

# ON TRACK WITH BARIX

Support to Keep You On Track With a Healthful Lifestyle



## Vitamin D... The Sunshine Vitamin

**V**itamin D has long been known to work with calcium to produce healthy bones. It was added to the American milk supply starting in the 1930s and rickets in children was decreased by 85%. Rickets is a disease where bones fail to mineralize properly resulting in bone deformity and soft bones. The comparable disease in adults is called osteomalacia. Osteomalacia is often a slowly progressing disease characterized by bone pain and muscle weakness. In the 1980s, vitamin D was found to have a role in reducing the risk of some cancers, in the processes of the parathyroid hormone and in insulin secretion. In the last 10 years, studies have linked an adequate vitamin D status with a multitude of benefits and scientists learned how to accurately measure vitamin D status through blood tests. Adequate vitamin D status has been linked to decreased risks for hyperparathyroidism, hypocalcemia, osteomalacia, osteoporosis, rickets, psoriasis, muscle weakness/pain,

cancer (specifically breast, prostate and colorectal), type 1/type 2 diabetes, high blood pressure, multiple sclerosis, mortality reduction, post menopausal weight gain, tooth decay, asthma, and arthritis. Last year a group of scientists called to raise the recommended intake of vitamin D. Since that time, the awareness of vitamin D status has soared—scientists are testing theories, physicians are testing their patients, the media is reporting the onslaught of studies, and hopefully people are taking responsibility to maintain a healthy vitamin D status.

**Below is a summary of some of the most recent findings by scientists:**

**JULY 2008:** The University of Manitoba found that in a study of 206 pregnant women, only 10.5% had adequate vitamin D levels in their third trimester. Those with inadequate levels were more likely to have babies with early tooth decay.

**JULY 2008:** An observational study presented at the 50th Annual Meeting of the American Headache Society showed 42% of patients with chronic migraines were deficient in vitamin D.

**JUNE 2008:** A study conducted in Austria linked a vitamin D

deficiency with an increased risk of death. Most of those in the study who died had cardiovascular problems.

**JUNE 2008:** Children's Hospital in Boston measured the vitamin D levels in 380 healthy toddlers. Forty percent of those had suboptimal levels of vitamin D; twelve percent had a vitamin D deficiency. One third of the toddlers with a vitamin D deficiency already had signs of thinner bones.

**JUNE 2008:** Researchers with the Dana-Farber Cancer Institute and the Harvard School of Public Health found that people with low levels of vitamin D were most likely to die from colon cancer and those with the highest levels upon diagnosis were most likely to survive. Those with the highest levels of vitamin D were 48% less likely to die.

**JUNE 2008:** A study from the Harvard School of Public Health and the Brigham Women's Hospital looked at the records of men who had heart disease. They found that men who had low levels of vitamin D (15 ng/ml or less) had twice the risk of heart attack compared to those who had a vitamin D level that was considered sufficient (30 ng/ml).

*Cont. on page 2*

**JUNE 2008:** A study by the Moores Cancer Center at the University of California examined the rate of type 1 diabetes (the body does not produce adequate insulin) throughout regions of the world. They found the incidence of type 1 diabetes generally highest in the regions with the highest latitudes. Those in the low latitude regions are most likely exposed to more sun rays—converting vitamin D to its active form. Vitamin D supplementation during infancy was associated with a 29% decrease in type 1 diabetes.

**MAY 2008:** The *Archives of General Psychology* reported a study linking vitamin D deficiency and depression in older adults.

**MAY 2008:** A study found that vitamin D deficiency is common among women diagnosed with breast cancer and that vitamin D deficiency may increase the risk of the cancer spreading and of death. The study found that women with a vitamin D deficiency at the time of diagnosis were 94% more likely to experience the spreading of cancer and 73% more likely to die over the next 10 years compared to those with adequate vitamin D levels. In the study group, more than 1 in 3 were deficient in vitamin D.

**JANUARY 2008:** A long-term study reported in *Circulation* found that people with high blood pressure are more likely to have a cardiovascular event (heart attack, stroke, chest pain, heart failure and peripheral claudication) if they also have a vitamin D deficiency. Twenty-eight percent of those in the study had a vitamin D deficiency.

