



## Behind the headlines

Good news: Researchers are discovering more about breast cancer every day. The challenge? Figuring out what the findings mean for you.

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**A**s the battle against breast cancer continues, breakthroughs seem to happen every day. In the past 12 months, scientists have published hundreds of studies exploring possible causes, treatments, risk factors, and prevention strategies for this deadly disease. The National Cancer Institute spent roughly \$631 million on breast cancer research last year alone—and that's not counting the millions more supplied by nongovernmental advocacy groups.

There's little doubt that these new discoveries are nudging us closer to a cure. At the same time, however,

they create a nonstop news stream that can feel like information overload, especially when one high-profile study seems to contradict the breast cancer headlines that came before.

Thanks in part to increasingly sophisticated research tools, scientists are beginning to see that breast cancer isn't a one-size-fits-all disease—and that what's true for certain women doesn't apply to others. To help cut through the confusion, *Better Homes and Gardens*® asked four of the nation's leading breast cancer specialists for their take on today's hot topics and what advice—if any—we can draw from the findings.



## Meet the experts

For the inside scoop on the year's biggest breast cancer stories, *BHG* talked to four of the nation's leading specialists in research, prevention, and patient care.

**Larry Norton, M.D.**, deputy physician-in-chief for breast cancer programs at Memorial Sloan-Kettering Cancer Center, New York

**Susan Love, M.D.**, founder and president of the Dr. Susan Love Research Foundation and clinical professor of surgery at the David Geffen School of Medicine at UCLA

**Debbie Saslow, Ph.D.**, director of breast and gynecologic cancer for the American Cancer Society

**Marisa Weiss, M.D.**, president and founder of Breastcancer.org and director of breast radiation oncology and breast health outreach for Lankenau Medical Center, Pennsylvania

### ENVIRONMENTAL TOXINS

Our world is full of man-made chemicals and pollutants, and some experts and women have long suspected that routine exposure can raise breast cancer risk. Preliminary research has been troubling: One study on mice showed that exposure to BPA, a chemical commonly found in plastics, promotes cancerous changes in cells. But late last year, the nonprofit Institute of Medicine (IOM) performed an exhaustive review of the available research and was unable to confirm a link between breast cancer and environmental toxins. How concerned should we be?

**Saslow:** "While the IOM review was well done, there's a big difference between not having enough evidence to prove a connection and having enough evidence to prove there *isn't* a connection."

**Love:** "To date, almost all of these studies have been performed on animals. Until more research is done on women, we can't rule out an environmental link. This is something we're investigating now at the Dr. Susan Love Research Foundation, including ways to set up virtual human models to study the effect of potential carcinogens in the milk duct. That's the kind of research that will help clarify this complex issue."

**Norton:** "Reading the IOM report reminds me of how hard it was to prove the link between smoking and lung cancer back when smoking was so common: There was no good control group of unexposed individuals! Most people have some level of exposure to toxins every day, so where can we find the control group for this issue? If there is an environmental link, we may need to look for it in the laboratory, not in observational data."

**Weiss:** "The majority of breast cancers aren't caused by inherited genetics, which suggests that environmental factors do play a role. Even without conclusive evidence, I believe it makes sense to reduce your chemical exposure: Buy foods grown without pesticides and added hormones, store foods in glass containers or BPA-free plastic, regularly change air filters inside your home for better air quality, use natural cleaning products like vinegar and baking soda, and purchase paint and carpet labeled 'low VOC,' meaning they emit low levels of volatile organic compounds. These measures can't hurt—and might very well help."

### TUMORS THAT DON'T NEED TREATMENT

It seems like a no-brainer: If a woman is found to have a cancerous tumor in her breast, treatment should be swift and aggressive. But in a study published this April in the *Annals of Internal Medicine*, researchers calculated that up to 25 percent of malignancies found through mammography don't pose a threat to women's lives—and therefore do not require any treatment. Considering the expense and hardship of cancer care, should doctors leave some tumors alone?

