

# How to lower your risk of breast cancer recurrence

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Most women treated for breast cancer have something else in common: they worry about the cancer coming back.

Michelle Shayne, M.D., a [breast cancer](#) specialist and genetics expert at the Wilmot Cancer Institute, spoke to audiences at the Breast Cancer Coalition of Rochester on reducing the risk of recurrence. It's a sought-after topic, with relevance to thousands of people locally and an estimated 3.8 million [breast cancer survivors](#) in the U.S.

Shayne covers a range of issues—from exercise and diet to parabens, hair dyes and lawn chemicals—and suggests that all survivors should read, ask questions, and stay up to date on prevention strategies, even when the data is inconclusive.

"We never want this to happen to us again," she says.

Here are her key messages on each topic:

- **The environment**—Studies show that 90% of breast cancers are environmental in origin, but the main "environmental" cause is unknown. The "environment" includes lifestyle (diet, exercise or lack thereof, and smoking, for example), indoor and outdoor toxins, and [consumer products](#) and packaging. The good news: most people have some control over their lifestyle choices and can learn how exposures might contribute to risk, Shayne says. She recommends reading product labels for items used routinely, and staying away from chemicals or preservatives (parabens, phthalates, petrolatum, for example) with hormone-disrupting properties. Breast cancer is often fueled by the hormone estrogen.
- **Age**—Risk of recurrence is more a function of tumor biology than age. "By and large, [younger patients](#) tend to have more aggressive tumor types," Shayne says. "And cancers in older patients tend to be more slow-growing." But there are many exceptions, she adds, and patients must be treated according to their [personal risk factors](#), genetic profile, and tumor

characteristics.

- **Alcohol**—The majority of studies for two decades has consistently shown a link between [alcohol consumption](#) and breast cancer risk. Having three-to-four drinks per week can be associated with a higher risk of breast cancer and the more people drink beyond this, the greater the risk, Shayne says. "Every patient should know about this association," Shayne says. "But I never tell people what to do. I just bring it to their awareness." Research shows: alcohol changes DNA and increases circulating levels of estrogen, regardless of menopausal status, which may increase estrogen-sensitive cancers. If a woman chooses to drink, the suggestion is to consume less than three drinks a week. The type of alcohol does not influence risk.
- **Lawn/garden chemicals**—This is complicated area to study due to many variables: time of exposure (in utero, during breast development, or during lactation, for example), types of chemicals used, and health of the exposed individuals (cancer risks may be higher for smokers, for example). A study based in Long Island years ago suggested an association between breast cancer and residential pesticide use, Shayne says. According to her own reading on the subject, she suggests limiting the use of lawn chemicals and selecting fertilizers with low or no phosphorus.
- **Exercise** — "Think of exercise as your medicine," Shayne says. "That way, you're less likely to say: "It's sleeting, it's already dark at 4:50 pm, and I don't want to go to the gym.'" The American Society of Clinical Oncology (the largest organization for oncologists in the world) recommends that after a diagnosis of any cancer, a person should be exercising 150 minutes a week, or about a half-hour a day, five days a week. Shayne emphasizes that 150 minutes should be the bare minimum for breast cancer survivors. But you don't have to train for a marathon; in fact, brisk walking is fine, as is yoga or tai chi. "It's a powerful tool, so

use it," Shayne says. "Exercise regularly and faithfully. And, it's never too late to start." Why does exercise reduce cancer risk? Exercise can change how genes express themselves, leading to what scientists call beneficial epigenetic modifications in cancer patients. Exercise also helps to control insulin, [body weight](#), and may lead to less fat tissue. Research also shows: physical activity after diagnosis may reduce the risk of death from breast cancer.

- **Diet**—Poor eating habits may account for at least 30% of all cancers in Western countries. There are a variety of healthy diets to investigate, including the Mediterranean diet and plant-based eating, to find what's right for you, Shayne says, adding that these approaches are healthy, not extreme, sustainable, and practiced by millions. Diet and cancer risk is an ongoing and complicated area of research; it often relies on people to report their own food intake. "We also have to be careful to not be looking for a single magic bullet," Shayne says. "We don't want anyone to think: 'If all I do is eat this way, I'm good!'" Research shows: a plant-based or Mediterranean diet (low or no red meat and plenty of extra virgin olive oil) is associated with a 62% relative lower risk of breast cancer compared to people not following this type of healthy diet. Breast cancer survivors should think about what is realistic, she says—and try to incorporate fresh vegetables more often and avoid processed foods (anything that comes in a package or box) while focusing on food in its most natural form.
- **Soy**—Research is inconsistent and inconclusive on whether soy promotes breast cancer or protects against it. Most data do not link natural soy to an increased risk of breast cancer recurrence. However, Shayne recommends taking soy in moderation and avoiding soy supplements and processed soy.
- **Sugar**—Excessive consumption of processed sugar can lead to insulin resistance. Since insulin is a growth factor, higher insulin levels may contribute to cell growth and possibly cancer cell growth. Research shows a link between diets with a high

glycemic index and risk of breast cancer, regardless of menopausal status, alcohol intake, and physical activity. But, the concept that "sugar feeds cancer" is not useful, Shayne says. Tumors can exist without glucose, and even if individuals remove all sugar from their diets, the body will make sugar from other sources such as proteins and fats. If a person chooses to eat sugar, she suggests pairing it with complex carbs, fiber, and protein to limit the production of insulin. Shayne suggests: Avoid sugary/carbonated beverages and fruit drinks. Choose naturally occurring sugars in fruits and vegetables.

