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Many women are under the impression that there is Little they can do protect against breast cancer. This is a fallacy... There is a plethora of clinical research on the protective benefits of food. All women are at risk of getting breast cancer. And the Longer you Live, the bigger your risk. At age 25, your chance of getting breast cancer is 1 out of 19,638. By age 40, your risk increases to 1 out of 217. As you celebrate your 65th birthday your chance of getting breast cancer is 1 out of 17. And your overall risk? Assuming you Live to age 90, your risk of getting breast cancer is 1 out of 7.¹

My mother should have lived to at least 90. She was a vibrant and exceptional woman who had been in perfect health until she developed breast cancer at age 70. She had done all the "fight" things - yearly mammograms and self breast exams. When her breast cancer spread leading to her death five years later, she was robbed of 10 to 15 years of life. While we can't prevent these consequences of living to a ripe old age, we can protect ourselves from much of the damage they cause.² In this Ask the Doctor, we're going to talk about breast cancer and how by reducing their risks women can protect themselves from this deadly disease.



Q. It seems like everyone that I know has a sister or a friend or a co-worker who has breast cancer. Are there more breast cancer cases than there used to be?

A. Yes there are, but in fairly specific ways. That big generation of Baby Boomers continues to influence the nation in ways they probably never expected. Because the US population as a whole is aging, the actual number of women who are diagnosed and who die of breast cancer each year has indeed grown. Most breast cancers occur in women over the age of 50; the average age at diagnosis is 64. And in 2011, as Baby Boomer women (baby girls born between 1945 through 1964) reach 65, the number of breast cancer cases will also continue to rise.¹

Besides age, other traditional breast cancer risks include:

- Personal or family history of breast cancer
- Smoking
- Overweight or obesity
- Prolonged estrogen exposure
- First full-term pregnancy after age 30
- Never having a full-term pregnancy
- Heavy alcohol use
- Early start of menstruation
- Late menopause.³

Research over the last decade has identified many more:

- Eating red meat-especially well done and grilled
- Eating sugar and refined carbohydrates

- Lack of exercise
- Not eating a diet high in fresh whole organic fruits vegetables and whole grains
- Stress
- Environmental toxins
- Staying up late at night
- Certain pharmaceuticals, especially Hormone Replacement Therapy,¹⁻⁵

Q. How does just living my life put me at risk of breast cancer?

A. The answer lies deep in our cells. Our body's cells are the building blocks of organs (like the heart, lungs, and brain), and tissues (such as nerves, blood, and connective tissue). To keep these tissues and organs strong, our cells divide and reproduce, replacing worn out, sick, or damaged cells with cells that are new and healthy. This is an ongoing and dynamic process.⁴

But as time goes by, some cells get larger and less able to divide and reproduce as they should. Cells start retaining harmful pigments and fatty substances. Toxins and waste products in the environment that we come into contact with begin to accumulate, and so do injuries from ultraviolet light and the by-products of metabolism. Since we're continually exposed to these hazards, our cells may start acting abnormally.⁴

All cancers begin from a single abnormal cell that begins to grow out of control. While normal cells divide only to replace worn-out or dying cells and to repair injuries, cancer cells grow and divide wildly. Instead of dying, they outlive normal cells and continue to form more abnormal cells. Although there are many kinds of cancer, they all originate from the out of control

growth of abnormal cells.⁴

Q. How can I protect my cells from these hazards and keep them from behaving abnormally? This all sounds extremely complicated.

A. Well, you're right--all cancers, including breast cancer, are highly complex diseases. It's taken decades of dedicated research and study to get us to where we are now in our understanding of how cancer begins.

Even though cancers start as a single abnormal cell, they are rarely, if ever, caused by a single risk factor. We know that exposure to one risk factor, may make us vulnerable to others.