**Norton:** "Let's put it this way: If someone shoots a gun at you, there's a chance the bullet will miss. But does that mean you shouldn't duck?"

**Saslow:** "While I agree that a percentage of breast tumors is overtreated, I'm not sure how big a problem that really is—this particular study came out with a higher estimate than I've seen in previous research. Another issue is that we don't yet have the tools to pinpoint which malignant tumors are harmless. What we *do* have are tests that can help predict how well a tumor will respond to different treatments. If you're diagnosed with breast cancer, that information can help you and your doctor develop a treatment plan that limits side effects."

**Love:** "Right now, breast cancer screening is a lot like airport security screening: Everyone with a big bottle of water in her carry-on is targeted,

## “If you have a family history of breast cancer... you might want to consider keeping alcohol intake to a minimum.”

Debbie Saslow, American Cancer Society

and as a result, some perfectly innocent people get pulled aside. What this means for breast cancer is that some women end up getting surgery, chemotherapy, radiation therapy, and hormone therapy—all of which have serious side effects—for tumors that were never life-threatening. If you are diagnosed with a cancerous tumor, talk to your doctor about your treatment options and understand the pros and cons of each. You don't have to attack your tumor with everything in the arsenal, but at this point, treatment is a must.”

### DANGEROUS DRINKING

**For years, doctors have said that consuming moderate amounts of alcohol—particularly red wine—can be good for the heart. That advice came under scrutiny last fall, when researchers from Harvard University studied 100,000 women and found that volunteers who drank just three alcoholic beverages a week had a 15 percent increased risk of developing breast cancer. Should you pass on the glass of Pinot?**

**Norton:** “This study was based on observational data, which means researchers looked for connections between people's habits and their health outcomes. But an association is not proof of causation. For example, women who drink more may also tend to exercise less, experience greater stress, or have other risk factors for breast cancer. We need further research to examine whether alcohol itself raises risk.”

**Saslow:** “Even though this study isn't definitive, I think

it makes sense for women to keep alcohol consumption as low as possible. Four drinks a week are better than six, and two drinks are better than four. And if you have a family history of breast cancer or a genetic mutation—two risk factors you can't control—you might want to consider keeping your alcohol intake to a minimum. Don't be tempted to start drinking just because experts say it's good for your heart. There are plenty of ways to improve your cardiovascular health without alcohol.”

**Weiss:** “It doesn't take much alcohol to get the cardiovascular benefits, anyway. You don't need to have two glasses of wine with dinner every night; one or two drinks a week can deliver the benefits. That seems reasonable to me.”

### A POSSIBLE VACCINE

**Now that we have a vaccine for HPV—the virus that causes cervical cancer—many women are hopeful that we'll see a vaccine for breast cancer as well. The National Breast Cancer Coalition, a grassroots advocacy group, recently launched an initiative for researchers to develop an immunization and end breast cancer by 2020. Is this goal realistic?**

**Saslow:** “The reason we have a vaccine against cervical cancer is because virtually all cases are caused by a virus that was identified decades ago. On the other hand, the exact cause of breast cancer remains unknown. We need to find a way to prevent this disease, but I think that breakthrough is a little further off than 2020.”



## 3 timeless tips for controlling risk

**As our understanding of breast cancer evolves, certain advice never changes. Experts recommend following these gold-standard guidelines to reduce your risk of developing the disease.**

### 1 Shed excess pounds.

Moving the needle on the scale downward even a little can have a positive effect. In one study, overweight women who lost just 5 percent of their body weight (about 10 pounds on average) saw their breast cancer risk drop by an estimated 22 percent. Go to [BHG.com/Slim](http://BHG.com/Slim) for expert answers to common weight-loss questions.