**SEPTEMBER 2007:** An analysis of 18 vitamin D studies was published in the *Archives of Internal Medicine*. More than 57,000 adults participated in the studies. Many of them were older. Those taking a

vitamin D supplement were 7% less likely to die of any cause during the 5.7 years of the studies.

**MAY 2007:** A seven year study of more than 36,000 women found that women who took a supplement of 1000 mg of calcium and 400 IU of vitamin D slowed post-menopause weight gain.

**AUGUST 2004:** A study published in the July issue of *Nutrition Journal* found that a supplement of 1000 IU of vitamin D improved symptoms of seasonal affective disorder.

Despite all of this research, we still don't fully understand the complex roles of vitamin D in our bodies or the optimal intake level. It does seem clear that people should be tested for vitamin D status routinely and take measures to reach and maintain an adequate vitamin D status. The 25(OH)D or calcidiol test can tell your doctor if your vitamin D level is optimal. The Vitamin D Council recommends a 25(OH)D level between 40 and 65 ng/ml. The U.S. National Institutes of health recommends 25(OH)D levels over 30 ng/ml noting that there is "insufficient data" to support recommendations for higher levels.

To reach an optimal vitamin D status, the US Institute of Medicine of the National Academy of Sciences currently recommends an adequate intake of 200 IU for all individuals under age 50; 400 IU for those 50–70 years of age; and 600 IU for those over 70 years of age. A safe upper limit for vitamin D is currently set at 2,000 IU for children, adults, and pregnant and lactating women. Many scientists and health professionals do not believe that those levels are adequate to provide some of the potential health benefits that vitamin D may offer. Studies indicate that 1000 IU can safely be taken without

any toxicity. In fact toxicity would probably not occur unless 10 x that amount was taken for a long period of time. Vitamin D is a fat soluble vitamin/hormone so it is stored in the body, unlike most water soluble vitamins that are easily discarded by the body if taken in excess.

### **THERE ARE THREE WAYS TO GET VITAMIN D:**

**You can obtain it through the foods/beverages that you choose.** Vitamin D is not widespread throughout typical food choices—see *table on the following page*. A few selected foods are naturally high in the vitamin and fortified foods are the best sources.

**Your body has the ability to convert cholesterol to vitamin D via exposure to UV rays.** You may be able to get it from 15 minutes of exposure on the arms and face to the sun 3–4 times a week without sunscreen. It is estimated that 10 to 15 minutes in the sun on a sunny day without sunscreen can produce 2,000 to 5,000 IU of vitamin D if 40% of the body is exposed. The amount of vitamin D that can be activated from sun exposure is much greater than that from food intake and the short exposure should not increase the risk of skin cancer. Obtaining adequate vitamin D from the sun may be difficult in colder climates, for people with darker skin tones (they may require 5 to 10 times the sun exposure), for older people (their skin is not effective at converting vitamin D to its active form), or for those who are mostly indoors. Sun lamps are effective at converting vitamin D to its active form; sunlight through glass is not.

*Cont. on page 3*

**Supplements are the third source of vitamin D.** Most multi-vitamin/mineral supplements contain 400 IU. The source of vitamin D comes from one of two sources, vitamin D2 (ergocalciferol) or vitamin D3 (cholecalciferol) The two forms have been regarded as equally effective at curing rickets, but new evidence suggests that vitamin D3 could be three times more effective at raising 25(OH)D levels in the blood. Again, the evidence is not definitive, but many many supplements have been converted to vitamin D3. Look for D3 or cholecalciferol in the ingredient listing when you choose your multi vitamin/mineral supplement, calcium/vitamin D supplement or vitamin D supplement.

FOOD	IU per serving*
Cod liver oil, 1 tablespoon	1,360
Salmon, cooked, 3.5 ounces	360
Mackerel, cooked, 3.5 ounces	345
Tuna fish, canned in oil, 3 ounces	200
Sardines, canned in oil, drained, 1.75 ounces	250
Milk, nonfat, reduced fat, and whole, vitamin D-fortified, 1 cup	98
Margarine, fortified, 1 tablespoon	60
Ready-to-eat cereal, fortified with 10% of the DV for vitamin D, 0.75–1 cup (more heavily fortified cereals might provide more of the DV)	40
Egg, 1 whole (vitamin D is found in yolk)	20
Liver, beef, cooked, 3.5 ounces	15
Swiss cheese, 1 ounce	12

