

## Nutrition and Health Practices Affect Cancer Risk in Women

Ask a woman what disease she hopes to avoid, and chances are good that she will say cancer. While breast, cervical or uterine/endometrial cancer are of primary concern to women, good nutrition has been shown to play a major role in preventing these and other types of cancer, as well. Keep in mind that diet is only one aspect of cancer risk; tobacco use, physical activity, sunlight exposure, sexual practices, heredity and other factors also come into play.

**Focus on a high intake of a variety of fruits and vegetables, cooked legumes and whole grains.**

These are full of healthful vitamins, minerals, fiber, phytochemicals and antioxidants to help your body fight off cancer-causing substances.

- Eat five or more servings of seasonal fresh fruits and vegetables daily for meals and snacks, or enjoy those that are canned, dried or frozen, or modest portions of juices. Select cruciferous vegetables, roots, tubers, plantains, and very colorful fruits and vegetables often.
- Each week, enjoy meals with cooked legumes, such as split peas or red, white, black, lima, navy, kidney, pinto or garbanzo beans, or chick peas, peanuts, lentils or soybeans.



- Each day, choose breads, cereals, tortillas, pastas, and other foods that contain whole grains, such as flax, whole wheat, bran, oats, popcorn, cornmeal, rye, brown rice, barley, tabouli, bulgur, or buckwheat.

**Reach or maintain a healthy body weight and get plenty of physical activity.**

- Strive to avoid being underweight or overweight. Limit weight gain during adulthood to 11 pounds. Excess weight gain may increase a woman's risk of uterine/endometrial, cervical and other cancers.
- Exercise briskly one hour a day, and vigorously one hour a week, or longer.

**Minimize intake of highly-processed foods and refined sugar; alcohol; fats; salted, charred, cured or smoked foods; or dietary supplements.**

- Choose minimally processed foods without added sugar.
- Limit alcohol intake to less than two drinks/day for men and one for women.

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## Nutrition and Health Practices Affect Cancer Risk in Women

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- Limit intake of animal fats. Limit intake of red meat to 3 ounces or less/day. Limit fatty meat cuts, such as bacon, sausage or cold cuts. Discard visible meat fats and poultry skin. Select non-fat/low-fat types of dairy products when choosing milk, sour cream, cheeses, yogurts, or ice cream. Limit intake of egg yolks, sauces, dressings, butter, lard, tallow or margarine.
  - Choose modest amounts of vegetable oils. Limit polyunsaturated fats, such as those found in foods prepared with corn, sunflower, safflower or soy oils. Minimize intake of fried foods and high-fat baked goods and snacks. Minimize intake of foods made with hydrogenated, coconut, palm, or palm kernel oils.
  - Choose herbs and spices, not salt, as seasonings.
  - Limit intake of meat and fish grilled in direct flame.
  - Avoid foods contaminated with mycotoxins.
  - Dietary supplements are probably unnecessary, and possibly unhelpful, in lowering cancer risk.
- Avoid tobacco use.**

Source: American Institute for Cancer Research, Diet and Cancer Project, [www.aicr.org/report2.htm](http://www.aicr.org/report2.htm)

### Web Sites Focused on Female Health

<http://www.4women.gov>

<http://www.healthfinder.gov>

<http://www.usda.gov/cnpp/>

<http://www.5aday.com/>

<http://www.healthletter.tufts.edu>

<http://aboutproduce.com/>

<http://www.mayoclinic.com/home?id=SP4.1.7.2>

<http://vm.cfsan.fda.gov/~dms/wh-toc.html>

<http://healthlink.mcw.edu/womens-health/>

<http://www.eatright.org/womenshealth/>

<http://www.ahrq.gov/research/womenix.htm>

[http://www.ninds.nih.gov/health\\_and\\_medical/disorders/headache.htm](http://www.ninds.nih.gov/health_and_medical/disorders/headache.htm)

<http://www.justmove.org>

<http://www.onelife.americanheart.org>

<http://www.4woman.gov/index.htm>

<http://women.americanheart.org/index2.html>

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## Spotlight on K-State's Human Nutrition (HN) faculty: An interview with Dr. Carol Ann Holcomb, Associate Professor

June was Vision Research Month, and our spotlight appropriately turned to Dr. Carol Ann Holcomb, whose research involves studying the prevalence of macular eye disease among Kansans age 65 years and older.

