



The Latest in Women's Health and Nutrition

Though good nutrition is a common need for all of us to assure optimal health and longevity, our nutritional needs change as we pass through the different stages of life. In recent years science has begun accumulating a growing knowledge base for age-specific, gender-specific nutrition. This knowledge gives us more opportunity than ever before to understand the different gender-specific health risks and what we can do about them.

In the following pages we review some of the most important evidence from new scientific studies that focus specifically on women's health and nutrition needs. Though not every topic is entirely new, the contribution of each highlighted study either reinforces what is already known or creates new knowledge that is important for:



HEART HEALTH



WEIGHT MANAGEMENT



REPRODUCTIVE HEALTH



BONE HEALTH



CURB THE NATION'S LEADING KILLER WITH HEALTHIER CHOICES

Heart disease used to be thought of as a man's disease, but this is far from the truth. In reality, nearly 50,000 more American women will die annually from heart disease than men. It is six times more likely to kill women than breast cancer.

For most of us, nutrition is the single strongest tool for cardiovascular disease prevention. Minimizing exposure to "bad" food choices and maximizing the presence of "good" ones is a prudent strategy for women looking for cardio protection. For example, the benefits of omega-3's in cardiovascular health are well documented by many studies. Most recently, results published in the *European Journal of Clinical Nutrition* suggest that increased levels of omega-3s could potentially reduce a woman's risk of heart failure. It found that even one portion of omega-3 rich fatty fish per week could reduce the risk of developing heart failure by almost 30% compared with women who ate no fatty fish.¹

FACTOID:

On February 15, 2011, the American Heart Association presented new guidelines for women's heart disease risk. Scheduled for publication in the journal *Circulation*, these new guidelines are based on years of research that now clearly links a woman's heart disease risk with pregnancy complications such as pre-eclampsia, gestational diabetes or pregnancy-induced hypertension. These pregnancy-related events, added to the known risk factors of poor diet, lack of exercise, and being overweight or obese, point to a woman's increased risk of heart disease, diabetes and metabolic syndrome.



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Women are decision makers about health – from what to buy at the grocery store, to what goes on the dinner table, to what supplements the family takes to ensure adequate nutrition. As moms, wives, daughters

and sisters, too often we as women are so focused on being nurturers and caretakers for friends and family that we neglect our own health.

Women are inherently different from men – the physical, physiological as well as hormonal differences result in distinct nutritional needs for men and women. As a result, certain health conditions disproportionately impact women. For example, 75% of autoimmune conditions such as rheumatoid arthritis, lupus, multiple sclerosis, type 1 diabetes and others occur in women. Heart disease kills more women than men. Women under the age of 50 are twice as likely to have a fatal heart attack than men. Women even metabolize certain drugs differently.

The latest scientific discoveries have reinforced some of the previously existing knowledge about women's health, brought new insights and opened new doors to maximize optimal wellness for the body and mind. It is up to us to use this knowledge to enhance our health.

So, take charge! Take control of your and your family's wellness; and spread the word about health and nutrition. We can all help create a healthier world for ourselves and our families to thrive.

Whole foods and their bioactive nutrients are keys to heart health

Newly published dietary recommendations from Dr. Louise Chang (Board Certified Internal Medicine, graduate of Stanford and New York Medical College) medical editor for WebMD, focuses on “24 Foods that can save your heart.” Particularly important to women, these guidelines focus on key food groups and highlight the specific nutrients or groups of nutrients that provide the benefit. The list includes:²

Some of the “24 Foods that can save your heart”

Key Foods	Benefits
Fresh herbs	Flavor foods and deliver antioxidants
Black beans	Folic acid, antioxidants, and fiber
Red wine & grapes	Resveratrol and catechins, antioxidants for vascular health
Salmon, tuna	Heart healthy omega-3 fatty acids
Walnuts, almonds	Omega-3's, arterial anti-inflammatory effects, natural plant sterols
Soybeans	Protein, fiber and lipids (good fats)
Sweet potatoes	Low glycemic response, fiber and carotenoids, in particular lycopene
Oranges	Cholesterol fighting pectin, blood pressure benefits of hesperidin
Swiss chard	Carotenoids lutein and zeaxanthin
Carrots	Soluble fiber, carotenoids
Whole grains	Fiber, good fats (lipids), and sterols help block cholesterol absorption, lower LDL
Low-fat dairy	Calcium, potassium, blood pressure control
Cherries & Blueberries	Polyphenols, carotenoids beta carotene and lutein, fiber

