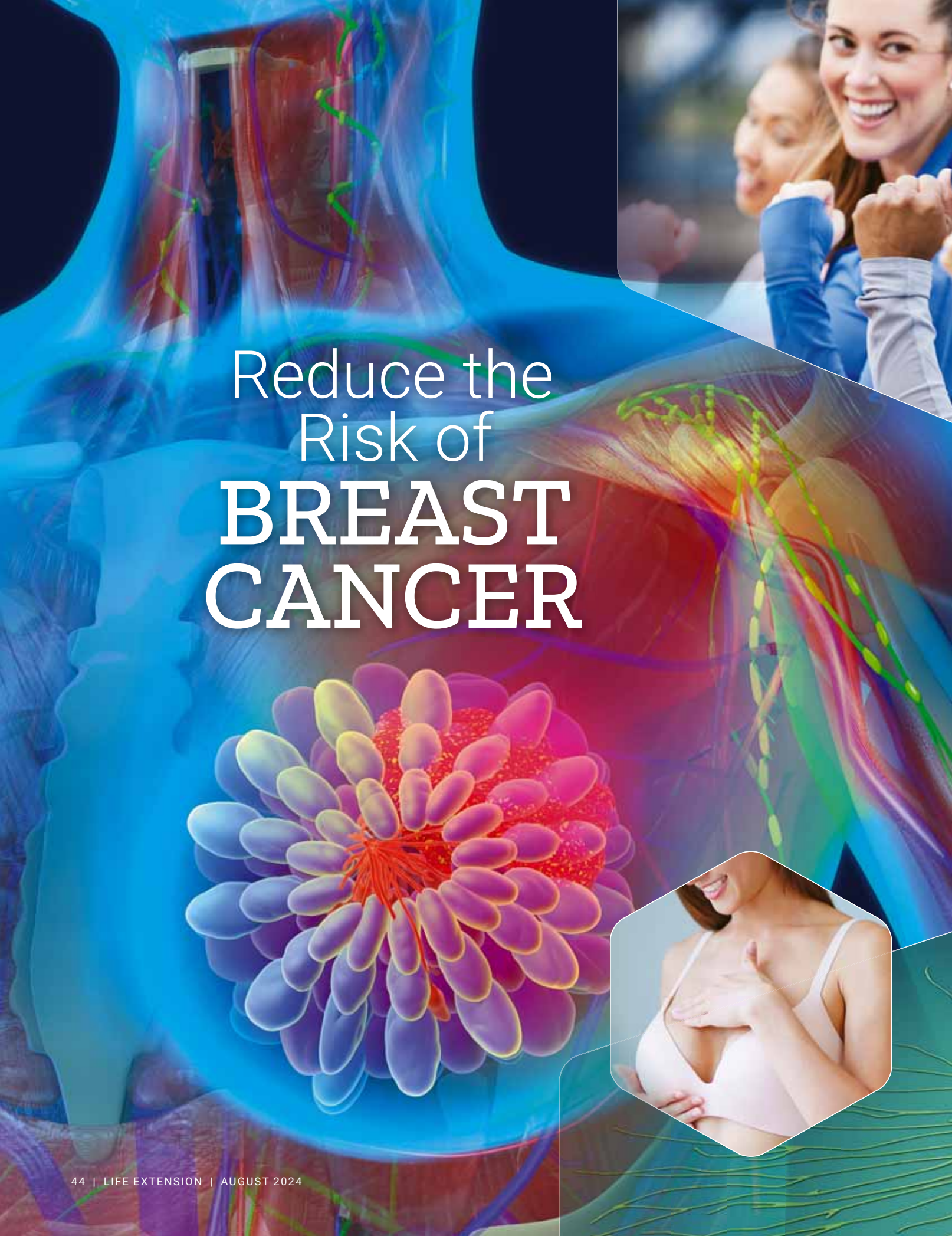


Reduce the Risk of BREAST CANCER

BY RHONDA STEIN

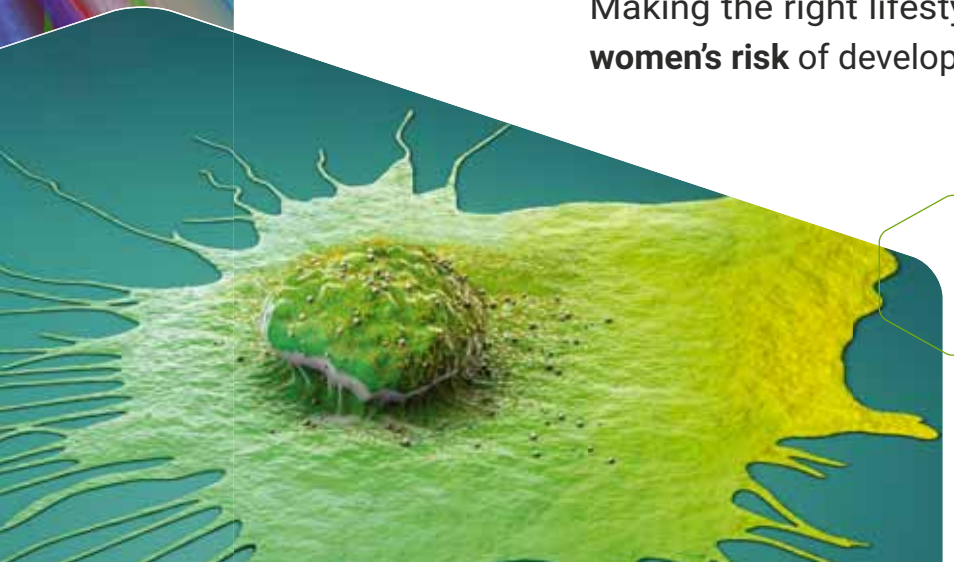
Breast cancer is the most common malignancy affecting women *and* the leading cause of cancer **deaths** in women worldwide.[1]

Many **risk factors** increase the likelihood of developing breast cancer.

Modifiable factors that increase risk include poor diet, sedentary lifestyle, and obesity.[2]

Conversely, ingestion of healthy foods and beverages has shown protective benefits.[3-10]

Making the right lifestyle changes can reduce **women's risk** of developing breast cancer.[11,12]



Non-Modifiable Risks

Roughly ***one of every three*** new cancers diagnosed annually in women is **breast cancer**.[13]

Some forms are easily treatable. But more advanced and aggressive types can be deadly. The **five-year** survival rate of metastatic breast cancer is about **30%**.[14]

Some risk factors for developing breast cancer, like **female sex** and **older age**, can't be changed.

Some other *non-modifiable* risk factors include:[1]

- **Genetics:** Women with inherited mutations of the **BRCA1** or **BRCA2** genes are at increased risk for breast cancer. In women who have a first-degree relative diagnosed with breast cancer this risk is doubled.[15]
- **Race/ethnicity**. The risk of developing breast cancer is highest among white non-Hispanic women, while the rate of **mortality** from breast cancer is higher in African American women.[1]

Risk Factors You Can Change

Modifiable risk factors *can* be altered, decreasing the risk of developing breast cancer. They include the following.[16,17]

DRINKING AND SMOKING

Excessive **alcohol** intake is linked to breast cancer risk.[1] Alcohol may induce greater estrogen imbalances in women, exposing breast tissue to more of the hormone's stimulatory effects that encourage tumor growth.[18,19]

While cigarettes are known for causing lung cancer, toxic chemicals in **smoke** can also contribute to breast cancer. Active smoking, especially in postmenopausal women, is associated with a **16%** higher risk of developing breast cancer.[20] In addition to this, even in nonsmokers, passive smoking significantly adds to the risk of breast cancer.[1,20]

SEDENTARY LIFESTYLE

There is growing evidence that the amount of **physical activity** has a significant association with breast cancer risk.[11,20,21]

In post-menopausal women, those with a *higher* level of **regular exercise** have a significantly *lower* risk of developing breast cancer.[22] One large observational study showed that the most active women had a **25%** reduction in the risk of breast cancer compared to women who had the least physical activity.[23]