The macula is the part of the retina that is responsible for central vision. When the density of a macular pigment known as lutein is reduced, sunlight does more eye damage. Lutein provides oxidative damage control, like an internal pair of UV-blocking sunglasses, sparing the rods and cones of the eye from sight loss. To boost lutein density, Holcomb recommends eating plenty of green leafy and yellow fruits and vegetables. "Epidemiological associations have been shown between high intakes of fruits and vegetables and reduced prevalence of macular degeneration, but there is no evidence that dietary supplements are protective against the eye disease," she said.

In addition to a history of unprotected eye exposure to UV sunlight and low lutein dietary intake, Holcomb explained that heredity also plays a role in the prevalence of macular degeneration. Three large prospective trials are underway nationally, she noted, that should provide additional answers about the problem of macular degeneration in three more years.

Another research project Holcomb led included studying cardiovascular disease risk factors, such as body fat distribution, physical activity levels, and lipid profiles in pre-menopausal women.



During her years as a faculty member at K-State, Holcomb has served as major advisor to three doctoral and 15 MS students. Students and graduates of HN probably know Holcomb best for her role as advisor to students enrolled in the public health nutrition option. Her public health nutrition undergraduates have gone on to study physical therapy, pharmacy and nursing, or to have careers involving Peace Corps work with vitamin A deficiency and hunger relief, military service internships with wellness programs, WIC nutrition, Cooperative Extension Service, clinical nutrition research on diet and cancer or diet and heart diseases, missionary work with rural health clinics, etc. Some of her students earned a minor in gerontology and work as nutrition program directors. In addition,

Holcomb teaches HN 644, Women, Aging and Health; HN 844, Nutrition Epidemiology; and HN 650, Practicum for Public Health Nutrition.

This year, Holcomb also serves as coordinator of educational activity at K-State's campus-wide Galichia Center on Aging, and with the Great Plains 8-State consortium. She works with undergraduate and graduate students pursuing gerontology as a secondary major as well as those with an emphasis in long-term care, and with distance education opportunities.

Before arriving at K-State in 1979, Holcomb spent two years as a faculty member at the University of Missouri-Columbia. Prior to that, she studied public health and gerontology at Oregon State University. She enjoys a variety of hobbies, including creation of intricate stained glass objects. Soon after her arrival in Manhattan, Holcomb founded a church-based English skill-building program that provides conversational English two hours/week for international students, and which currently involves a dozen volunteer teachers.

Whether researching nutrition's role in eye health or volunteering to assist students, Dr. Carol Ann Holcomb's focus on education is clearly a benefit to the community and Kansas State University.

# Managing Premenstrual Syndrome

Most women (75%) in their child bearing years cope with a variety of symptoms commonly known as Premenstrual Syndrome (PMS). Frequent complaints attributed to PMS are: weight gain from fluid retention, breast tenderness, mood swings, appetite changes, nausea, and fatigue. A small number (5-10%) have *severe* premenstrual symptoms including extreme irritability, mood swings and depression. For this condition, the term Premenstrual Dysphoric Disorder (PMDD) applies. The exact cause of PMS is unknown. However, there are a number of triggers such as hormonal fluctuations and in some cases, sub-optimal levels of micro-nutrients.

