you have a baseline measurement to follow as your body gracefully ages.

### **A Note on Receiving this Newsletter**

Please be sure to forward this newsletter to your friends and loved ones. If you received this newsletter from a friend, please send me your email address so I can keep you in the know from now on. Also, let me know if this newsletter is not for you and I'll make sure your address is removed from the list.