We've discovered that some hazards are more dangerous than others. We are learning more and more every day about how certain nutrients can provide powerful protection from cancer, especially breast cancer.^{5,6} And we've also recently determined that five very common health hazards -

- Free radical formation
- Chronic inflammation
- Misguided immune responses
- Hormonal imbalance, and
- Exposure to toxins,

contribute significantly to the initiation and growth of cancer, including breast cancer.⁴⁻⁶ But without a doubt, one of the most exciting and encouraging findings to date is that by simply adding seven nutrients to our diet each day, we gain powerful protection from breast cancer. Because these seven nutrients --

- Green tea
- Maitake mushrooms

- Grape seeds
- Turmeric
- Diindolylmethane, or DIM for short
- Vitamin D, and
- Calcium D-glucarate

are able to protect our cells from much of the damage caused by the five common breast cancer health hazards.

Q. How exactly do these nutrients prevent or kill breast cancer cells?

A. Many of the seven nutrients work to prevent breast cancer by eliminating excess estrogen. While we need some estrogen to keep us healthy, excess estrogen can cause breast tumors to grow bigger, stronger, and more deadly.^{2,3}

One big reason why obesity is associated with an increased risk of breast cancer is because fat cells produce estrogen. After menopause, fat becomes the primary site where estrogen is manufactured in our bodies. Obviously, the more fat you have; the more estrogen your body will produce.^{2,3,7}

It is also a troubling fact of modern life that we are continuously exposed to cancer-causing chemicals and toxins. These toxins come in part from contaminants in the food we eat and pollutants in the air we breathe.^{5,6} Many of the seven nutrients help our bodies get rid of harmful toxins, while others block their entrance.

White food as medicine is a pretty far-out concept in modern medicine, it's the backbone of traditional medicine - the type of medicine utilized by more than 85% of the world's population.⁸ Despite the fact that these seven nutrients have long history as protectors against breast cancer in traditional medicine, most American women have either never heard of them, or only know them by name. That being the case, let's take a look at each one:

Turmeric



Ounce for ounce, you can: find a more breast cancer protective plant than turmeric root. Its iridescent bright-orange pigment has long been used as a natural food coloring and spice; turmeric is one of the principle ingredients in curry powder.

While turmeric is known more for its culinary rather than health benefits, it's not for lack of effort: Turmeric has almost an embarrassment of riches in the form of powerful plant chemicals to protect women against breast cancers.⁹ Research has shown that turmeric:

- blocks entry of breast cancer causing toxins into the body
- inhibits breast cancer cell proliferation
- shuts off new blood vessel growth in breast cancer tumors
- prevents tumors from invading into the surrounding tissues
- causes apoptosis or cancer cell death
- inhibits over-expression of COX-2 enzymes in breast cancer cells
- increases the effectiveness of chemotherapy and protects against damaging side effects.¹⁰⁻¹³

Green tea



Women who drink green tea regularly have significantly lower rates of breast cancer. Japanese women who drink lots of green tea have very low rates of the disease. And if women who frequently drink green tea do end up with breast cancer, they typically have less aggressive tumors and a much better

prognosis.¹⁴

One of green tea's active ingredients responsible for breast cancer inhibition is epigallocatechin-3 gallate or EGCG. This all-natural plant compound contains powerful antioxidants and anti-inflammatories.¹⁵ Antioxidants protect us from naturally occurring unstable by-products called free radicals. Because they are missing at least one unpaired electron, free radicals scavenge and steal electrons from stable molecules. Normally, our bodies can handle free radicals. But too many can overwhelm our cells, damaging their membranes and the genetic material DNA.¹⁶

Inflammation is another natural and-needed bodily process. If you fall and sprain your wrist, blood rushes to the injury causing the immediate warmth, and swelling of inflammation. The blood provides support and brings nutrients to the damaged muscles; once they have healed the extra blood supply is no longer needed and the inflammation goes away.¹⁷

Sometimes, however, inflammation occurs without any evident injury. The body sends blood to a joint or organ, mistakenly believing damage has occurred at the site. Because no injury has occurred, the inflammation persists and causes destruction of the surrounding tissues that provides support and brings nutrients to damaged muscles or infected tissues.¹⁷ Inflam-

mation has also been shown to speed up the growth of tumors and increase their ability to invade into surrounding tissues. Green tea's EGCG mops up excess free radicals and resolves unneeded inflammation.^{15,18,19}