In many cases, women can reduce PMS symptoms by changing their eating patterns. To minimize characteristic bloating during the few days before menstruation, it may be helpful to limit intake of salty foods (luncheon meats, canned soups, fast foods, chips, etc). Many women find it helpful to eat three small meals and three snacks a day comprised of a variety of complex carbohydrates, fruits, vegetables and low fat dairy products. Foods rich in magnesium (legumes, whole grains, unsalted nuts and green vegetables) and calcium (dairy products, calcium-fortified orange juice and fish with soft, edible bones) are important in the battle against bloating associated with PMS.

Minimizing consumption of caffeine and alcohol can be beneficial in curtailing PMS. For example, cutting back on the number of caffeine-containing beverages may lessen breast tenderness. Coffee drinkers may want to mix together half regular and half decaffeinated coffee for a week or so before their periods. For those women who experience mood swings and depression, it is especially important to minimize alcohol consumption at this time, as alcohol is a depressant.

Studies have shown supplementary magnesium (200mg), calcium (1200 mg) and vitamin E (400 units) have helped *some* women with PMS symptoms. However, every woman is biochemically unique making it impossible to offer blanket recommendations. It is always advisable to consult with a physician before taking any supplements as there is always potential for adverse side effects from large doses of supplements.

It is believed that there is a connection between the symptoms of PMDD and low levels of serotonin, a neurotransmitter found in the brain. Diet and lifestyle changes are the first line of treatment. In addition, physicians often will prescribe a serotonin reuptake inhibitor (SSRI) to adjust the serotonin levels in the brain and thus mitigate the symptoms of anxiety and depression. Some examples of SSRIs are fluoxetine(Prozac), paroxetine (Paxil) and sertraline (Zoloft).

Good nutrition is just one of many healthy lifestyle habits important for managing PMS and PMDD. Getting adequate sleep and daily exercise are also key to women feeling their best all month long.

## **Some healthy snack suggestions for premenstrual days include:**

- Plain yogurt
- Unsalted nuts and seeds
- Whole wheat crackers & peanut butter
- Pumpkin, zucchini or banana bread
- Graham crackers
- Bran or oat muffin
- Raw vegetables
- Orange slices
- Dried fruit
- Apple slices

Sources: Frackiewicz, EJ, Shiovitz TM. *J Am Pharm Assoc (Wash)*. Evaluation and Management of Premenstrual Syndrome and Premenstrual Dysphoric Disorder. *May-June;41 (3): 2001.437-47. Mayoclinic.com*. Premenstrual Syndrome. *Aug 2000 Mayoclinic.com*. Minerals. *Ap 19, 2001*

# Diet and Herbs Help Migraine Headaches

When brain and head blood vessels widen, then narrow, pain fibers in vessel walls become irritated, leading to MIGRAINE HEADACHES. Platelets, the cells involved in blood clotting, clump together tightly so they rupture and release chemicals that cause vessels to widen. Drugs, chemicals, and therapies that temper the rapid change in vessel size will provide some pain relief. This is the basic idea behind several therapies being studied in hopes of helping the 28 million migraine sufferers in the U.S. Seventy percent of these are women, most commonly between the ages of 20 to 35 years. Migraine headaches produce some of the most severe pain treated by doctors and they rob the US economy of 157 million workdays a year.

**Feverfew.** *Tanacetum parthenium*, a member of the daisy family, contains parthenolide, which stops platelets from releasing the chemicals that widen blood vessels or cause inflammation. The effective dose is 400 micrograms. Parthenolide concentration can vary between plants and with the time of harvest so the actual amount of feverfew needed varies. Feverfew



**Homeopathy.** A systematic review of all homeopathy studies uncovered little support for effectiveness of these migraine remedies. Most studies lasted only three to five months so longer trials may be needed before a conclusion is reached.

**Diet.** Components in certain foods may alter platelet function and blood vessel response. Foods with these components include aged cheese, red wine, beer, chocolate, yogurt, wheat, oranges, yeast, eggs, tea, coffee, and ham. Food sensitivities are involved in 20% of all migraines; sensitive migraineurs respond to an average of ten different foods. Other preventive measures focus on stabilizing blood sugar, avoiding alcohol, and decreasing *Helicobacter pylori*, the ulcer-causing bacteria.

