



Nutrition for Family Living

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October, 2002 Topics

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To answer your question: raw food fad?

A vegetarian client was asking about a raw food diet. Are vegetables utilized better if eaten raw?

Not really. In fact, some nutrients are more available for digestion and absorption in cooked vs. raw produce. Cooking kills some bacteria – and makes food taste good! The "science" behind recommendations to eat only raw foods is very poor, and mostly based on poor understanding of enzymes.

The basic claims of the raw foods diet are that 1) raw foods contain essential enzymes that 2) are necessary because without raw foods, the body will use up its own enzymes, leading to "enzyme deficiency diseases," and 3) cooking "kills" those raw food enzymes.

The scientific facts are 1) raw foods may contain enzymes that are essential to the apple or walnut, but those enzymes are not essential for humans; 2) the human body contains, or can create, the enzymes it needs to catalyze its own vital chemical reactions. Enzymes are not "used up" over time. The claim that raw foods supply and replenish our human enzymes is misguided. 3) Heating food does denature some proteins and enzymes, but many other factors (storage, exposure to air, etc) have a similar effect. There are thousands of different enzymes and proteins that are denatured under many, many different combinations of conditions.

This same client is using herbal supplements to supplement his vegetarian diet. Any cautions or suggestions to pass on?

The answer is "it depends." Without knowing which products the person is taking, it's hard to make useful recommendations. There is some general advice in our bulletin on supplements -- NC582. Also, see pages 18-19 of the Dietary Guidelines and the following web resources:

<http://www.ftc.gov/bcp/online/pubs/health/frdheal.htm>

<http://www.cfsan.fda.gov/~dms/hclaims.html>

<http://www.cfsan.fda.gov/~dms/supplmnt.html>

<http://www.eatright.org/images/journal/0101/adap0101.pdf>



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To answer your question: diet and breast cancer

A client with breast cancer is requesting reliable sources (books, web sites, journal reading) of information about diet and breast cancer, specifically about meat and breast cancer. She is also asking for information about how to healthfully eat as a vegetarian.

There is not definitive evidence that red meat causes breast cancer or even increases one's risk for breast cancer. Some studies have found some associations between higher rates of breast cancer among women with high intakes of red meat, but there are also many studies that have failed to find such associations. There is stronger evidence showing that high intakes of a variety of fruits and vegetables, especially colorful fruits and veggies, and low-to-moderate intakes of fat, along with exercise and weight control, can reduce one's risk of developing most kinds of cancer.

We're not saying that eating a healthy diet and watching one's fat/calorie intake (along with exercise) isn't a good idea. There is not scientific agreement that it's necessary (or even preferable) to totally avoid meat to reduce risk of getting or redeveloping breast cancer. Having said that, if this woman's doctor advises her to strike meat from her diet, you can respect that opinion and try to help her do so wisely.

That takes us to the second question about how to choose a healthy vegetarian diet. Fortunately, the Food and Nutrition Information Center of USDA's National Agriculture Library has put together an extensive list of resources for this purpose. You can find it at:

<http://www.nal.usda.gov/fnic/pubs/bibs/gen/vegetarian.htm>

If an otherwise healthy person doesn't eat meat, but eats fish, beans, nuts, and other foods from the "meat" group of the pyramid along with a varied diet that's consistent with the rest of the pyramid, there's usually not a problem. The more restrictive the diet, the greater the need for careful planning to make up for nutrients that might be lacking. See page 16 of the Dietary Guidelines for Americans and the following: <http://www.eatright.org/adap1197.html>

For more information:

Biesalski HK. Meat and cancer: meat as a component of a healthy diet. *European Journal of Clinical Nutrition*. 56 Suppl 1:S2-11, 2002 Mar. [Review] [122 refs]

Michels KB. The contribution of the environment (especially diet) to breast cancer risk. *Breast Cancer Research*. 4(2):58-61, 2002.

Terry P, et al. A prospective study of major dietary patterns and the risk of breast cancer. *Cancer Epidemiology, Biomarkers & Prevention*. 10(12):1281-5, 2001 Dec.



