

# PCOS NEWS

August/September 2001

Issue 8

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## **Take A Break From The Jungle Out There!**

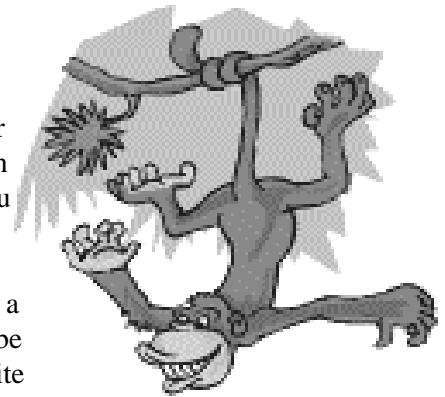
### **Fall Fling on October 17th!**

As a token of our appreciation for your participation and continued support in the study, we would like to invite you to be our guests.

The evening will include dinner and a surprise guest speaker. The Fling will be held at 790 Bay Street, 7th Floor, Suite 702 & 703 (Bay and College) at 5pm.

Please RSVP to Sheila (sheila.laredo@swchsc.on.ca/416-351-3800 x 2721) or Vanessa (vanessa.speers@swchsc.on.ca/416-351-2536), so we can make the appropriate arrangements.

We look forward to seeing you there!



## **PCOS STUDY UPDATE**

### **Overall, 37 Women Have Now Been Enrolled!**

**We thank all women who are  
helping to answer important  
questions by participating!!**



## **Running Late?**

An appointment made with the study staff is time that is reserved especially for you to look after your needs. If you are **unable to keep an appointment**, we ask that you **notify us 24-hours in advance** so that the time can be offered to someone else. We understand that situations arise - please keep us informed with a **phone call** of your situation, or **if you will be running 10-15-minutes late**. Your cooperation is appreciated and will help to ensure that the study runs efficiently and you are seen on time.

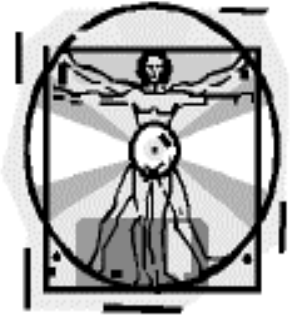


## MEDICAL FORUM

Sheila Laredo, M.D.

### OSTEOPOROSIS AND PCOS

#### - IS THERE A LINK?



Osteoporosis is a condition characterized by decreased bone mass. Osteoporotic bones are characterized by loss of both the structural and mineral tissue that makes up the bone. These bones are more “porous” or spongy, and thus more brittle. People with osteoporosis are more prone to fractures than those without it. Osteoporosis is diagnosed with a test called a bone mineral density test. This is a non-invasive, painless test that involves small amounts of radiation (considerably less than a routine chest X-ray, for example).

The risk of osteoporosis typically increases quite rapidly around the time of menopause when the ovaries cease production of female hormones that contribute to the maintenance of bone strength. Conventional wisdom tells us that it is estrogen that is the most important hormone for maintaining bone strength in women.

Women with PCOS do not ovulate regularly, which means that they will generally have low levels of progesterone most of the time (progesterone is the hormone that we test for in the study when we are looking for evidence of ovulation). However, the ovaries produce adequate amounts of estrogen. Also, in women who have extra body fat, fat cells are able to convert certain male hormones to a form of estrogen called estrone. It is not intuitive then, in women with PCOS, that there would be any difference in bone density compared to women with regular menstrual cycles. In other situations in which women do not ovulate regularly (for example due to low body mass), women are estrogen deficient, and in those situations, there is a known significantly increased risk of osteoporosis.

However, a recent study (Yuksel O et al, J Bone Miner Metab 2001; 19:257-62) demonstrated that women with PCOS were more likely to have a low bone density compared with women with regular menstrual cycles. In this study, 28 women with PCOS were compared to 11 women with other causes for irregular periods and to 15 women with regular menstrual cycles. The study found that women with other causes for irregular cycles had the lowest bone mineral densities, followed by women with PCOS. Women with regular cycles had the highest values. Interestingly, they also found a correlation between insulin resistance and bone density, such that women with insulin resistance were more likely to have higher bone densities. The researchers thought that perhaps high levels of serum insulin might be protective of bone mass, although this is just a hypothesis and requires further research.

Other groups had not previously found this association of low bone mass with PCOS. An older study (Dagogo-Jack et al, J Clin Endocrinol Metab 1997; 82(9): 2821-25) showed that women who had excessive male pattern hair had higher bone densities than women without excess hair, and that women with male-pattern hair and irregular periods (the majority would have PCOS) had somewhat lower bone densities than the regular cycling women with excess hair, but higher bone densities than regular cycling women with no excess male-pattern hair.



**Confused?** You’re not alone. While it is not clear exactly what is going on with women with PCOS, it appears that more irregular cycling is associated with lowering of bone density, which may predispose to increased risk of fracture. Some researchers think that this may be related to low progesterone levels in women with PCOS, but this is controversial.