Maitake mushrooms

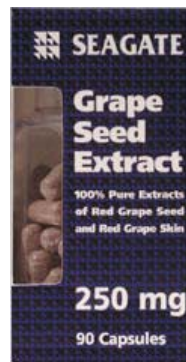


For thousands of years, maitake mushrooms have been linked to good health in those who eat them. Called "dancing mushrooms" (possibly due to their wavy, rippling appearance or possibly due to the little dance of joy mushroom hunters perform when they find them in the

woods), maitakes contain an important compound called D-fraction. Not only does the D-fraction in maitake mushrooms stop the growth of breast cancer tumors, it also alerts and stimulates powerful immune cells to fight the disease. Maitake also inhibits the metastasis, or spread, of breast cancer elsewhere in the body.²⁰⁻²²

Because of this success, maitake is now being used in clinical trials of women with breast cancer. One study reported significant improvement of symptoms, including reduction of the tumor when maitake was given to breast cancer patients who were also receiving standard chemotherapy.²³

Grape seed



Like all fruits, grapes are filled with super healthy plant chemicals and compounds. They're also very sweet and tasty and one of the most popular fruits in the United States. While seedless varieties might make grape eating more appealing for some of us, researchers have discovered that much of the grape's goodness is actually contained in the tiny seeds. The skins contain resveratrol which is extremely protective as well.

Aromatase is an enzyme that helps make estrogen. As we stated earlier, high levels of estrogen are known to fuel breast cancer cell growth. Some of the most promising chemotherapy drugs are the new aromatase inhibitors and inactivators - less aromatase, less estrogen. And less estrogen means breast cancer tumors that are unable to divide, grow, spread, or progress.^{5,6}

Researchers have found that grape seed extract towers aromatase levels, though not as strongly as the synthetic chemotherapy drugs.²⁴⁻²⁷ However, cancer researchers are so intrigued by grape seed extract's ability to lower aromatase that they are conducting a clinical trial to study its effect in healthy, post menopausal women at risk for breast cancer. They'll take a grape seed extract supplement to see how well it blocks estrogen production. And the information they find may help women everywhere.²⁸

Diindolylmethane (DIM)



This powerful nutrient comes from broccoli, the much disparaged green vegetable. Diindolylmethane, or DIM for short, has a direct effect on the hormone estrogen and how it is metabolized. After estrogen completes its desired activity, it returns to the bloodstream to be broken down, or metabolized, in the liver.⁷

Like all substances that the liver metabolizes, estrogen is broken down into "metabolites" through certain pathways. Researchers have found that estrogen can be broken down in two enzymatic pathways in the liver, resulting in two very different metabolites.²⁹

One pathway, the 2-hydroxy pathway, results in beneficial or "good" estrogen metabolites. These "good" estrogen metabolites are released into the bloodstream where they account for many of the benefits of estrogen, including the prevention of heart disease and strong, healthy bones.^{29,30}

Estrogen broken down in the "bad" estrogen metabolism pathway - the 16-hydroxy pathway - results in "bad" estrogen metabolites that are linked to many health problems, including breast cancer.^{29,30}

DIM shifts the metabolism of estrogen from the "bad" 16-hydroxy pathway to the "good" 2-hydroxy pathway and drastically reduces our risk of breast cancer.³⁰⁻³⁴

Vitamin D

Most of us know that vitamin D is manufactured in our skin when we're outside in the sun. We probably also know that vitamin D is needed for calcium absorption and is essential in the formation of bones and teeth. But vitamin D's ability to protect us from cancer by preventing the overproduction of cancer cells is a fairly



new finding.³⁵

Researchers at Birmingham University and St. George's Hospital in England recently discovered that breast tissue contains an enzyme that activates vitamin D. Levels of the enzyme are elevated in breast tumors - suggesting the vitamin is produced to try to combat the spread of cancer.³⁶

