

BPA and Breast Cancer

You've heard of the toxic chemical bisphenol A (BPA), but did you know it's linked to breast cancer and can interfere with chemotherapy treatment? Here's a primer on BPA and breast cancer, including tips on reducing your exposure and making sure there's less of this chemical in our environment.

What Is BPA?

One of the most pervasive chemicals in modern life, BPA is a component of polycarbonate plastic used to make baby bottles, water bottles and food storage containers, and of epoxy resins used to line metal food and infant formula cans. It is found in air, dust and waterways—and in Americans of all ages, including newborns. More than 2 billion pounds of BPA are produced in the United States each year, and several times more globally. Worldwide, BPA generates an estimated \$1 million a day for manufacturers including Bayer, Dow and Sunoco.

BPA was tested in the 1930s as a pharmaceutical synthetic estrogen, but was abandoned in favor of another synthetic estrogen, diethylstilbestrol (DES). In the 1950s polymer scientists rediscovered BPA, and it soon became an industry mainstay as the building block of polycarbonate plastic and epoxy resins.

Main Routes of BPA Exposure

Our greatest exposure to BPA is through food and beverages. Because BPA is an unstable

the Rizzo report



photo: Irene Young

by *Jeanne Rizzo, R.N.*
President and CEO

While running errands on a recent Saturday, I came upon a huge crowd dressed in pink, walking for breast cancer awareness. Each walker had dedicated time to fundraise, prepare and show up for this event, no doubt because of a direct connection to this all-too-common disease—as a survivor, or as a daughter, son, parent, relative or friend of someone with breast cancer. They showed up because it mattered.

For me, as president of the Breast Cancer Fund and someone who has supported too many friends through the devastation of breast cancer, what matters most is working toward a day when these walkers will spend their Saturday on happier pursuits; when we won't need a Breast Cancer Awareness Month; when my job will be obsolete—because we have uncovered and eliminated the environmental causes of the disease and stopped it before it starts.

Each October during Breast Cancer Awareness Month, we mostly hear that what matters is early detection, improving treatment and finding a cure. All very important, to be sure. But when we know that no more than 1 in 10 women with breast cancer has a genetic history of the disease, we have a moral imperative to prevent it, sparing hundreds of thousands the agony of ever having to receive that life-changing diagnosis.

That's what we do at the Breast Cancer Fund. We focus on prevention. We aggregate the scientific evidence linking environmental exposures and breast cancer, and what emerges from the science is clear: Toxic chemicals and radiation in our everyday environment contribute to the high rates of breast cancer. Our path forward is also clear: We must work to reduce our exposures by taking individual action, demanding corporate accountability and crafting good public policy.

When virtually every American has been touched by breast cancer, we are long past the need to raise awareness. Only through a commitment to primary prevention will we reach a time when fewer people are diagnosed with breast cancer. Help me spread the word this Breast Cancer Awareness Month that, perhaps more than anything else, prevention matters.

*Help me spread the word this
Breast Cancer Awareness Month
that, perhaps more than anything
else, prevention matters.*

Yours very truly,

P.S. Does prevention matter to you? Join our Breast Cancer Awareness Month Prevention Matters campaign (see back cover). Also, consider becoming a Gathering Momentum sustainer. Visit www.breastcancerfund.org/gatheringmomentum.

prevention in action



BPA Industry Caught Scheming

Defenders of BPA—the synthetic estrogen linked to breast cancer and birth defects that’s used in plastics and food-can lining—created their own public relations nightmare when damning notes from a May 28 industry PR strategy session were leaked to the *Washington Post* and *Milwaukee Journal Sentinel*.

The leaked notes included industry’s decision to use “fear tactics” to scare the public into opposing efforts to restrict the chemical’s use, and described the “holy grail” of spokespeople as “a pregnant young mother who would be willing to speak around the country about the benefits of BPA.” The notes go on to say that “legislatively, the committee is focusing on [defeating bills in] Connecticut and California... [by] befriending people that are able to manipulate the legislative process.”

These pricey spin efforts haven’t been enough to stop legislation to protect people from BPA. Connecticut, Minnesota, Chicago and three New York counties have passed bans on some uses of the chemical, and California and Congress are considering BPA ban bills. Visit www.breastcancerfund.org/BPAAct for more information.