**What can you do to reduce your risk?** It is well known that most North American women do not get adequate calcium in their diets, in part due to substitution of milk for sodas. Most adult women require 1,000 mg of elemental calcium in the diet (more with pregnancy, lactation, and in elderly women after menopause if they are not taking hormone replacement). As a general rule, a cup of milk, yogurt, ice cream or cottage cheese, or an ounce of hard cheese contain 200-300 mg of elemental calcium. Peas, beans, fish and dark leafy vegetables are also a good source of calcium. In addition, for your body to absorb calcium, you need to have adequate vitamin D. This can be obtained from certain foods (like fatty fish), or milk or cereal fortified in vitamin D, or from sunlight (when no sunscreen is worn, and in Canada in the summer months primarily). Otherwise, supplements sometimes need to be considered. Daily intake of Vitamin D is usually suggested at 400-800 IU per day.

As part of the PCOS Diet & Exercise study, you may already have been told to increase your consumption of low-fat dairy products. This is a good way to maintain a healthy overall diet, and may help minimize the risk of reduced bone density possibly related to PCOS.

## NUTRITION CORNER

Christine Mehling, M.Sc.

### AN APPLE A DAY KEEPS THE DOCTOR AWAY!

The truth of that old saying is becoming more and more apparent as research continues to mount on the health benefits of fruit and vegetables. Diets that contain an abundance of fruit and vegetables are health promoting and protective against cancer, heart disease, high blood pressure, high blood cholesterol levels, arthritis, cataracts, diabetes and may also slow down the aging process. Canada's Food Guide along with other health organizations recommend that a minimum of 5-10 servings of fruit and vegetables be consumed on a daily basis.

So what is it in fruit and vegetables that makes these foods such a powerhouse?? Not only are fruits and vegetables virtually fat free, they also contain dietary fibre, are packed full of vitamins and minerals, and contain compounds called phytochemicals.

Fruit and vegetables are an excellent source of vitamins A, C, K,  $\beta$ -carotene, folate and other B Vitamins such as riboflavin and thiamin. They also contain minerals such as calcium and iron. Eating both fruit and vegetables provide a whole gamut of essential nutrients necessary for maintaining good health.

If these assets were not enough, over the last few years fruits and vegetables have caused a health stir because they are an excellent source of phytochemicals. Watch for next month's newsletter on the health benefits of phytochemicals and more ideas on how to add fruit and vegetables to your diet.

**Fruits Profile:** Most fruit contains Vitamin A, C, K, folate and other B Vitamins. Fruit also can contain calcium and iron.

Fruit is fat free! Listed below are the best sources of fruit that provide the following nutrients:

Vitamin A: Apricots, cantaloupe, mango are excellent sources.

Vitamin C: Oranges, grapefruits, guava, lychee nuts, strawberries, cantaloupe and kiwi are excellent sources.

Iron: Dried fruit such as apricots, peaches, figs and dates, raisins, and fresh berries are good sources.

Calcium: Citrus fruit, strawberries, dried figs are good sources.

Folate: Strawberries and citrus fruits are good sources.

**Vegetables Profile:** Most vegetables contain Vitamin A, C, K, folate and other B Vitamins. Vegetables also can contain calcium and iron. Vegetables like fruit are fat free! Listed below are the best sources of vegetables that provide the following nutrients:

Vitamin A and  $\beta$ -carotene: Red, orange, deep-yellow and some dark-green leafy vegetables, such as tomatoes, carrots, sweet potatoes, winter squash, broccoli, brussel sprouts, swiss chard, kale.

Vitamin C: Sweet peppers, broccoli, potatoes, kale, brussel sprouts, tomatoes.

Folate: Leafy green vegetables such as spinach and romaine lettuce, green peas, broccoli, asparagus, brussel sprouts and avocado.

Iron: Spinach, swiss chard.

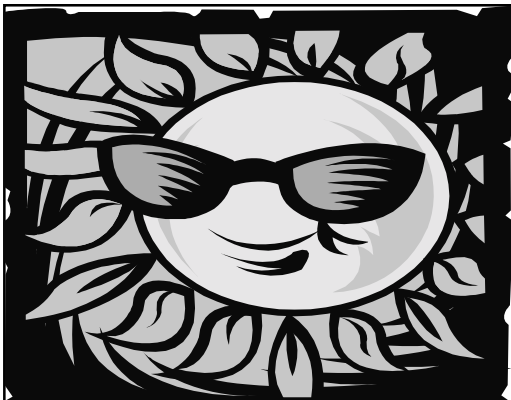
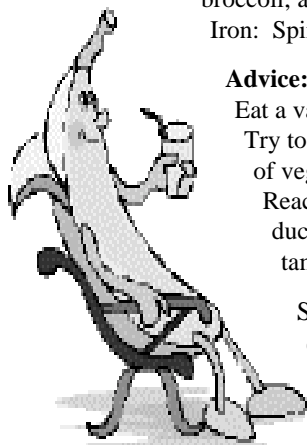
#### Advice:

Eat a variety of fruit and vegetables each day

Try to have a minimum of 5 servings of fruit and 5 servings of vegetables per day.