Previously it was thought that the active form of vitamin D-cholecalciferol, which is a potent anti-cancer agent - was only made in the kidney. The researchers think the presence of cholecalciferol in breast tissue is part of the breast's inborn natural immune response to cancerous tumors.³⁵⁻³⁸

Calcium D-Glucarate



In the liver, excess estrogens and other toxins are bound or attached to a chemical named glucuronic acid. Once bound, estrogen is deposited in the bile and eventually eliminated in the stool.⁷

However, an enzyme called beta-glucuronidase can break this bond between estrogen and glucuronic acid. When this happens,

estrogen is released from its bond, capable of causing harm once more. Increased beta-glucuronidase activity is associated with an increased risk for various cancers, particularly hormone-dependent cancers like breast cancer.³⁶

Fortunately, scientists have discovered that a natural substance found in foods, calcium D-glucarate or CDG can stop the activity of beta glucuronidase. CDG keeps the harmful estrogen bound to glucuronidase. While COG is found in fruits and vegetables, the amounts may not be sufficient to maintain effective levels to stop beta-glucuronidase.

CDG has been shown in experimental studies to significantly stop breast cancer growth.³⁹⁻⁴¹

Q. I know I can buy broccoli, grapes, and green tea from the grocery store, but what about the other nutrients?

A. Actually, the best way to take the nutrients is in supplements. This is a much more convenient method, too. That's because if you wanted to get all of the benefits of DIM from food, for example, you'd

need to eat two pounds of broccoli each day! And getting the proper amount of grape seeds would require eating several pounds of grapes each and every day, as well.⁴²

When shopping for the seven nutrients in a supplement, be sure to look for standardized nutrients and manufacturers with good reputations.

Q.. My sister-in-law has breast cancer and when she hears information on prevention and protection from the disease, she feels responsible for developing the disease.

A. Your sister-in-law has nothing to feel responsible about. She didn't ask for this. She's done the very best she could. And so did my mom! Women with breast cancer must not use this information to beat themselves up. They have much more important things to do than needlessly ponder about past events. What is important is to learn as much as you can about ways to protect yourself from breast cancer and start doing them now. If you have breast cancer, these same techniques--simple diet and lifestyle changes and certain nutritional supplements--can dramatically lower your chances of a recurrence and improve your chances of survival with some.

My book, Waking the Warrior Goddess: Dr. Christine Homer's Program to Protect Against & Fight Breast Cancer provides even more information on how to fight and protect against breast cancer.

One important last note. Please understand that none of these seven nutrients has been shown to cure breast cancer. Nutritional supplements are simply that: supplements to food, medication, and treatments. They must not replace surgery, chemotherapy, or radiation - or any other treatments for breast cancer. The very best health outcomes (like living a long healthy life) occur when women work with their physicians to meet the goals of treatment, including the defeat of breast cancer!