Victory! Toxic Cosmetic Ingredients Made Public

In June, the California Department of Public Health launched a new database that will allow people—and not just Californians—to know if the personal care products they use contain toxic ingredients. This database is a centerpiece of the California Safe Cosmetics Program, the product of a 2005 law championed by the Breast Cancer Fund.

The program requires cosmetics manufacturers to report to the state any ingredient in products sold in California that causes cancer or birth defects. That includes listing the toxic components of the mystery ingredient “fragrance,” giving consumers more insight than ever before. Anyone with Internet access will be able to retrieve this data and decide for themselves if they want to wash their hair with carcinogens or soften their elbows with reproductive toxicants.

Manufacturers have until October 15, 2009, to report toxic ingredients to the state, and consumers can look forward to viewing the data a few months from now. Information about the California Safe Cosmetics Program and the database can be accessed at www.cdph.ca.gov/programs/cosmetics.



Male Breast Cancer Cluster Strengthens Link to Solvents

Breast cancer in men is rare, yet 17 men who lived at Camp Lejeune, a U.S. Marine base in North Carolina, have come forward as survivors—six immediately following a June news report about the cancer cluster.

For 30 years, up until 1987, the base’s drinking water was highly contaminated with toxic chemicals, allegedly from the military’s dumping of solvents and fuel as well as from nearby dry-cleaning operations. Camp Lejeune was declared a Superfund site in 1989 and is currently being investigated by the U.S. Agency for Toxic Substances and Disease Registry.

This tragedy provides more evidence of the link between breast cancer and environmental exposures to solvents and industrial chemicals. For more information, see Science Matters on page 5.

Climb Against the Odds 2009

TWENTY-EIGHT CLIMBERS CAME TO MT. SHASTA
WITH POWERFUL STORIES TO TELL



Climb Against the Odds rope teams ascend the West Face of Mt. Shasta. Photo: Linda Morton

At age 32, Amy Legate McAbee learned that she would be the first in her family diagnosed with breast cancer; a year later and cancer-free, she registered for **Climb Against the Odds 2009**. Gary Howell had already signed up for the climb when his wife's breast cancer diagnosis brought new meaning to his effort. Neonatal nurse practitioner Kathi Salley Randall joined the climb to honor six co-workers diagnosed with breast cancer and to raise awareness of the links between breast cancer risk and exposure to toxic chemicals and radiation in hospitals.



Alone, each of this year's 28 climbers came to Mt. Shasta with a powerful story to tell. Together, they formed an extraordinary team of breast cancer survivors and others affected by the disease for the Breast Cancer Fund's 10th Climb Against the Odds.

The team members' journeys to Mt. Shasta began early this year, when they undertook rigorous physical and mental preparations, as well as creative fundraising efforts. They gathered as a team for the first time on Sunday, June 21, near the base of the awe-inspiring Mt. Shasta.

Linda Morton of Seattle, Wash., Anne Wood of El Cerrito, Calif., mountain guide Kirah Solomon, and Laura Lifland of San Francisco on the summit. Photo: Sequoia Pettengell

For the next two days, team members checked gear, met with the guides and reflected on what had led each climber to take on this challenge. With the cheers of family and friends urging them on, the group left the mountain trailhead on Tuesday morning for a three-hour trek to base camp at 9,400 feet.

With much anticipation and only a few hours of rest, the climbers awoke at 2 a.m. Wednesday morning to begin their ascent. They departed in teams of five or six people, and for the next eight hours they scaled the West Face of the mountain, one step after another, at times facing extreme winds. By early afternoon, every climber had achieved their personal summit, with 21 of the 28 reaching the 14,162-ft. pinnacle.

These extraordinary women and men went to great heights—both literally and figuratively—to honor their own and their loved ones' experiences with breast cancer, and to promote prevention. All told, this year's **Climb Against the Odds** raised over \$500,000 for the Breast Cancer Fund. We are honored to have such passionate people committed to taking one step at a time to stop this disease before it starts.



Above: The 2009 Climb Against the Odds team. Photo: Shannon Coughlin

Right: Climbers Megan Shrestha of Burlington, Vt., Amy McAbee of South Pomfret, Vt., and Jennifer Wilson of Delray Beach, Fla., along with guide Dane Brinkley, approach the summit. Photo: Linda Morton

Read our **Climb Against the Odds 2009** climbers' bios at www.breastcancerfund.org/climbteam09.