Reach for dark green, bright orange, red, and yellow produce. These colours indicate higher concentration of vitamin and minerals.

Summer is a great time to be eating fruit and vegetables!! Variety abounds and in the summer Ontario fruit and vegetables are readily available. Grown locally, the fruit can ripen longer on the tree adding more flavour. Enjoy!



## RECIPE OF THE MONTH

### Strawberry Fruit Salad

8 cups lightly packed spinach leaves  
1 pint strawberries stemmed and halved  
4 cups of assorted melon chunks  
1 ½ cup orange and grapefruit segments

**Orange-Mint Dressing:** In a bowl, whisk one 8-ounce container plain nonfat yogurt, 3 tablespoons thawed orange juice concentrate, and 1-teaspoon sugar. Mix in 3 tablespoons chopped mint. Serve immediately or cover and refrigerate up to 2 days.

**Strawberry Ginger Dressing:** In a blender or food processor, puree 1 ½ cups strawberries, transfer to bowl. Mix in 1 ½ to 2 tablespoons honey, 1 ½ tablespoons lime juice, 2 teaspoons grated fresh ginger, and a pinch of salt. Use immediately, or cover and refrigerate up to 2 days.

**Balsamic Pepper Dressing.** In bowl, whisk one 8-ounce container nonfat strawberry yogurt, 1-tablespoon balsamic vinegar, 1-teaspoon honey, and ½ to 1 teaspoon coarsely ground black pepper. Serve immediately or cover and refrigerate up to 2 days.



## Motivational Matters...

### RELAXATION TECHNIQUES TO MANAGE YOUR STRESS

VANESSA R. SPEERS, M.Sc.



**Visualization:** Like autogenics, visualization uses the power of your mind's eye and inner voice to bring about relaxation. Visualization is the imagery of any location that, to you, is peaceful and stress-free. Your peaceful image can be brought to your consciousness at any time (in a traffic jam, a tense time at the office) for a quick moment of tension release. Advance practice will allow you to call upon this

Life inherently presents us with challenge and stress is a natural response. Without some stress, motivation to act would be very low. But, if stress is excessive or lasts for a long time, health begins to suffer. Stress management skills are an important skill for living well. Without healthy relaxation skills, some people turn to unhealthy patterns such as over-eating, excessive alcohol use, cigarette smoking and withdrawal from physical and social activities. Alone or in combination, these behaviors increase vulnerability to the ill effects of stress. Managing stress well does not mean avoiding it altogether. This would be nearly impossible to do. Instead, become aware of stress and your body's reaction to it. Awareness, positive thinking and effective relaxation skills, will help you meet life's challenges while becoming healthier. Odds are you will probably enjoy the good feelings that also result from these relaxation skills and the time you set aside to practice them.

imagery more effectively at times of stress. For its deepest effect, visualization is done in combination with progressive relaxation. Once deeply relaxed, spend a few minutes imagining the peaceful location you wish to "visit". The more detail you add to your image, the more real it will seem in your mind.

**Progressive Relaxation:** Progressive relaxation is similar to Autogenic Relaxation, but it requires more time and a quiet, comfortable environment where you can completely relax. In it, you use your mind's eye and internal voice to suggest relaxation to your body. Unlike Autogenics, the relaxation is not limited to one part of your body. It progresses to all body parts during the relaxation exercise. The time necessary for a thorough Progressive Relaxation is 20 to 30 minutes, although it can be varied depending on your skill and needs. It is often helpful, especially for beginners, to be lead through the relaxation.

**Stretching:** One of the quickest responses our body has to stress is increased muscle tension and contraction. The physiologic reason for this muscular activity is to prepare us for fight or flight but, in reality, few of our modern day stresses are resolved by either. When muscle tension continues for long periods without physical release a low, or even moderate, level of chronic pain may develop, especially in the shoulders, neck and lower back. To break the contraction cycle and relax these muscle areas, stretch them each 3 or more times each week.

**Autogenic Relaxation:** Autogenics, as the name suggests, are self-generated suggestions your mind gives your body to relax. It is a quick and portable relaxation technique that pin-points body regions that need to relax. For example: shoulders, jaw, or neck muscles may be the first area of your body to tense when you are stressed. Autogenic relaxation of any one of these areas could be done with just a minute or two of concentrated relaxation.

**Meditation:** Meditation is a very deep form of quieting the mind and relaxing the body. It may begin as progressive relaxation and a peaceful visualization, but moves into complete mind quieting. Music can help bring us into this very deep state of relaxation. Done regularly, it can help to keep general stress levels much lower.

**Deep Breathing:** When we are stressed, our breathing may become more rapid and shallow. Chest muscles tighten, and air moves quickly, but not deeply into our lungs. This is not efficient breathing and fatigue can result. Deep breathing, also called Diaphragmatic Breathing, is a technique used to slow rapid breathing and move air deeper into the lungs. The trick is to use the diaphragm, not chest muscles, as the main muscle, which opens the chest and allows lungs to expand. You can use it almost anytime, anywhere as an immediate tension reliever.