References

1. The United States Census Bureau. The 65 Years and Over Population. Accessed on February 9, 2005. Available at: <http://w.m.census.gov/prod/2001pubs/c2kbrO10.pdf>
2. American Cancer Society. Breast Cancer Fact Sheets. Accessed on January 24, 2005. Available at: <http://www.cancer.org/downcads/PRO/BreastCancer.pdf>.
3. American Cancer Society. What is breast cancer? Accessed on January 24, 2005. Available at: http://www.cancer.org/docroot/CRI/contentVCR1_2_2_1X_What_is_breast_cancer_5.asp?sitearea-
4. Guyton AC, Hall JE. Control of cell growth and cell reproduction. In: Textbook of Medical Physiology. 10th Ed. Philadelphia, Pa: W.B. Saunders Company; 2000: 17-37.
5. Key T 5, Verkasalo P K, Banks E. Epidemiology of breast cancer, *Lancet Oncol.* 2001;2:133-40.
6. Sarkar DK, Liehr JG, Singletary KW. Epidemiology of breast cancer. *Lancet Oncoel.* 2001;2:133-40.
7. Porth CM. Female reproductive system. In: Pathophysiology: Concepts of Altered Health States. 5th ed. Philadelphia, Pa: Lippincott; 2002: 983-994.
8. World Health Organization, Traditional medicine. Accessed on January 25, 2005. Available at: <http://www.who.int/mediacentre/factsheets/fs134/en/>.
9. Chen J, Wanming D, Zhang D, Liu O, Kang J. Water-soluble antioxidants improve the antioxidant and anticancer activity of low concentrations of curcumin in human leukemia cells. *Pharmazie.* 2005;60:57-61.
10. Holy JM. Curcumin disrupts mitotic spindle structure and induces micro nucleation in MCF-7 breast cancer cells. *Mutat Res.* 2002 Jun 27;518(1):71-84.
11. Shao ZM, Shen ZZ, Liu CH, et al. Curcumin exerts multiple suppressive effects on human breast carcinoma cells. *Int J Cancer.* 2002;98:234-40.
12. Choudhuri T, Pal S, Aggarwal ML, Das T, Sa G. Curcumin induces apoptosis in human breast cancer cells through p53-dependent Bax induction. *FEBS Lett.* 2002;512:334-40.
13. Ramsewak RS, DeWitt DL, Nair MG. Cytotoxicity, antioxidant and anti-inflammatory activities of curcumins from *Curcuma Tonga*. *Phytomedicine.* 2000;7:303-8.
14. 114. The Cancer Project. Cancer prevention and survival - breast cancer. Accessed on January 31, 2005. Available at: http://www.cancerproject.org/sun/ival/Cancer_facts/breast.php.
15. Pianetti S, Guo S, Kavanagh KT,
16. Sonenshein GE. Green tea polyphenol epigallocatechin-3 gallate inhibits Her-2/neu signaling, proliferation, and transformed phenotype of breast cancer cells. *Cancer Res.* 2002;62:652-5.
17. Valko M, Izakvic K, Mazur K, Rhodes CJ, Telser J. Role of oxygen radicals in DNA damage and cancer incidence. *Mol Cell Biochem.* 2004;266:37-36.
18. Sommers C. Immunity and inflammation. In: Porth CM. Pathophysiology: Concepts of Altered Health States. 5th ed. Philadelphia, Pa: Lippincott; 2002: 189-212.
19. Inoue M, Tajima K, Mizurani M. et al. Regular consumption of green tea and the risk of breast cancer recurrence: follow-up study from the Hospital-based Epidemiologic Research Program at Aichi Cancer Center
20. (HERPACC), Japan. *Cancer Lett.* 2001;167:175-82.
21. Kavanagh KT, Hafer LJ, Kim DW, et al. Green tea extracts decrease carcinogen-induced mammary tumor burden in rats and rate of breast cancer cell proliferation in culture *J Cell Biochem.* 2001;82:387-98.
22. Borchers, A.T., et al. Mushrooms, tumors and immunity. *Proc Soc Exp Biol Med.* 221(4):281-93, 1999.
23. Adachi Y, Okazaki M, Ohno N, Yadomae T. Enhancement of cytokine production by macrophages stimulated with (1->3)-beta-D-glucan, grifolan (GRN), isolated from *Grifola frondosa*. *Biol Pharm. Bull.* :1994;17:1554-60.
24. Nanba H, Kubo K. Effect of Maitake D-fraction on cancer prevention. *Ann N Y Acad Sci.* 1997;833:204-207.
25. Kidd PM. The use of mushroom glucans and proteoglycans in cancer treatment. *Altern Med Rev.* 2000;5:4-27.