**Riboflavin.** A daily 400 mg. dose of this water soluble vitamin is a promising treatment. Riboflavin is needed for enzymes involved in brain energy production. A placebo controlled trial with 55 adults showed significant improvement with riboflavin treatment. The benefits were apparent *only* after four months, so be patient when anticipating results.

has been shown to lessen attack severity, decrease frequency and lengthen time between attacks. However, not all studies have been rigorous so further research is needed. Use during pregnancy and lactation is not recommended. Consult a health professional—bleeding risk increases with anticoagulant or aspirin use.

**Magnesium.** Magnesium plays a role in cell membrane stability, cell energy production and keeping platelets from grouping together then rupturing. Doses of 600 mg in adults decreased attack frequency and headache days. As with riboflavin, improvements were seen only after 2 to 3 months.

**Ginger.** *Zingiber officinale* has anti-platelet and anti-inflammatory effects. Ginger paste poultices were useful in one anecdotal report. Toxicity has not been reported. More research is needed to understand the value of ginger for migraine relief.

*Resources:*

*Cbshealthwatch.medscape.com/cx/viewarticle/209782. 6/2/2001*  
 Ernst E. J Pain Symptom Manage 18:353-357; 1999. *Ottariano SG. Medicinal Herbal Therapy/ A Pharmacist's Viewpoint. Portsmouth, NH: Nicolin Fields Publishing;1999, pp 108-110.*  
 Schoenen J, Lacquy J, Lenaerts M. Neurology 50(2):466-470; 1998. *National Headache Foundation www.headaches.org/factsheet.html. 6/2/2001*  
 Hadjivassiliou M, et al. Neurology 56(3):385-388; 2001. *McKinley Health Center. www.mckinley.uiuc.edu/health-info/dis-cond/headach/migr-hea.html 6/2/2001.*  
 Sinclair S. Altern Med Rev 4(2):86-95; 1999. *www.thorne.com/altmedrev/fulltext/migraine4-2.html 6/5/2001.*

<a href="http://5aday.nci.nih.gov/index.html">http://5aday.nci.nih.gov/index.html</a>	<a href="http://www.womens-health.com/index.phtml">http://www.womens-health.com/index.phtml</a>
<a href="http://www.americanheart.org">http://www.americanheart.org</a>	<a href="http://www.4woman.gov/faq/migraine.htm">http://www.4woman.gov/faq/migraine.htm</a>
<a href="http://aztec.asu.edu/medical/azse/aha_wom.html">http://aztec.asu.edu/medical/azse/aha_wom.html</a>	<a href="http://cbshealthwatch.medscape.com/cx/viewarticle/218054_1">http://cbshealthwatch.medscape.com/cx/viewarticle/218054_1</a>

# Old But New: Menopause Management with Plants

Before estrogen replacement therapy women used plants to manage menopause symptoms. Plants are being used more often, but active plant chemicals vary within plant parts, are affected by weather and harvest conditions. Individual responses vary and 20 to 30 percent of women respond to placebos, thus well designed studies are vital to fully evaluating herbal therapies.