Women's folic acid intake increases 1988-2000

A study released in a recent issue of the Centers for Disease Control's Morbidity and Mortality Weekly Report showed that **blood folate levels** in women of childbearing age have increased substantially since 1988. Higher blood folate levels are associated with a reduced risk of neural tube birth defects, such as spina bifida and anencephaly.

CDC researchers examined data from the National Health and Nutrition Examination Survey (NHANES) and compared the blood folate levels in women who participated in 1988-1994 and women who participated in 1999-2000. They found that blood folate levels increased substantially for all the racial/ethnic groups studied: non-Hispanic black women, non-Hispanic white women, and Mexican-American women. During that time, neural tube defect rates declined by approximately 20-30%.

Because **folic acid** supplement use did not increase during this time, the researchers attribute the increase in blood folate levels to increased consumption of products made from fortified flour, and from increased consumption of fortified breakfast cereals. In 1998, the FDA began requiring cereal grain manufacturers to fortify their products with folic acid, and many food companies have voluntarily increased folic acid fortification levels beyond the requirements.

Implications for educators: The US Public Health Service recommends that women of childbearing age consume 400 micrograms of folic acid each day, by eating more foods rich in naturally occurring **folate**, by using dietary supplements containing folic acid, and by eating foods fortified with folic acid. Folate rich foods include leafy green vegetables, dry beans, and orange juice. Fortified grains include many popular breakfast cereals, some enriched to 100% of the recommended daily intake. Multivitamin supplements also include the recommended amount of folic acid. Educators should continue to encourage women to consume folate rich foods and foods fortified with folic acid to reduce the risk of neural tube birth defects.

Blood folate level: the amount of folate found in a sample of a person's blood, which reflects the amount of folate and folic acid they consume in their diet.

Folate: the form of the B vitamin that naturally occurs in foods.

Folic acid: the synthetic form of the B vitamin that is added to fortified foods and found in dietary supplements.

Centers for Disease Control and Prevention. Folic acid and prevention of spina bifida and anencephaly: 10 years after the US Public Health Service recommendations. MMWR 2002: 51(RR-13). <http://www.cdc.gov/mmwr/PDF/RR/RR5113.pdf>

Special report contains four feature articles:

- Serum folate levels among women attending family planning clinics: Georgia, 2000
- Spina bifida and anencephaly prevalence – United States, 1991-2001
- Sociodemographic patterns in spina bifida birth prevalence trends – North Carolina, 1995-1999
- Folic acid awareness and use among women with a history of a neural tube defect pregnancy – Texas, 2000-2001.



Trans fats in fast food

From Amy Rettammel, Outreach Specialist

This article is a reprint of an email attachment sent to the FLP listserv, September 5, 2002

On September 3rd, McDonald's USA published a press release announcing a reduction in the trans fatty acid content of its cooking oil. The new oil will have a lower trans fat, lower saturated fat, and higher polyunsaturated fat content. The company plans to use the new oil to prepare French fries, Chicken McNuggets, Filet-O-Fish, Hash Browns, and crispy chicken sandwiches. The national rollout of the improved cooking oil begins in October 2002 and will be completed by February 2003.

Following is some information to help nutrition educators interpret this news:

What exactly are *trans* fats?

Because all fats, especially unsaturated fats, have a tendency to slowly break down when exposed to air, food manufacturers often *hydrogenate* them for greater stability. Hydrogenation is the process of adding hydrogen molecules directly to unsaturated fatty acids in liquid oils like soybean or canola to convert them to a semi-solid form (margarine or shortening). In essence, this is making 'unsaturated' fats more 'saturated'. When oils are hydrogenated like this, trans fats are often formed.

Hydrogenation is desirable in food manufacturing because it increases the shelf life of foods, contributes to the texture of foods, and makes foods taste good. It also improves the frying characteristics of oils. Crackers, cookies, doughnuts, French fries, and margarine are examples of foods containing hydrogenated oils, and thus often, trans fats.

What's the problem with *trans* fats?