26. Kim H, Hall P, Smith M, Kirk M, Prasain JK, Barnes S, Grubbs C. Chemoprevention by grape seed extract and genistein carcinogen-induced mammary cancer in rats is diet dependent. *J Nutr.* 2004;134:34458-3452S.
27. Sharma G, Tyagi AK, Singh RP, Chan DC, Agarwal R. Synergistic anti-cancer effects of grape seed extract and conventional cytotoxic agent doxorubicin against human breast carcinoma cells. *Breast Cancer Res Treat.* 2004;85:1-12.
28. Eng ET, Ye J, Williams D, Phung 8, et al. Suppression of estrogen biosynthesis by procyanidin dimers in red wine and grape seeds. *Cancer Res.* 2003;63: 85:6-22.
29. Agarwal C, Sharma Y, Zhao J, Agarwal R. A polyphenolic fraction from grape seeds causes irreversible growth inhibition of breast carcinoma MDA-MB468 cells by inhibiting mitogen-activated protein kinases activation and inducing G1 arrest and differentiation. *Oncol Rep.* 2000 Jul;6(7):2921-30
30. IH636 Grape Seed Extract in Preventing Breast Cancer in Postmenopausal Women at Risk of Developing Breast Cancer National Cancer Institute clinical study. phase I trial is studying the side effects and best dose of IH636 grape seed extract in preventing breast cancer in postmenopausal women at risk of developing breast cancer. Accessed February 23, 2005. <http://www.clinicaltrials.gov/show/NCT00100893>.
31. Lord RS, Bongiovanni B, Bralley JA. Estrogen metabolism and the diet-cancer connection: rationale for assessing the ratio of urinary hydroxylated estrogen metabolites. *Altern Med Rev.* 2002;7:112-29
32. Muti P, Bradlow HL, Micheli A, et al. Estrogen metabolism and risk of breast cancer: a prospective study of the 2:16 alpha-hydroxysterone ratio in premenopausal and postmenopausal women. *Epidemiology.* 2000;11:635-640.
33. Meilahn EN, De Stavola 3, Allen DS, et al. Do urinary oestrogen metabolites predict breast cancer? Guernsey III cohort follow-up. *Br J Cancer.* 1998;78:1250-1255.
34. Kabat GC, Chang CS, Sparano JA, et al. Urinary estrogen metabolites and breast cancer: a case-control study. *Cancer Epidemiol Biomarkers Prev.* 1997;6:505-509.
35. Key TJ, Wang DY, Brown JB, et al. A prospective study of urinary oestrogen excretion and breast cancer risk. *Br J Cancer.* 1999;78:1615-1619.
36. Lord RS, Bongiovanni B, Bailey JA. Estrogen metabolism and the diet-cancer connection: rationale for assessing the ratio of urinary hydroxylated estrogen metabolites. *Altern Men Rev.* 2002 Apr;7(2):112-29.
37. Welsh J. Vitamin D and breast cancer: insights from animal models. *Am J Clin Nutr.* 2004;80:1721S-4S.
38. Banwell CM, O'Neill LP, Uskokovic MR, Campbell MJ. Targeting 1 alpha,25-dihydroxyvitamin D3 antiproliferative insensitivity in breast cancer cells by co-treatment with histone deacetylation inhibitors. *J Steroid Biochem Mol Biol.* 2004;89-90:245
39. Berube S, Diorio C, Verhoeve-Oftedahl W, Brisson J. Vitamin D, calcium, and mammographic breast densities. *Cancer Epidemiol Biomarkers Prev.* 2004;23: 1466-1477.
40. Wietzke CA, Ward EC, Schneider 3, Welsh J. Regulation of the human Vitamin D(3) receptor promoter in breast cancer cells is mediated through Sp1 sites. *Mol Cell Endocrinol.* 2005;230:59-58.
41. Heerdt AS, Young CW, Borgen PI. Calcium gluconate as a chemopreventive agent in breast cancer. *Isr J Med Sci* 1995;31:101-105.
42. Walaszek Z, Hanausek Sherman U, Adams AK. Antiproliferative effect of dietary glucarate on the Sprague-Dawley rat mammary gland. *Cancer Lett* 1990;49:51-7.
43. Walaszek Z, Hanausek-Waiaszek N, Minton JP, Webb TE. Dietary glucarate as anti-promoter of 7,12-dimethylbenz [a] anthracene induced mammary tumorigenesis. *Carcinogenesis* 1986;7: 1463-2466.
44. Zeligs M. DIM for women - achieving optimal estrogen metabolism. In: AU About DIM. New York, NY: Avery Books, 1999: 29-44.