Herb/Plant	Use?	Actions	Dose Info	Comments
<b>Soy</b>	Yes	Isoflavones bind to estrogen receptors. Beneficial for hotflashes, night sweats, flushes, vaginal dryness. May be useful for cardiovascular and bone health—inconclusive results.	1 g soy protein yields 1.2 to 1.7 mg isoflavones	Not all soy contains good amounts of the active form of isoflavones; processing may remove active isoflavone. Soy supplements and foods may differ in activity. Don't use with estrogen-dependent cancers.
<b>Black Cohosh</b> <i>Cimicifuga racemosa</i>	Yes	Has estrogen-like action. Hot flashes, sleep disorders, anxiety, depression.	40 mg of std. extract (2.5% terpenes) twice a day	Stomach upset. Studies lasted less than 6 months/monitor with longer use. Not helpful for menopausal bone or heart risks. Don't confuse with BLUE cohosh-which is possibly toxic.
<b>Dong Quai</b> <i>Angelica sinensis</i>	No	Questionable estrogenic activity		Potential for bleeding, sunlight sensitivity, same reduction in hot flashes (25%) as placebo. Study design flaws may underestimate effects. More research needed.
<b>Evening Primrose Oil</b> <i>Oenothera biennis</i>	??	Seeds include chemicals that help night sweats.	500 mg three times a day	Contains omega-3 fatty acids, increased bleeding risk. Night sweat improvement also seen in placebo group.
<b>Valerian</b>	No	Used for antianxiety		Not useful, may be harmful.
<b>St. John's Wort</b>	Yes	Mild depression	300 mg of std. extract .3% hypericin	Dry mouth, GI effects, increased bleeding, photosensitivity.
<b>Chaste Berry</b> <i>Vitex angus-castus</i>	Yes	Vaginal dryness/menopausal depression	175 mg/day	Randomized study showed significant help for mood, anger, and headache.
<b>Shepherd's Purse</b> <i>Capsella bursa-pastoris</i>	??	Stops heavy menstrual flow	Use tincture < 1 year old	Recent literature unavailable. Potential benefit is based on historical use.

Sources: Ottariano, SG. Medicinal Herbal Therapy/A Pharmacist's Viewpoint. American College of Obstetrics and Gynecology. Use of Botanicals for Management of Menopausal Symptoms. Clinical Management Guidelines for Obstetrician-Gynecologists. American College of Obstetrics and Gynecology Practice Bulletin Number 28. June 2001. [www.acog.org/from\\_home/publications/misc/pb028.htm](http://www.acog.org/from_home/publications/misc/pb028.htm). Low Dog, Tieraona. An Integrative Approach to Menopause. In: An Integrative Approach to Women's Health. Corrales, NM: Integrative Medicine Education Associates. 2000. [www.imeaonline.com](http://www.imeaonline.com)

Never tried soy? Here are some delicious introductions!

## Chocolate Mousse

10 servings

- 2 packages firm tofu
- ½ cup honey
- 3 teaspoons vanilla
- ½ cup cocoa powder

1. In food processor or blender whip tofu until smooth.
2. Heat honey 60-90 seconds in microwave.
3. Pour over cocoa powder and stir until smooth.
4. Add vanilla to the mixture.
5. Add chocolate mixture to tofu and continue blending for one minute. Pour into pre-made pie shell or custard cups and chill for 1-2 hours. Garnish with banana slices.

Nutrition Facts	
Serving Size 1/2 cup (98g)	
Servings Per Container: 10	
Amount Per Serving	
<b>Calories</b> 130	Calories from Fat 15
% Daily Value *	
<b>Total Fat</b> 1.5g	3%
Saturated Fat 0.5g	4%
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 70mg	3%
<b>Total Carbohydrate</b> 21g	7%
Dietary Fiber 3g	14%
Sugars 14g	
<b>Protein</b> 8g	
Vitamin A 0%	Vitamin C 0%
Calcium 6%	Iron 15%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. If your calorie needs are much different, you adjust the amounts recommended for calories, fats, carbohydrate, and fiber.	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400 mg 2,400mg
Potassium	3,500mg 3,500mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9	Carbohydrate 4 Protein 4

## Tofu Blender Drink

4 servings

- 1 package tofu, 12 ounces
- 1 package frozen strawberries, 12 ounces, thawed but slushy
- 1 ripe banana

1. Blend ingredients in blender.
2. To thin mixture, add ½ cup apple or orange juice. Ice cubes can be added and blended to make a slushy drink.