Trans fats raise blood cholesterol levels, just like saturated fats do. High blood cholesterol levels are associated with an increased risk of cardiovascular disease. Unsaturated fats do not raise blood cholesterol levels. The Dietary Guidelines for Americans recommend, "If you need to reduce your fat intake...do so primarily by cutting back on saturated and trans fats."

Did McDonald's make a good move, nutritionally?

Yes. This summer the Institute of Medicine, which is the medical arm of the National Academy of Sciences, issued a report to the FDA recommending that Americans cut back on their intake of trans fats. This move by McDonald's will help, especially if other food companies follow suit. In addition, the FDA will be publishing a final rule early in 2003 that requires trans fat content to be listed on the Nutrition Facts panel on food packages.

Does less *trans* fat mean fewer calories?

No. McDonald's is decreasing the trans and saturated fats in its cooking oil, but this means it is raising the unsaturated fat content. The *composition* of the fatty acids in the oil is changing to create an oil that is healthier for the heart, but the *total amount* of fat and calories remains the same. When we're talking about calories, a fat is a fat is a fat. Portion size is still an issue for foods fried with this new type of fat.



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Following is the fat comparison information for a small order of McDonald's French fries prepared with the old oil and with the new oil. The table is adapted from the 9/4/02 Wisconsin State Journal, Source of information: McDonald's, via the Washington Post.

Fat breakdown	Old oil	New oil
Calories	210.0	210.0
Calories from fat	90.0	90.0
Saturated	20.7	17.0
<i>Trans</i> -saturated	30.0	16.0
Poly-unsaturated	10.8	29.0
Mono-unsaturated	29.0	29.0

Keeping it in perspective

According to food surveys, trans fats provide an estimated 2 to 3% of total calories in the American diet, compared with 12% from saturated fat and 34% from total fat. Following the Food Guide Pyramid, with its emphasis on whole grains, fruits, and vegetables, and helping people manage their food dollar by purchasing less processed foods are educational strategies that can help people reduce their intake of saturated and hydrogenated fats.

The publicity around this new frying fat at McDonald's may represent a "teachable moment" for nutrition and consumer education. WNEP has lessons available to help people make informed choices when eating away from home:

Money for Food lesson #12, at <http://www.uwex.edu/ces/wnep/p6/mff/mffall.pdf>

Lesson objectives:

- Participant will be able to make lower cost food choices when eating away from home.
- Participant will plan for meals eaten away from home when planning food spending.

"Where's the Fat?" lesson at <http://www.uwex.edu/ces/wnep/p7/pdfs/02fatlsn.pdf>

Lesson objective:

- Participants will be able to select foods with less fat, especially when eating at fast-food restaurants.

For more information:

The McDonald's press release: <http://www.prnewswire.com/news/> - scroll down to the search box and enter "McDonald's"

Backgrounder on fats: September, 2001 Nutrition for Family Living

www.uwex.edu/ces/wnep/p3/mmindx.html

Trans fat labeling rule: <http://www.cfsan.fda.gov/~dms/lab-cat.html#transfat>



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Recipe Resources

Recipes can be very useful in giving concrete examples of the nutrition and food safety concepts we teach. Our WNEP guidelines have some decision rules for selecting appropriate recipes that meet client needs – see the Teaching page of the WNEP website, listed under “Teaching Guidelines” toward the bottom of the page: <http://www.uwex.edu/ces/wnep/p6/index.html>.

One source of recipes you might find useful is the Canned Food Alliance website, www.mealtime.org. Canned foods often provide affordable choices for preparing nutritious, convenient meals and snacks, especially when their fresh counterparts are not grown locally or are out-of-season. Thus, recipes with canned foods can illustrate concepts in our materials on managing food resources for choosing and preparing nutritious meals and snacks.

You will find more links to recipes in the Extension nutrition webography from Steenbock Library. The webography is accessible in the resources links of the UWEX Family Living pages: <http://www.library.wisc.edu/libraries/Steenbock/services/nutritio.htm> (currently being updated).