Interested in climbing a mountain for prevention? Contact Climb Manager Connie George about **Climb Against the Odds 2010** at (866) 760-8223 x30 or cgeorge@breastcancerfund.org.



science matters

Carcinogens vs. Hormone Disruptors

The male breast cancer cluster at Camp Lejeune (see page 3) strengthens existing evidence that exposure to solvents and industrial chemicals—which can be found in our water, soil, air and consumer products (notably cleaning products and cosmetics)—increases breast cancer risk. It also points to a significant distinction in how our government responds to different classes of chemicals—carcinogens vs. endocrine-disrupting chemicals (EDCs)—linked to breast cancer.

Camp Lejeune's drinking water contained a slew of established carcinogens, including trichloroethylene (TCE), perchloroethylene (PCE, also known as tetrachloroethylene), toluene, benzene, vinyl chloride and ethylene oxide. Most are classified as carcinogens by government regulatory agencies because they alter cell function or DNA. As officially recognized dangers, these chemicals are often included in tests of groundwater or soil.

Yet, you've most often heard from the Breast Cancer Fund about EDCs, which can increase breast cancer risk by changing the delicate balance of hormones—especially estrogen—in the body. These include BPA, phthalates, parabens, pesticides and food additives. Although it's well established that lifetime exposure to estrogens increases breast cancer risk (think HRT), these hormone disruptors aren't considered carcinogens by government agencies. It's rare for water or soil to be tested for EDCs, leaving us all in the dark about our exposures.

The bottom line: Whether carcinogens or endocrine disruptors, all these chemicals are linked to increased breast cancer risk. Camp Lejeune illustrates the impact of environmental pollution on human health, and the danger of waiting 30 years to clean up the toxic mess.

strong voices

THE BREAST CANCER FUND'S STRONG VOICES PROGRAM IS A NATIONWIDE NETWORK OF WOMEN AND MEN WHO SHARE THEIR STORIES WHILE INSPIRING THE PUBLIC TO TAKE ACTION TO PREVENT BREAST CANCER.

In 1999, the Breast Cancer Fund received its first grant from the Wells Fargo Foundation through the support of its Senior Vice President, Pamela Erwin. A decade later, Pam's leadership has helped to generate over \$235,000 in Wells Fargo grants and event sponsorships.

This year, to commemorate her 10-year anniversary of supporting the Breast Cancer Fund, Pam took her dedication to prevention to new heights. In January, Pam and her partner, Susan Unger, joined the 2009 **Climb Against the Odds** expedition. Pam took on the challenge in gratitude for a successful career with Wells Fargo, to support the mission and work of the Breast Cancer Fund, and to honor her mother, who died in 2008.

Pam and Susan (who lost her mother to breast cancer in 1994) trained and fundraised intensively for six months, raising more than \$22,000 for the Breast Cancer Fund. They also participated in interviews with their hometown media in Palm Springs, Calif., and were featured on the front page of the *Desert Sun* newspaper! On June 24, they joined the team of 28 women and men in scaling Mt. Shasta. (See page 4 for details of the climb.)

The Breast Cancer Fund salutes Pam Erwin for being a powerful and dedicated Strong Voice for prevention, and for helping to stop this disease before it starts.

Interested in becoming a Strong Voice for prevention? Contact Genevieve Roja at groja@breastcancerfund.org.

Susan Unger (left) and Pam Erwin at the Breast Cancer Fund's 2009 Climb Against the Odds. Photo: Shannon Coughlin



thank you

The generous contributions of sponsors and supporters fuel the Breast Cancer Fund's work to stop breast cancer before it starts.

The Breast Cancer Fund is deeply grateful for the generous support of our corporate strategic partner, LUNA®, The Whole Nutrition Bar for Women®.

Since its launch in 1999, LUNA has been a steadfast ally in our work to eliminate the environmental causes of breast cancer, and has found ways to promote prevention in every aspect of its business—from incorporating our logo into all LUNA Bar packaging to fundraising for the Breast Cancer Fund through LUNAFEST film festivals across the country. The women LUNA engages through its community programs, including Team LUNA Chix and LUNA Moms Clubs, have also provided critical fundraising and advocacy support.

