

# Nutrition SENSE

UNIVERSITY OF MASSACHUSETTS – DINING SERVICES

VOLUME 8 | ISSUE 6 | APRIL / MAY 2008



## We're on the web:

[www.umass.edu/diningservices/nutrition](http://www.umass.edu/diningservices/nutrition)

### APRIL / MAY *quick tip*

Consume up to 1000 IU  
of Vitamin D with  
1000 mg calcium each day.

### DIETITIAN *on duty*

Get free nutrition advice in the  
DCs at the following times!

5:30–7:30 pm

April 9 – Franklin DC

April 16–Hampshire DC

April 30–Worcester DC

Hillside Room

May 7–Berkshire DC

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Be Smart. Eat Smart.



**Nutrition**  
UMASS AMHERST DINING SERVICES

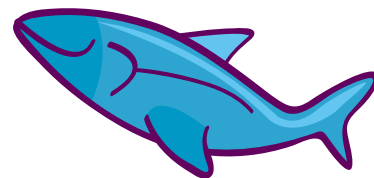


## What is Vitamin D?

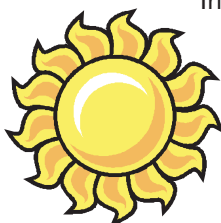
Vitamin D is a fat-soluble vitamin that is both found in foods and made by the body. Vitamin D is most well-known for the role that it plays in increasing the absorption of calcium and phosphorus – keeping your bones and teeth healthy and strong. There is also evidence that Vitamin D contributes to immune function, decreased risk of cancer, decreased bone diseases (rickets, osteomalacia, and osteoporosis), decreased inflammation, proper cell functioning, and, in people with diabetes, decreased insulin resistance. New information about Vitamin D is being discovered on an almost daily basis!

### What foods are good sources of Vitamin D?

Vitamin D is naturally present in fatty fish such as salmon, mackerel, tuna, and sardines. In addition, some foods, like milk, have extra Vitamin D added to them. You should know, however, that just because milk is high in Vitamin D does not mean that products made from milk are as well. In fact, foods such as yogurt and ice cream contain very little Vitamin D.



### Why is Vitamin D sometimes referred to as the "sunshine vitamin"?



In addition to getting Vitamin D from food sources, our bodies can make it. When ultraviolet light B (UVB) rays from the sun come into contact with skin, the skin is able to synthesize Vitamin D. In fact, getting Vitamin D from sun exposure is one of the best ways to meet the daily requirement of 200 IU per day. It takes about 15-30 minutes of sun-to-skin contact for this reaction to take place. Anything that

blocks the sun from hitting the skin directly prevents the production of Vitamin D. For instance, any sunscreen with an SPF over 8 will effectively block the sun from your skin. Obviously sunscreen is important for decreasing sunburn and skin cancer, but recent studies show that it may not be important to wear it every second that you are outside. Next time you are out in the sun, try waiting 15 minutes before applying your sunscreen – your bones will thank you for it!

In addition to sunscreen, clothing can also keep the sun off of you. The amount of Vitamin D produced by the skin is directly proportional to

Good Food Sources of Vit. D	Vitamin D (IU)
Salmon, 3 ½ oz. cooked	360
Sardines in oil, 1 ¾ oz. drained	250
Tuna in oil, 3 oz. drained	200
Egg yolk, large	20
Beef liver, 3 ½ oz. cooked	15
Milk, 8 oz.	100
Orange juice, 8 oz.	100
Margarine, 1 Tbsp.	60
Cereals, with 10% DV	40

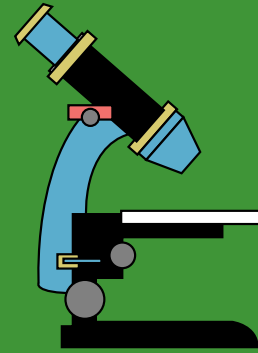
the amount of skin exposed. So the more skin you let the sun “see,” the more Vitamin D your body will be able to make for you. People with darker skin may also have a tougher time of making Vitamin D because the pigments in their skin may actually block some of the sun.

Living in the northern United States can also make it more difficult to get enough Vitamin D during the winter months. Between the months of November and March the sun’s rays are not strong enough to cause Vitamin D synthesis in the skin. Therefore, in the winter, it is especially important that we eat foods high in Vitamin D or take a Vitamin D supplement.