How GNLD can help

GNLD Products
Carotenoid Complex®, Flavonoid Complex™, Cruciferous Plus, Tré™
Formula IV®, Formula IV® Plus, All Natural Fiber
Tré™, Flavonoid Complex™
Salmon Oil Plus™
Salmon Oil Plus™
GR² Control® Meal Replacement Protein, Nourishake®
GR² Control® Meal Replacement Protein, Carotenoid Complex
All-C™, Super C Threshold Control™
Carotenoid Complex®
Carotenoid Complex®
Tre-en-en®
GR² Control® Meal Replacement Protein, Chelated Cal-Mag®, Neo-Cal
Tré™, Flavonoid Complex™

At GNLD we know that in Mother Nature’s plan for human nutrition, the key to lifelong health, vitality and functional longevity is in the foods we eat. We strongly recommend that you eat the variety of foods mentioned above, while avoiding calorie-dense, nutrient-deficient, processed and convenience foods as much as possible. We also know that modern lifestyles make getting the right combination of good whole foods nearly impossible without the help of great whole food supplements. That’s exactly what GNLD offers.



MANAGING YOUR WEIGHT

Being overweight or obese are the largest and most daunting health challenges that confront women throughout their lives. Obesity inhibits conception, diminishes fertility, complicates pregnancies, inhibits breastfeeding, predisposes one to depression, and increases the risk of several types of cancer.³ The most recent data indicates that nearly 64% of women in the US are overweight or obese. This is the direct result of poor diet and physical inactivity and contributes to many of the health concerns impacting the population today including cardiovascular disease, hypertension, diabetes, osteoporosis and cancer.⁴ In fact, evidence from the Nurse’s Health Study, which followed 84,000 female nurses for 16 years, found being overweight or obese was the single most important predictor of developing diabetes mellitus.

The key to weight management is consuming a nutrient-rich diet of whole grains, fruits and vegetables, and lean healthy protein instead of a calorie-dense diet of fast food that contain processed fats and sugars. Increasing physical activity and reducing time spent on sedentary behaviors are also important components of weight management.

FACTOID:

- More than 1 billion people are overweight and 300 million are considered obese, according to the World Health Organization.
- 26% of the non-pregnant women in the world between the ages of 20 and 39 years are overweight and 29% are obese, according to the World Health Organization.
- A high-protein diet was more effective for weight loss than a low-fat high-carbohydrate diet, with or without exercise. It was also better at improving body composition and risk factors for metabolic syndrome, according to a 2007 Canadian study.⁵

Healthy weight during pregnancy

It is especially important that women maintain a healthy weight before becoming pregnant to reduce the risk of complications during pregnancy and ensure healthy infant weight. Most women only need to consume 300 more calories each day during their pregnancy, which can easily be obtained from a healthy protein-rich shake, fruits and vegetables, and lowfat cheese. However, many women tend to overestimate their caloric needs and as a result, gain much more than the recommended 25-35 lbs. Studies also suggest that increasing protein intake can help maintain healthy blood sugar levels thereby preventing energy slumps and nausea associated with pregnancy.

Benefits of probiotics on post-partum weight loss

Emerging science is evaluating the use of probiotics (good bacteria) in weight loss and management, with strong focus on post-partum weight loss. Last year researchers from Finland presented data at the European Congress on Obesity on the benefits of probiotic supplements on weight loss in women after childbirth. The supplements, containing *Lactobacillus* and *Bifidobacterium* were administered to pregnant women (BMI of 30+) in their first trimester. A year after childbirth, these women were found to have the lowest levels of central obesity as well as lowest body fat percentage compared to those who did not receive the supplement.⁶

More recently, data from a study conducted on 50 pregnant women found that those who experienced excessive weight gain during pregnancy had more *Escherichia coli*, *Staphylococcus*, and *Enterobacteriaceae* bacteria in their gut and fewer *Bifidobacteria* compared to women who experienced normal weight gain. Researchers believe specific probiotics are associated with higher levels of HDL-cholesterol and improved folic acid levels. *Bifidobacterium* specifically is associated with increased levels of the B-vitamin. The researchers commented that this suggests “gut microbiota composition is related to body weight, weight gain and metabolic biomarkers during pregnancy, which might be of relevance to the management of the health of women and infants.”⁷

GNLD's Acidophilus Plus™ provides an exclusive blend of five types of beneficial lactic acid-producing bacteria including *Lactobacillus* and *Bifidobacterium*. Each capsule of Acidophilus Plus is filled with 5 billion live microorganisms and protected by our exclusive Gel-Gard enteric protection system to ensure the maximum number of live bacteria are delivered to the intestines.