In 2007, the Breast Cancer Fund and LUNA joined together to create Pure Prevention, a campaign to inspire women to take simple actions to reduce their risk. (Check out www.pureprevention.org.)

Through the efforts of LUNA and the Clif Bar Family Foundation, more than \$2 million has been raised in support of breast cancer prevention! This funding has been crucial to ensuring that the Breast Cancer Fund continues the important programmatic and policy initiatives to stop this disease before it starts.

Thank you, LUNA, for your generous partnership.

Virtual Peak Hike

September 27, 2009

If you can't make it to Mill Valley, Calif., for the Breast Cancer Fund's annual Peak Hike, consider joining our Virtual Peak Hike. Create your own local hike for your family and friends and fundraise to support breast cancer prevention. You'll find information on both the actual and virtual Peak Hike at www.breastcancerfund.org/peakhike.

Get Active Summer/Fall Fundraising Challenge

Ongoing through November 1, 2009

The Breast Cancer Fund challenges you to raise \$100 or more this fall for breast cancer prevention. Are you participating in an outdoor or active event before November 1? Add a fundraising element to any event you choose through our Get Active Summer/Fall Fundraising Challenge. www.breastcancerfund.org/09getactive

LUNAFEST

October 2009–April 2010

On October 1, LUNA will launch its annual festival of short films by, for and about women with a San Francisco premiere. The festival will then travel to a city near you! All proceeds go to charity, with at least 15 percent supporting the Breast Cancer Fund. To find an event near you or to learn how to host your own, visit www.lunafest.org.

Climb Against the Odds

June 13-19, 2010

Apply to be part of the next inspiring team of breast cancer survivors and individuals touched by the disease to climb Mt. Shasta for breast cancer prevention. Mountain-climbing experience is optional, but inspiration is guaranteed. Together, we'll take one step closer to stopping this disease before it starts. www.breastcancerfund.org/climb

BPA and Breast Cancer

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polymer and is lipophilic (fat-seeking), it leaches from food and beverage containers into food, especially when heated. Once in food, BPA moves quickly into our bodies.

BPA and Breast Cancer

BPA is a synthetic estrogen, so it's not surprising that it acts like estrogen in humans, increasing breast cancer risk. Studies of human breast cancer cells show that BPA acts through the same response pathways as natural estrogen, and induces cell growth and proliferation. In addition, BPA has been shown to cause direct damage to the DNA of breast cancer cells, making them more abnormal. Animal studies show that prenatal and early-life exposure to extremely low levels of BPA alters development of the mammary gland in ways that increase sensitivity to estrogen at puberty and predispose the animals to cancer. BPA is also implicated in early puberty in girls, a risk factor for breast cancer.

Recent studies also found that BPA interferes with chemotherapy's ability to kill cancer cells, creating what is known as chemoresistance—a major problem facing breast cancer patients.

Reducing Your Family's Exposure

- Minimize your use of hard, clear #7 ("Other") plastics, which may contain BPA.
- Look for baby and water bottles marked "BPA free" or those made from glass or stainless steel.
- Discard old, scratched plastic dishes and containers. Don't wash plastic dishes in the dishwasher. Never microwave in plastic.
- Choose fresh or frozen over canned foods.
- Avoid canned drinks.

Working to Restrict BPA

The Breast Cancer Fund is working in statehouses across the country and in Congress to protect people from BPA. Join us at www.breastcancerfund.org.

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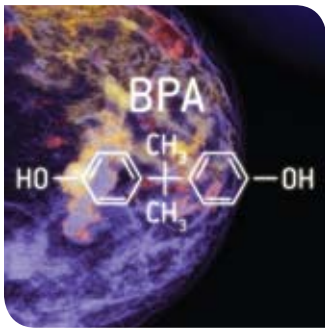
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get involved

Help Make this October Breast Cancer PREVENTION Month!

During Breast Cancer Awareness Month in October (or any time), help spread the news that prevention matters. When you see media coverage of breast cancer with no mention of causation or risk reduction, write a letter to the editor, submit an online comment, or call the TV or radio station and tell them how important prevention is to you. We'll help with talking points and how-to's. Sign up at www.breastcancerfund.org/preventionmatters.