### Are you Vitamin D-ficient?

It is currently recommended that people aged 18-50 get at least 200 IU each day. However, recent research shows that our requirement for Vitamin D may actually be much higher than previously thought since the 200 IU level was established based on how much Vitamin D was needed to prevent bone disease. Scientists are trying to increase the current recommendation for Vitamin D to 1000 IU per day because they have found that this level may offer more protection from other diseases.

Without enough Vitamin D, the body is unable to properly form bones. This is called rickets in children and osteomalacia in adults. After 1931, when the milk supply in the United States was first fortified with Vitamin D, rickets virtually disappeared. More recently, however, rickets has made a comeback. As a country, we tend to spend more time inside and drink less milk than previous generations. In addition, whenever we do find ourselves outside we are usually covered from head to toe in sunscreen. To prevent Vitamin D deficiency we will have to change these behaviors. Furthermore, scientists believe that many people may be Vitamin D deficient, even if they don’t show any immediate



### Research at UMass Amherst

A Vitamin D study is currently being conducted right here at UMass! In this study the Vitamin D status of women between the ages of 18 and 30 is being measured. In addition to Vitamin D levels, a health and lifestyle questionnaire, genotyping, and a bone density scan will also be performed. The study is particularly looking for vegetarians and women of color to see what effect these factors have on Vitamin D status. The data collected during this study will be examined in several different ways. For example, one goal of the study is to see whether or not there may be a link between Vitamin D status and premenstrual syndrome (PMS). However, you do not have to experience PMS symptoms in order to participate. The study is still looking for participants so if you are interested, please email [vitamind@nutrition.umass.edu](mailto:vitamind@nutrition.umass.edu). It only takes about an hour and a half of your time and you will be compensated \$10. All of the results are kept confidential.

signs. Osteoporosis, for instance, develops over many years, but may not be evident until later in life. You cannot "feel" a disease like osteoporosis or a condition such as decreased immune function. Because of this it may be difficult to tell whether or not you are Vitamin D deficient unless you are tested for it. It is best to simply be aware of your body's need for Vitamin D and do your best to make sure you get enough on a daily basis.

### **I've heard that tanning beds have the right rays to help my body make Vitamin D. Is this true?**

Yes, tanning beds do give off UVB rays. However, it is important to note that the risk of developing skin cancer from tanning greatly outweighs the benefit of getting more Vitamin D. UVB rays are the "bad" rays – the ones that burn your skin. So don't start a tanning program just to get more Vitamin D. There are several healthier ways to get enough of the sunshine vitamin.



### **Vitamin D and Caffeine**

Caffeine can actually decrease the absorption of Vitamin D. This may, in turn, lead to decreased bone formation and weaker bones. This is one reason why it is a bad idea to consume high amounts of caffeine every day. To keep your bones strong try to decrease the amount of high-caffeine beverages that you drink. It is recommended that you consume less than 300 mg of caffeine per day – the amount in about three 8 oz. cups of brewed coffee or six cups of tea. Adding milk to your coffee or tea will also help to decrease the negative effects of the caffeine.

### **Supplements**

If you feel that you may not be meeting your needs for Vitamin D through foods and sun exposure, it may be a good idea to take a supplement. Supplements may be especially helpful during the winter months when our bodies are not making any Vitamin D from sun exposure. The supplement with Vitamin D<sub>3</sub> (cholecalciferol, one form of Vitamin D) is best choice!

While it is difficult to get too much Vitamin D from food sources and sun exposure, it is possible when taking a supplement. Side effects of too much Vitamin D (over 10,000 IU) include nausea, vomiting, constipation, weakness, and confusion. You can take up to 1,000 IU each day. So, while taking a supplement can be very helpful to meet your Vitamin D needs, just be careful not to take too much.

### **Increase Your Vitamin D Status**

- Drink fortified milk
- Eat fatty fish two or more times each week
- Spend 15-30 minutes in the sun without sunscreen (during non-peak hours)
- Take up to 1000 IU Vit. D<sub>3</sub> supplement with 1000 mg calcium (dietary sources)
- Drink no more than 3 cups (24 ounces) of caffeinated beverages each day

Researched and compiled by Kelly MacDonald, Nutrition Major, Class of 2008

*Winner of ten national awards from National Association of College and University Food Services:*

**"Outstanding College and University Menu for Residential Dining"**

in 2000, 2001, 2002, 2004, 2005, 2006, 2007

**"Most Creative Nutrition Promotion"**

2003, 2004, 2006



**Go to our website:**

[www.umass.edu/diningservices/nutrition](http://www.umass.edu/diningservices/nutrition)  
for more specifics to improve  
your eating habits

