



Breast Cancer and Environment – Peer Education Tool Kit Zero Breast Cancer – Adolescent Education Project

Breast Cancer Questions and Factors, Environmental Risk Issues, and Health Tips Zero Breast Cancer – Adolescent Education Project (Marin County, California)

Did You Know?

In California, the average woman has a one in eight chance of developing breast cancer over her lifetime. A girl's developing breasts may be more vulnerable to environmental exposures during her teen years. Only 5-10% of breast occurs because of an *inherited* flaw in specific genes involved in breast cancer. It is possible (but rare) for men to develop breast cancer. The majority of women who develop breast cancer have few known risk factors.

What is Breast Cancer?

Breast cancer begins when cells in the milk-producing structures in the breast divide and grow out of control. When cells multiply over time without any order, they can form a lump, or *tumor*. Some breast tumors are harmless or *benign*. Tumors that spread and invade surrounding tissue are called *invasive* breast cancers. No one knows exactly what causes breast cells to become cancerous. Several factors may work together.

What are some of the known risk factors for breast cancer?

Having one or more of the following risk factors does not necessarily mean that you will develop breast cancer. Specific healthy behaviors may reduce overall risk. Other factors are random or less controllable.

Factors that may Reduce Breast Cancer Risk

- Regular exercise starting in the teen years
- Eliminating exposure to tobacco smoke
- Avoiding or limiting daily alcohol use
- Medical therapies for high-risk individuals
- Maintaining a normal adult weight
- Breastfeeding after childbirth

Factors that are known to Increase Breast Cancer Risk

Major: Family history of breast and ovarian cancer
Having a personal history of breast cancer
A biopsy that shows abnormal breast cell growth
Hereditary mutation (mistake) in specific genes

Other: Younger age when menstrual periods begin
Older age when menstrual periods end
Full term pregnancy (childbirth) after age 30

Dietary factors can *modulate* the effects of cancer causing agents by working to repair cell damage. A diet rich in plant-based foods (whole grains, fruits, and vegetables) helps to support a healthy immune system overall.

What should I know about environmental exposures that are suspected to play a role in breast cancer?

Specific environmental factors are being studied for their *possible* links to breast cancer earlier in life. Exposures to cancer causing substances that are thought to influence lifetime breast cancer risk include: second-hand tobacco smoke, moderate to excessive alcohol use, and chemicals that can mimic estrogen. Synthetic chemicals present in personal care products and manufactured goods surround us. For example, Butyl Benzyl Phthalates are a class of chemical compounds used to manufacture soft plastics and some cosmetics. Scientists suspect that BBP phthalates may promote breast cancer in the very early stages. Researchers are trying to learn more about environmental exposures and their effect on cancer related genes. Meanwhile, it makes sense to use a precautionary approach to exposures that are identified now as *suspected*.

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(*Sources: 1. National Toxicology Program, <http://ntp-server.niehs.gov> 2.NIEHS Breast Cancer and Environment Research Centers; 3.Third National Report on Human Exposures to Environmental Chemicals-2005, U.S. Centers for Disease Control)



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What are some things I can do about *suspected* environmental exposures and breast cancer risk?

Be aware of your everyday exposures, read labels, and use caution with *suspected* exposures, for example:

- Avoid re-using clear plastic (polycarbonate) water bottles that have been sitting in the sun or absorbing heat
- Use opaque bottles made with the plastics PET, or polyethylene, and store sport bottles in a cool place.
- Be aware of ingredients in cosmetics and personal care products (check the list at www.safecosmetics.org)

What do we know about cancer incidence in Marin County?

Bay Area breast cancer rates are high in both Marin *and* San Francisco counties. Scientists, community agencies, and Zero Breast Cancer are actively researching this puzzle. Some of the risk factors associated with breast cancer (e.g. later age of first live birth) are common to a large segment of women who live in Marin County. There is no specific evidence to date that exposures in the Bay Area environment itself are causal. The Bay Area Breast Cancer and Environment Research Center, The Buck Center for Age Research, and the Marin County Department of Health Services are looking for clues to explain Marin’s higher incidence. There are approximately 240 estimated new cases of *invasive* breast cancer in Marin County each year. Most of the Marin women (and men) who have breast cancer are living longer because of newer medical advances.

How does breast cancer risk change over time? What if you inherit a known genetic risk factor?+

When you are under age 25, or if you are male, your risk is less than 1%. By the time a woman is 85, she has a “one in seven” chance of developing breast cancer in this region. If you inherit a defect related the breast cancer genes (BRCA-1; BRCA -2) your risk is significantly higher. Genetic counselors are available to help.

What steps can I take regarding breast cancer risk for myself now, and over the next ten years ?+

- Eliminate known environmental exposures such as tobacco and second-hand smoke. Limit alcohol use.
- Eat healthy meals and snacks that include more fruits and vegetables and fewer saturated or trans- fats
- Know your family history of cancer and breast cancer – consult with your doctor or healthcare provider
- Exercise regularly – that means an average of 30 minutes of physical activity on most days of the week
- Girls - Learn about breast self exams and get annual breast exams from a doctor, beginning at age 20
- Avoid obesity in your adult years – aim to maintain a normal range of weight in relation to your height
- Be alert to *suspected* chemical exposures and look for safer alternatives in products you use everyday.

What is my community doing about this issue now?

Many hospitals, clinics and community programs provide information, treatment and support for persons affected by breast cancer. The Marin Cancer Institute (Marin General Hospital), Kaiser Permanente, and the American Cancer Society help with services for this disease. Zero Breast Cancer’s mission is to find the causes of breast cancer through community participation in the research process. The Marin Women’s Study (MCDHS) is collecting data. Cancer research institutions monitor statistics and evaluate scientific evidence. Several groups are working to change laws and regulations to protect the community’s environmental health.

How can I make a difference for others?

- Keep a copy of your Personal Action Plan. Change one health habit that can also reduce breast cancer risk.
- Stay informed on this topic. Visit one of the information resources listed below.
- Share and discuss the information from today’s presentation with a friends and or family members.
- Volunteer your time to local organizations that are dedicated to breast cancer research and prevention



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Breast Cancer support programs for families: The Marin Cancer Institute -Marin General Hospital
Kaiser Permanente Medical Center
UCSF Comprehensive Cancer Center, Cancer Risk Program

Where can I find more information about breast cancer, environmental factors and health tips?

Zero Breast Cancer: www.zerobreastcancer.org

Northern California Cancer Center: www.nccc.org

National Institute of Environmental Health Sciences: <http://www.niehs.nih.gov>

Bay Area Breast Cancer and Environment Research Center: www.bcerc.org

Marin County Department of Health and Human Services: www.co.marin.ca.us/depts/HH/main/index.cfm

National Cancer Institute: www.cancer.gov

Cornell University: <http://envirocancer.cornell.edu>

National Institutes of Health, National Library of Medicine: www.nlm.nih.gov

American Cancer Society: www.cancer.org

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