

What does the word environment mean?

The environment includes everything outside our bodies that impacts our health. Included in this broad definition are toxins and chemicals in the external environment, lifestyle choices like the food that we eat and the amount of physical activity that we engage in, and social factors such as where we live, work, and play.

How do scientists find out what causes breast cancer?

Researchers have a difficult task finding direct causes of cancer. Sometimes the knowledge that something raises the risk of breast cancer comes simply from observing that certain groups of people, such as workers in certain types of jobs, have higher rates of the disease. Sometimes we can rely on experimental studies. Many of the established risk factors for breast cancer are related to greater lifetime exposure to the hormone estrogen. The earlier in life a girl gets her period and the later in life that menopause begins, the longer the window for estrogen exposure and the greater the risk that breast cancer will develop.

Some chemicals in the environment behave like hormones. They are called endocrine disruptors. But the fact of the matter is that very few chemicals have been well tested for their ability to either interfere with hormones or to damage genes that are involved in the development of cancer. Because of gaps in knowledge, researchers and doctors have to make informed judgments using what facts they have. Sometimes these judgments are based on whether or not the chemical in question looks like one that we know causes cancer in animals or humans. The National Toxicology Program and the World Health Organization review and conduct research in order to assess known or possible cancer-causing substances.

What substances or factors in the environment increase the risk of breast cancer?

The following factors have been shown to increase the risk of breast cancer:

- Obesity;
- Lack of physical activity or exercise;
- Drinking two or more glasses of alcohol a day for women, with the risk increasing as the amount of alcohol that a woman drinks each day increases;
- Diets low in fruits and vegetables;
- Diets high in well-done, smoked, fried or barbecued meats;
- Exposure of the young chest to ionizing radiation, such as radiation therapy to the chest for another cancer, or repeated diagnostic tests, especially those given to children, adolescents or young adults;
- Estrogen from multiple sources, including a woman's own body, medicines such as hormone replacement therapy and birth control pills, and from other medicines or environmental agents that can alter the body's production of hormones;
- Heterocyclic amines found in polluted air and water, tobacco smoke, diesel exhaust, combustion products of wood chips and rubber, and formed when meat or fish are cooked at high temperatures;
- Certain occupations – medicine, nursing, metal-plating, chemistry, farming, dry cleaning, and working with microelectronics.

Other suspected environmental risks include:

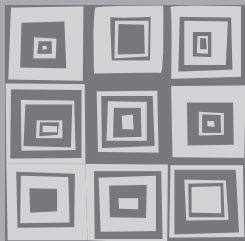
- Secondhand tobacco smoke;
- Polycyclic aromatic hydrocarbons (PAHs) found in diesel and other fuel fumes, and in smoked, grilled or charbroiled meats;
- Substances used to make plastics, including polyvinyl chloride (PVC) and phthalates and those used to make materials fire proof and stain-resistant;
- Hormone-like substances in some foods, such as growth hormone used in the meat industry or in dairy cows to increase milk production, or placenta containing ingredients added to some personal care products that have been widely used in the African American community;
- Certain pesticides and heavy metals;
- Electromagnetic fields from power lines and electrical appliances;
- Certain solvents and degreasing agents found in household cleaners.



Breast Cancer and the Environment

Can we prevent breast cancer?

Currently, we do not know how to prevent breast cancer in any single individual. But, we do know things that people can do to reduce their chances of getting the disease, including limiting exposure to certain substances and engaging in healthy activities.



What is the precautionary principle?

The precautionary principle says that we are better safe than sorry when it comes to the chemicals and toxins that are permitted in the world around us. A manufacturer should have to prove that the chemicals it produces or uses are safe for human use. Many chemicals made and used in our country are not adequately tested to determine their effects on human health. Some government agencies assume the safety of certain chemicals because they have been used for a long time, while some materials, such as beauty products, remain exempt from regulation.

What can I do for myself, my family, and my community?

Eating well and exercising provide many benefits to health, including reducing risks of heart disease, diabetes and cancer. To lower the risk of breast cancer, we suggest you start by observing the six P's of healthy living and disease prevention.

1. Pursue knowledge. Read, read, read. Ask questions of the experts. Educate yourself on environmental issues and alternatives to the toxic chemicals in many household and personal care products. Share your knowledge. Help educate your family members, friends, and co-workers.

2. Prepare healthy foods in a healthy manner. Watch your portion size. Eat a diet high in fresh fruits and vegetables. Buy organic if possible. Avoid eating meats that are well-done, fried, smoked or barbecued. The label "microwave safe" on plastic containers only tells us that the container will not melt. In fact, the heat could release harmful substances from the plastic container into your food. Instead, use glass or ceramic dinnerware.

3. Practice healthy living. Physical activity alone cannot prevent breast cancer, but it is undoubtedly good for cardiovascular health. Regular exercise, such as a brisk walk a day, also may help lower the risk of breast cancer by reducing weight in those with weight problems. Drink alcohol only in moderation (one drink a day or less). Discuss medical procedures, such as x-rays and CT scans, with your physician. Often, the need for the test is greater than the chance of harm, but it never hurts to discuss the alternatives with your physician when he or she is ordering a test for you. Do not use hormone replacement therapy except for short periods of time if it is absolutely necessary.

4. Purchase healthy products including food, cosmetics, household cleaners and pesticides. Look under your kitchen sink and in your bathroom. Also, check for labels on paints, building supplies, carpeting, flooring, and other products certifying that these products are made from recycled or renewable materials and are safe for the environment.

5. Promote healthy choices in your community. Push for changes in the way household and personal care products are labeled and sold. Write your congressman and senator about the need for stronger legislation on the environment. Reduce the use of pesticides and fertilizers in your gardens and on your lawns. Since children are especially vulnerable, advocate the use of less toxic chemicals in the areas where kids learn and play.

6. Patronize healthy businesses. Eat only at non-smoking restaurants. Use environmentally conscious cleaning and pest management companies. If you are building or renovating a home, explore options in environmentally friendly architecture and building materials.

Where can I find more information?

Center for Environmental Oncology
University of Pittsburgh Cancer Institute
412-623-3375
www.environmentaloncology.org

Collaborative on Health and the Environment
www.healthandenvironment.org

Program on Breast Cancer and Environmental Risk Factors
Cornell University, College of Veterinary Medicine
www.envirocancer.cornell.edu

Susan G. Komen Breast Cancer Foundation
www.komen.org

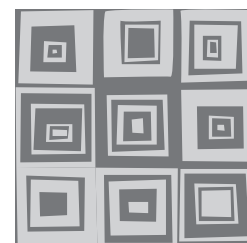
Susan G. Komen Breast Cancer Foundation Pittsburgh Affiliate
www.pittsburghraceforthecure.org

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