NUTRITION FOR REPRODUCTIVE HEALTH

The British Nutrition Foundation recently published a review of the nutritional status of women and found that many women still lack key nutrients in their diets. The authors wrote, “while improvements have occurred, intakes of key micronutrients, particularly iron, vitamin D, calcium and folate remain below recommended levels. Women’s diets are also too high in saturated fat and salt, and low in fiber, oily fish and fruits and vegetables.”⁸ These deficiencies not only impact the woman by increasing her susceptibility to chronic disease and other conditions, but also impact infant health and development.

In the latest version of the Dietary Guidelines for Americans (2010), health officials made specific nutritional recommendations for women capable of becoming pregnant or who are pregnant and breastfeeding. These include:⁴

- Consume 400 mcg per day of folic acid (from fortified foods and/or supplements) in addition to folate from a varied diet.
- Choose foods that supply heme iron, which is more readily absorbed by the body, additional iron sources, and enhancers of iron absorption such as vitamin C-rich foods.
- Consume 8-12 ounces of seafood per week from a variety of seafood types
- If pregnant, take an iron supplement, as recommended by an obstetrician or other health care provider.

Mothers have a huge influence on the health outcomes of their children and families because they are both the providers and caretakers of the family. In fact, research is highlighting the impact of the mother’s diet in the health of their children. According to the results of a study published in the *Journal of Nutrition*, the developing fetus accumulates a specific level of calcium in the womb with the aid of vitamin D. Thus if the mother is deficient in vitamin D, it may be difficult for children to achieve optimal bone health status even if they were to receive supplementation of vitamin D postnatally. Researchers suggest that “efforts to optimize maternal vitamin D status in pregnancy are needed along with maintenance in infancy rather than relying on postnatal supplementation to restore vitamin D status and bone mass.”⁹

Risk of iron deficiency is a big issue—especially during pregnancy

Maternal iron deficiency and anemia is a common issue world-wide. Almost 40% of women around the world are estimated to suffer from iron deficiency or anemia, and this has drastic health implications for their babies. Thus studies suggest that women of childbearing age and especially adolescent girls would benefit from supplementation. In fact, last year a study conducted by the Johns Hopkins Bloomberg School of Public Health found that prenatal supplementation with iron and folic acid was able to reduce infant mortality, as well as reduce the prevalence of low birth weight and maternal anemia. This was the first study of its kind to look at the long-term effects of maternal iron-folic acid supplementation and improving child survival.¹⁰

Omega-3's—critical for fetal development

Omega-3s have long been acknowledged as a key nutrient in fetal vision and brain development. Because of the critical role it plays during pregnancy, health officials continue to stress the importance of adequate omega-3 consumption. A new study published in the *Journal Of Pediatrics* confirmed the findings of other studies that the amount of omega-3 fatty acid in mom’s diet during pregnancy affects the visual function of her children.¹¹ Another study investigating the importance of mom’s prenatal dietary fatty acid status showed that mothers with the highest omega-3 status had children who showed a lower probability of childhood obesity.¹²

GNLD's Omega-III Salmon Oil Plus is a perfect choice for assuring a dietary abundance of omega-3 fatty acids. Tested and proven in human clinical trials, its highly bioactive, 8-member omega-3 fatty acids are easily absorbed and rapidly assimilated into cell membranes, displacing bad fats and reducing potentially damaging inflammatory factors. Formula IV® delivers a wide array of essential micronutrients important to women’s health, including iron, 35 mg magnesium, 400 IU of vitamin D and 400 mcg of folic acid. The combination of these two products is perfect for any woman in her reproductive years.



SUPPORTING BONE HEALTH FOR A LIFETIME

Osteoporosis, the condition of low bone mass which can lead to debilitating fractures, has long been known as a major concern for women, especially as they age. An estimated 75 million people suffer from osteoporosis in the USA, Europe and Japan alone, however, women are four times more likely to develop the condition than men. In fact, one out of every two women aged 50 and older will have an osteoporosis-related fracture in their lifetime.¹³ Thus it is very important for women to maximize bone development and strength in their premenopausal years (12-50 years old), especially during puberty when 85-90% of adult bone mass is acquired.¹⁴ Besides adequate nutrition and physical activity, supplementation with calcium and vitamin D can help support and maintain optimal bone mass.