Bariatric surgery patients are not different from the general population in regard to the potential for a vitamin D deficiency. In fact, they may be at greater risk both before and after surgery. Obesity may be a risk factor for vitamin D deficiency because vitamin D may be caught in fat cells, not able to circulate and function. After surgery, limited intake of food and malabsorption (gastric bypass procedure) may decrease vitamin D levels. Vitamin D status could improve in individuals having bariatric surgery if they begin taking a multi vitamin and mineral supplement with 400 IU of vitamin D, drink 3 servings of milk (100 IU vitamin D each) or take a calcium/vitamin D supplement (400 IU). They

also may find that they are more able to be active outdoors, increasing their sun exposure.

We haven't heard the end of vitamin D. Keep an eye out for more studies and recommendations. In the meantime, find out your vitamin D status and take measures to reach an optimal level.



## RECIPES

### CHICKEN ENCHILADAS

*Submitted by JoAnn M.*

6 flour tortillas, 8" size  
 1 cup baked chicken breast, cut up into small pieces  
 1 can cream of mushroom soup, 98% fat free  
 ¾ cup cheddar cheese, shredded  
 1 cup sour cream, fat free

In a large bowl mix soup and sour cream. In a 9 x 9 pan place a small amount of soup mixture.

In each tortilla, spread a thin layer of soup mixture, chicken, and cheese. Roll up and place in pan. After all tortillas are filled and in pan, pour remaining mixture over the top.

Bake at 350 until cheese is melted, approximately 30 minutes. Makes 6 servings.

**NUTRITION INFORMATION PER SERVING:** 300 calories, 16 grams protein, 10 grams fat, 30 grams carbohydrate, 822 mg sodium.

### PEANUT BUTTER COOKIES

*Submitted by Katherine L.*

1 cup peanut butter  
 1/2 cup Splenda®  
 1 egg

Mix all ingredients until well blended. Roll into 24 balls and place 2 inches apart on an ungreased baking sheet. Flatten with fork. Preheat oven to 325 degrees F. Bake 15 minutes or until lightly browned. Don't over-bake. Makes 24 servings.

**NUTRITION INFORMATION PER SERVING:** 67 calories, 3 grams protein, 11 grams fat, 2 grams carbohydrate, 52 mg sodium





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[www.barixclinicsstore.com/  
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## RECONSTRUCTIVE SURGERY

To receive a **FREE RECONSTRUCTIVE SURGERY** guide, call 800-282-0066 or send us an email at [rc@barixclinics.com](mailto:rc@barixclinics.com) with your name and contact information. Our reconstructive surgery program is currently performed at our centers in Michigan, Ohio, and Pennsylvania. *Call us today for more information!*

## OTHERS CARE PLEASE SHARE

Please tell us about the lives that have changed because you shared your weight-loss story. Submit your story to [http://www.barixclinicsstore.com/share\\_your\\_story.html](http://www.barixclinicsstore.com/share_your_story.html). What you have to say may be printed in this publication or on our website and can serve as inspiration to all.

## QUESTIONS ABOUT FINANCING YOUR SURGERY?

Call a Barix Patient  
Service Representative  
at 800-282-0066

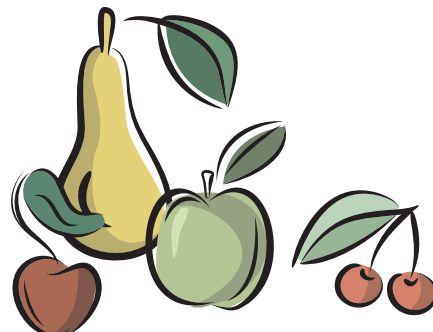
## IN THE NEWS

A study published in the *New England Journal of Medicine* found a reduction of weight with low fat diets, low carb diets and Mediterranean diets. Surprisingly, the high fat Mediterranean diet and low carb diet showed additional improvements in blood lipids and blood glucose measurements. At the end of two years dieters lost an average of 6.5 pounds on the low fat diet, 10 pounds on the Mediterranean diet and 10.3 pounds on the low carb diet. These studies help us to determine the best type of eating pattern for long term weight maintenance, health promotion and disease prevention. The verdict is still out on the best diet composition—keep the studies coming.