*The nutrition information in this newsletter is for educational purposes only. Information in this newsletter shall not be construed as medical, nutritional, fitness or other professional advice nor is it intended to provide medical treatment or legal advice. We recommend you meet with the appropriate professional advisors regarding any individual conditions.*



<sup>1</sup>UMass Dietetic Internship, <sup>2</sup>UMass Undergraduate Nutrition Student, <sup>3</sup>UMass Dining Services, <sup>4</sup>UMass University Health Services

Viewers will:

- 1) Identify at least two effective activities used to promote the University of Massachusetts (UMass) Dining Services interactive nutrition web site;
- 2) Identify three methods used to evaluate the effectiveness of the promotional activities.

To utilize National Nutrition Month® promotion as a tool to introduce the new UMass Amherst Dining Services interactive nutrition web site to UMass students and the general public. The nutrition web site was designed to increase nutrition education and promote a healthy lifestyle amongst this population.

UMass Amherst Dining Services serves 35,000 meals daily. An attractive, interactive, informative web site was designed for students to obtain information such as daily and weekly menus, nutritional analysis, food allergy information, Registered Dietitian contact information, and interactive nutrition games. The National Nutrition Month® promotion was used as a way to introduce the new nutrition web site.

During National Nutrition Month®, a campaign was developed to promote the newly updated nutrition information web site by utilizing nutrition promotion events in the dining commons. Advertisement for the promotion events included nutrition bulletin boards placed in resident halls, campus events calendar, e-mail list-serves, a nutrition class of 400 students, Facebook, and dining commons advertisements. During the week-long promotion, students answered live emceed questions in the dining commons, based on the on-line nutrition games. Students were introduced to the nutrient analysis, ingredients and allergens of dining commons recipes. Analysis of a meal was evaluated by dietitians, dietetic interns and UMass nutrition majors during the dining commons events. Based on the analysis, the student received an informational handout with suggestions for creating a healthier lifestyle (i.e., increase fruits and vegetables, increase calcium consumption, decrease sodium intake, incorporate whole grains, etc). Effectiveness of the National Nutrition Month® promotion was evaluated by measuring the number of participants for the dining commons events, the number of evaluations received and the number of hits on the nutrition web site before, during and after the dining commons promotion.

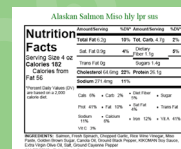
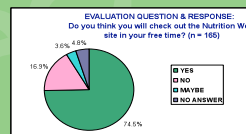
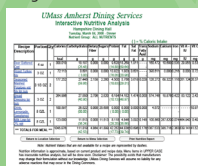
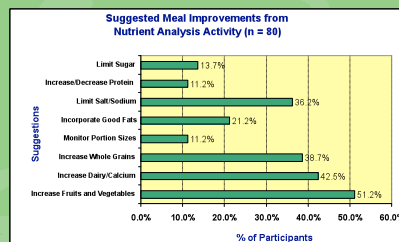
Positive feedback was received regarding the interactive and fun atmosphere of the game show and the effectiveness of the nutrient analysis information. Over the four days, 165 students participated in the events. Although the participation size was small, the dining commons atmosphere allowed numerous students to observe and interact. Through the evaluations, 74.5% of the students stated they would use the nutrition web site in their free time and 71.8% stated they would utilize the on-line Nutrient Analysis. As a result of the promotion during the first two weeks of March, hits on the web site increased 423% compared to the same time frame in January.

This interactive nutrition promotion:

- 1) increased awareness of the nutrition web site, increased the utilization of the ingredients, allergens and nutrition analysis of the dining commons recipes;
- 2) encouraged an interest in nutrition education through the fun and interactive on-line games performed at this event.

## SPECIAL THANKS

**Corporate Sponsorship:** Tyson, Fowler & Hunting, Thurston Foods, Inc., McCains, CAINS, Campbell's Foodservice, Minute Maid, Nestle, Odwalla, UMass Campus Recreations and Sports Clubs and the UMass Wellness Centers  
**Game Development:** Melanie Farwell, RD; Jeff Sautter, RD, Katelyn Ellis; Andrea Greaney; Marit Mendelsohn; Kristen Pearson, Jonah Solomon and Mistelle Warren, former UMass Interns/Nutrition Majors



Food label of UMass entrée; shows nutrient analysis, ingredient and allergen content