A recent study published in the journal *Osteoporosis International* found that supplementation with calcium and vitamin D greatly improved bone development in teenage girls. The randomized placebo-controlled trial was conducted on 20 pairs of identical twins ages nine through 13 over a period of six months. The group supplemented with calcium and vitamin D showed significant increases in bone density, growth and strength, up to as much as 66%.¹⁵ However, ensuring adequate calcium and vitamin D consumption in older women is important as well. New research published in the *European Journal Of Clinical Nutrition* found that calcium and vitamin D is effective for improving bone health in osteopenic postmenopausal women as well as supporting several key hormonal and biochemical processes.¹⁶

It's never too soon or too late to start taking steps to prevent osteoporosis. GNLD has great choices to help you assure your body receives all the calcium and vitamin D your body needs. Our Chelated Cal-Mag® Tablets provide 300 mg of calcium, 150 mg of magnesium and 1000 IU of vitamin D in each recommended serving. In addition to 18 grams of high quality protein and a wide array of other important nutrients, each serving of GR² Control® Meal Replacement Protein Shakes delivers 330 mg calcium, 140 mg magnesium and 133 IU of vitamin D.

REFERENCES

1. Levitan EB, et al. Fatty fish, marine omega-3 fatty acids and incidence of heart failure. *Eur J Clin Nutr*. 2010 Jun;64(6):587-94. Epub 2010 Mar 24.
2. Chang L, et al. 24 Foods that can save your heart. WebMD; 2010 Nov. <http://www.webmd.com/heart-disease/slideshow-foods-to-save-your-heart>
3. Kulie T, et al. Obesity and Women's Health: An Evidence-Based Review. *J Am Board of Fam Med*; 2011 Feb; 24(1):75-8.
4. U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2010. 7th edition, Washington DC: U.S. Government Printing Office, Dec 2010.
5. Meckling KA, et al. A randomized trial of a hypocaloric high-protein diet, with and without exercise, on weight loss, fitness, and markers of the Metabolic Syndrome in overweight and obese women. *Appl Physiol Nutr Metab*. 2007 Aug;32(4):743-52.
6. *European Congress on Obesity*. Thursday, 7 May 2009 Kirsi Laitinen et al.
7. Santacruz A, Gut microbiota composition is associated with body weight, weight gain and biochemical parameters in pregnant women. *Br J Nutr*. 2010 Jul;104(1):83-92.
8. Ruxton CHS, et al. Women's diet quality in the UK. *Nutrition Bulletin*. 20May2010; 35(2): 126-137.
9. Finch SL, et al. Postnatal vitamin D supplementation following maternal dietary vitamin D deficiency does not affect bone mass in weanling guinea pigs. *J Nutr*. 2010 Sep;140(9):1574-81.
10. Christian P, et al. Antenatal and Postnatal Iron Supplementation and Childhood Mortality in Rural Nepal: A Prospective Follow-up in a Randomized, controlled Community Trial. *Am J of Epid*. 2009 Sep;170 (9): 1127-1136.
11. Jacques C, et al. Long-term effects of prenatal omega-3 fatty acid intake on visual function in school-age children. *J Pediatr*. 2011 Jan;158(1):83-90, 90.e1. Epub 2010 Aug 25.
12. Donahue SM, et al. Prenatal fatty acid status and child adiposity at age 3 y: results from a US pregnancy cohort. *Am J Clin Nutr*. 2011 Feb 10. [Epub ahead of print]
13. National institute of arthritis and musculoskeletal and skin diseases (NIAMS). NIH Osteoporosis and Related Bone Diseases National Resource Center. http://www.niams.nih.gov/Health_Info/Bone/Osteoporosis/default.asp
14. National Osteoporosis Foundation. Fast Facts. Washington DC. <http://www.nof.org/node/40>
15. Greene DA, et al. Calcium and vitamin-D supplementation on bone structural properties in peripubertal female identical twins: a randomized controlled trial. *Osteoporos Int*. 2011 Feb;22(2):489-98. Epub 2010 Jun 11.
16. Tenta R, et al. Calcium and vitamin D supplementation through fortified dairy products counterbalances seasonal variations of bone metabolism indices: the Postmenopausal Health Study. *Eur J Nutr*. 2010 Dec 14. [Epub ahead of print]