- **Organic foods**—Beware of products labeled "natural," "pesticide-free," and "hormone-free," which does not mean they are organic. A product labeled "organic" is 95 percent or more organic ingredients. Not enough high-quality studies have been performed to support improved health for consumers of organic foods and products, Shayne says, and safety information for organic foods is lacking. She leaves the buying choices up to her patients.
- **Vitamin D**—"Moderation, moderation, moderation," Shayne says, regarding vitamin supplements. The tendency in cloudy western and central New York is to boost vitamin D levels in breast cancer patients, but Shayne notes that it accumulates in fat cells and can be toxic in higher amounts.
- **Chemicals in fragrances**—The FDA banned these chemicals from foods but they are still used in fragrances: styrene, benzophenone, ethyl acrylate, methyl eugenol, myrcene, pilegone, and pyridine. Manufacturers are allowed to withhold fragrance ingredients to protect trade secrets. "There are many unknowns when it comes to fragrance," Shayne says.
- **Hair dyes**—A tricky subject and a personal choice, Shayne says. Studies have shown mixed results. However, a large National Institutes of Health study published in 2019 showed that women who use permanent hair dyes and hair straighteners may have an

increased risk of breast cancer. Facts to consider: The FDA banned lead acetate (linked to neurotoxicity) from [hair dyes](#) in 2018; more than 5,000 different chemicals are used in hair dye products and some have been linked to cancer in animals, according to the National Cancer Institute. Darker hair colors contain a chemical known as PPD (para-phenylenediamine), made from coal tar, a petroleum derivative that contains other harmful chemicals.

- **Plastics**—Contain chemicals that should be avoided. If recyclable packaging is labeled with the numbers 3, 6, or 7, it may contain carcinogens and hormone-disrupting chemicals, which can boost estrogen levels. Check the numbers on the bottom of sports bottles, water bottles, and food containers. Keep plastics away from heat (including sunlight and inside hot automobiles) to prevent the chemicals from leaching into food and drinks. Avoid reusing plastic containers intended for single use. The safest choices are labeled with the numbers 2, 4, 5.
- **Parabens, phthalates, petrolatum**—Used in thousands of personal care products, foods, pharmaceuticals, packaging, and plastics. Each has an association with genes or hormonal activities in the body that are linked to breast cancer, although further research is required. Shayne has a particular concern with parabens, which can stimulate breast cancer cells. "When something says 'No Parabens' it speaks to us," she says. "Any paraben in any form should raise a level of concern." (Listed on labels as methylparaben, ethylparaben, propylparaben, butylparaben, isopropylparaben, isobutylparaben.)
- **Antiperspirants**—"There are some provocative observations that lead us to wonder if there's a relationship to breast cancer," Shayne says. For example, a disproportionately high incidence of breast cancer is found in the upper, outer quadrant of the breast. Aluminum chlorhydrate is the active ingredient in antiperspirants, and aluminum is known to cause gene toxicity by



altering DNA. Shayne does not tell her patients to stop using antiperspirants, but says the data are "thought-provoking."

- **Sunscreen**—The FDA has investigated sunscreens, Shayne says, due to concerns about the chemical ingredients that accumulate in the body with continual use when sunscreens are reapplied, as directed. There is no evidence currently that sunscreens are harmful; individuals must balance the risks of sunburn and skin cancer against the risks that chemicals might pose to a breast cancer recurrence. Sunscreens based on [zinc oxide](#) and/or titanium dioxide are not absorbed into the body but act to reflect the sun's harmful rays by sitting on the skin. Zinc oxide is her personal preference.
- **Stress**—Studies linking stress to cancer occurrence have demonstrated mixed results. Shayne notes that stress is difficult to measure: What is stressful for one person may not be for the next. "But, we need to soul search and tell ourselves, there's nothing wrong with trying to relax and take care of my body." She suggests avoiding, if possible, people who cause stress, and learning to let go of stress when it's unavoidable. "It's a personal choice for how you accomplish this," she says. "Yoga, sitting in a hot tub, praying... Any one of those things can be right. Whatever we can do to honor ourselves and each other is okay."

Provided by University of Rochester Medical Center

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