(Recipe from Bone Up With Calcium Recipe handout, Post Rock District, K-State Research and Extension)

Nutrition Facts	
Serving Size 215g	
Servings: 4 cups of drink	
Amount Per Serving	
<b>Calories</b> 120	Calories from Fat 25
% Daily Value *	
<b>Total Fat</b> 2.5g	4%
Saturated Fat 0g	0%
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 30mg	1%
<b>Total Carbohydrate</b> 19g	6%
Dietary Fiber 2g	9%
Sugars 14g	
<b>Protein</b> 6g	
Vitamin A 2%	Vitamin C 50%
Calcium 4%	Iron 8%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. If your calorie needs are much different, you adjust the amounts recommended for calories, fats, carbohydrate, and fiber.	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400 mg 2,400mg
Potassium	3,500mg 3,500mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9	Carbohydrate 4 Protein 4

## Tips for Cooking for One or Two

Successful cooking for one or two requires careful planning, smart shopping and skillful preparation. For the person learning to cook, it is acquiring new knowledge. For experienced cooks, it may mean re-learning and re-arrangement of attitude as well as equipment.

Most recipes make four to six servings. Some can easily be cut in half, others need more adjustment. Try to use recipes with easily divisible quantities. A halved recipe won't necessarily take half the cooking time – so watch carefully.

To use part of an egg, beat the egg slightly then measure 1 ½ tablespoons for half an egg and one tablespoon for one-third. For baked items like cakes and quick breads, it's better to prepare the whole recipe. You can freeze half for later.

If you are too busy to cook or you just don't feel like preparing meals, fresh, frozen, canned and dried foods can be used to make quick, easy and nutritious meals. Remember to include a variety of foods from each of the five food groups of the Food Guide Pyramid.

Variety helps you get all essential nutrients and makes eating more fun.

Prepare meals ahead for later in the week; leftovers can often be used for another dish. When you cook extra, freeze the leftovers in single-serve containers. Casseroles, chili, soup, meat loaf and pasta dishes freeze well and taste great reheated.

You can follow a healthful diet and serve delicious meals for one or two without spending a lot of time or money. The key is planning ahead.

<http://www.allhealth.edu/womenshealth/EDU/index.html>

<http://www.agcom.purdue.edu/AGCom/Pubs/HE/HE-608.html>

<http://www.nlm.nih.gov/medlineplus/womenshealth.html>

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## Female Athletes Risk Specific Health Problems

We think of athletes as specimens of good health – typically, they are fit, strong and free of illness. Because of their healthy image, it is difficult to comprehend the fact that many highly trained female athletes and dancers suffer from a related collection of potentially fatal problems characterizing the **female athlete triad** – disordered eating, amenorrhea (the cessation of menstruation), and weakening of the bones. What factors lead to these medical problems? An examination of each problem may clarify the issue.

**Disordered eating** – defined as disturbed eating behavior that jeopardizes a person’s physical or psychological health – is prevalent in American society, and amplified in the world of athletics. Many athletic women engage in disordered eating behaviors to achieve an unrealistic weight or body image perceived as “ideal” for their sport. For a complete article on dysfunctional eating, see the November/December 1999 *Nutrition Spotlight* issue.

**Amenorrhea** was at one time believed to be a normal adaptation to strenuous physical training. It is now known that this is not true – amenorrhea is a signal that something is wrong. The prevalence of amenorrhea among premenopausal women in the US is about 2 to 5%; among female athletes, however, it may be as high as 66%. As in menopause, amenorrhea is characterized by low blood estrogen and mineral loss from bone.

**Osteoporosis.** The hormonal environment described above is often coupled with low dietary intake of bone-strengthening nutrients including calcium and phosphorus. The further addition of intense exercise by the female athlete may lead to fractures and early osteoporosis. To read more about bone loss and osteoporosis, refer to the September/October 1999 *Nutrition Spotlight* issue.

The combination of the three health problems is unique to female athletes. Individually, the problems weigh in as formidable health concerns for all women.

Reference:Sizer, F. and Whitney, E: *Nutrition Concepts and Controversies*, 8<sup>th</sup> edition, 2000. pp 384 - 385.