“One of the things I  
learned the hard way  
was that it doesn't pay  
to get discouraged.  
Keeping busy and making  
optimism a way of life  
can restore your faith in  
yourself.”

Lucille Ball



## IT WORKED FOR ME

*Submitted by Deb R.*

I had surgery in May of this year. To increase our exercise, a co-worker and I challenged each other to walk every day. At the end of the week we added up our steps and set a goal for the following week for 500 additional steps each day. It worked! She lost 3 pounds last week and I lost 8. We told another office in our complex that we were doing this, and now they are challenging us! It's a win-win situation!



Bariatric Advantage has created another way for you to meet your calcium needs. Calcium Crystals dissolve into your favorite drink or water. They are a highly absorbable form of calcium and also contain vitamin D. Each serving provides 600 mg of calcium and 500 IU of vitamin D3.

Packaged in a 180-serving tub or in 60 individual servings, Calcium Crystals are available unflavored or lemon-lime flavored. Available at [www.barixclinicsstore.com](http://www.barixclinicsstore.com).

Barix Clinics also carries calcium citrate lozenges in chocolate and cherry flavors.

# CONSIDERING SURGERY

Having bariatric surgery is a major life-changing event. Thinking about the support that you will need and getting it lined up ahead of time will ease the transition after surgery. In addition to your family and friends, be sure to ask others at your support group, on the Barix Clinics Store Message Board, and through the Barix Buddy system what types of support were most helpful to them after surgery. There's nothing like the help of a friend who's been there.

## EMOTIONAL SUPPORT

It is normal to experience a variety of feelings and emotions after surgery. While most patients feel hope, optimism and confidence about the active new lives they will build, sometimes there can be feelings of anxiety or irritability. Support and encouragement from friends and family can make a world of difference. Those who really care about you will want you to be healthy and happy. They are usually willing to do whatever they can to help you reach your weight goal. However, they may not know how to best support your efforts. You will need to let them know how they can help.

## ACTIVITY SUPPORT

Having an activity partner may be more motivational than going solo. Think about whom you can enlist and get started working out together before surgery if possible. Think about what type of activities you will do. Check out the local YMCA, health club, community education programs, or other fitness opportunities. If you plan to exercise at home, watch for sales on equipment, exercise videos or small hand weights.



## FOOD SUPPORT

Start to read labels. Ask for the nutrition information at the fast food outlets that you visit and begin to make healthier choices. Get your family and friends on board by trying new sugar free, low calorie options. Clean out your kitchen, getting rid of sugar-laden foods and drinks.

## WORKPLACE SUPPORT

Enlist the help of those whom you work with to have sugar free treats for workplace celebrations or to decorate workstations rather than celebrating with the traditional cake. Petition for healthier food options in the cafeteria and vending areas, or for refrigerators and microwaves to bring lunches from home.

## FAMILY SUPPORT

In many cases, you will educate your family and friends about bariatric surgery. They will need to know that the surgery is not magic; it is a valuable tool for successful weight loss and maintenance. They can help you to make the healthful lifestyle changes. So many times the entire family improves their healthful habits when one person has bariatric surgery. Your family can look forward to an increased level of energy and sense of confidence. Let your family know about the changes they can expect in your eating and exercise habits and how they can help.

# YOUR RECIPE RESOURCE

We're working hard to put all of our recipes in one spot on the website. All of the recipes from the 56 issues of *On Track With Barix* and *Guide to Good Health* will be in one easy to use location. You will be able to search for an ingredient and print a single recipe. This area will be available, but "under construction" for the next few weeks.

If you need a new breakfast idea, something to take to your family reunion or a new way to dress up chicken, check it out at [http://www.barixclinicsstore.com/recipe\\_main.html](http://www.barixclinicsstore.com/recipe_main.html).

# REWARD YOURSELF

This month, you could earn a **SPECIAL GIFT** for your "It Worked For Me" tips or recipes! Just submit as many recipes and "It Worked For Me" tips as you like. The most original and creative will be awarded a special gift from our online store. Include your name and contact info with your entry—make sure your recipes follow Barix nutritional guidelines. Tips must be submitted by August 31, 2008. Please send comments, ideas, recipes and "It Worked For Me" tips to Deb Hart, RD, LD at [dhart@foresthealth.com](mailto:dhart@foresthealth.com).

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