### 2

### Start exercising.

Not to worry: We're not talking marathon training here. According to a study of more than 3,000 women in the journal *Cancer*, those who regularly engaged in any form of physical activity—whether gardening, walking, or yoga—were 6 percent less likely to develop breast cancer than their sedentary counterparts. Aim for at least 30 minutes a day.

### 3

### Stamp out cigarettes.

Smokers are 16 percent more likely to develop breast cancer than people who never inhaled, according to an analysis of 79,800 women. That said, it's never too late to quit: Kicking the habit knocks 7 percentage points off your risk. Your doctor can help you develop a smoking cessation plan that suits your lifestyle.

**Weiss:** “A vaccine works by ‘training’ the immune system to fight off a type of foreign invader. But the challenge with breast cancer is that the cells come from your own body, so the immune system doesn’t see them as a threat. Even if we had a vaccine that targeted a specific type of breast cancer cell, those cells can mutate in the body and, theoretically, would outsmart a vaccine. I believe in investing in prevention, but I’m not sure a vaccine is on the horizon.”

**Love:** “Finding the cause of breast cancer is the key to eradicating this disease. That discovery will pave the way for a preventive approach that makes sense—whether it’s a vaccine or some other method yet to be developed. This is the kind of work we need to be doing. Focusing the bulk of our efforts on treatment won’t get us where we need to go.”

### UNPREDICTABLE GENES

**Experts agree that women who test positive for a BRCA gene mutation have a heightened risk of developing breast cancer. But what does it mean if your mother or sister tests positive—and you don’t? Early research showed that women with a positive first-degree relative were up to five times more likely to develop breast cancer, regardless of their own gene status. But research last year in the *Journal of Clinical Oncology* came to the opposite conclusion, finding that women in this group are at no greater risk. Which is it?**

**Weiss:** “Testing negatively for the BRCA mutation is a good sign, but you still need to be aware of your family history. If a first-degree relative develops breast cancer—with or without the mutation—your personal risk could be higher than that of women in the general population. Other genes in the family line could be at play.”

**Love:** “Bear in mind that the majority of breast cancer cases occur for reasons other than genetics. So even if you test negatively for the gene mutation and no one in your family develops breast cancer, don’t assume you’re in the clear. It’s imperative that you go for mammograms and remain vigilant about your health.” ■

### MASCOT

## Feathered friend

**In other, more lighthearted news, the classic pink ribbon isn’t the only symbol of breast cancer awareness anymore.**

The flamingo is taking off. Lately we’ve spotted the bright pink bird as costumes at 5K fund-raisers, stuck into cupcakes at charity bake sales, and printed on invitations for charity auctions. Perhaps the cleverest use we’ve seen involves a prank: People make a charitable donation to have the yard of an unsuspecting friend filled with plastic lawn flamingos in the middle of the night. The victim wakes up to a sea of pink and a sign that reads “You got flocked!” At that point, the person can donate to have the flamingos moved to the yard of another friend, keeping the money (and the mischief) going.

## What tomorrow’s headlines might say

**We asked our experts to predict the next big breast cancer breakthroughs. Here’s a peek at our possible future.**

**New treatments target breast cancer subtypes.** A recent analysis of 2,000 tumors in the journal *Nature* found that breast cancer isn’t just one disease; it has at least 10 variations, each with its own genetic fingerprint that influences how the cancer progresses. Scientists hope to develop a test that identifies subtypes early so treatment can be tailored accordingly.

**Breast cancer blood test saves lives.** This year, a research team in London discovered that women with a DNA modification on their white blood cells (called methylation) had double the average risk of developing breast cancer—and it showed up in blood tests years before the women were diagnosed. Further research will be aimed at developing a reliable and cost-effective test.

**Concentrated chemo cuts side effects.** Many breast cancers begin in the milk ducts, so scientists are experimenting with ways to deliver high doses of chemotherapy drugs directly to that area (rather than lower doses intravenously) to reduce nausea, hair loss, and other systemic side effects. Phase one clinical trials in women are under way.