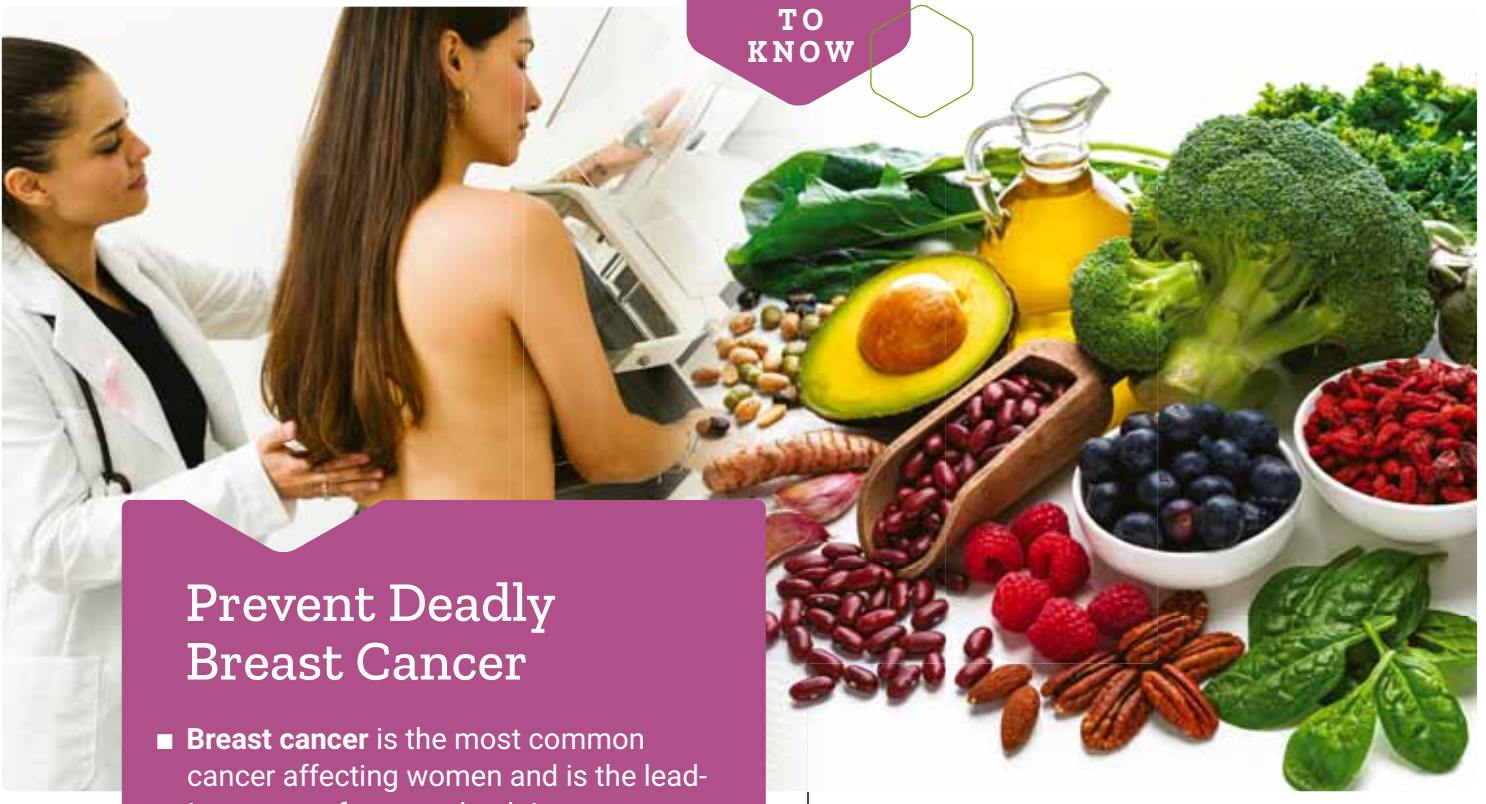
Another observational study showed a **15%** reduction in breast cancer risk in women with a level of physical activity equivalent to brisk walking for one hour per day, compared to women whose activity was equal to less than one hour of walking per week.[24]

An observational study evaluated the association between physical activity in high-risk women before and after diagnosis and survival outcomes. It found that women who were physically active before and after diagnosis had a **41%** reduced risk of cancer **recurrence** and a **49%** reduced risk of cancer **death**.[25]

BEING OVERWEIGHT

The risk of developing breast cancer is significantly *higher* in those who are **overweight** or **obese**. Overweight women also tend to develop more **aggressive** forms of breast cancer and have greater rates of mortality and tumor recurrence.[1]

WHAT YOU NEED TO KNOW



Prevent Deadly Breast Cancer

- **Breast cancer** is the most common cancer affecting women and is the leading cause of cancer death in women worldwide.
- Ways to **decrease risk** for breast cancer include quitting smoking, losing weight, improving diet, curbing alcohol consumption, and increasing exercise.
- Certain **nutrients** may also reduce risk for breast cancer, including vitamin D, sulforaphane from cruciferous vegetables, selenium, green tea, and other plants.

POOR DIET

Consuming excessive amounts of highly processed foods, fats, red meat, and refined sugars is linked to greater breast cancer risk.

A **healthy diet** high in vegetables, fruits, legumes, whole grains, and lean protein is associated with *lower* risk.[1]

One study found that for each **10%** increase in **highly processed foods** in the diet, there is an **11%** increase in risk of developing **breast cancer**.[26]

Protective Nutrients

Some foods, beverages and nutrients are associated with protective roles against **breast cancer**. Increasing their intake may reduce risk *and* improve outcomes in women already diagnosed with cancer.

GREEN TEA

Catechins, health-promoting polyphenols that can be found in tea leaves, demonstrate **anticancer** activity. A meta-analysis showed a reduction of **27%** in recurrence of breast cancer among those who drank more than **three cups** of green tea a day compared to non-drinkers.[27]

Green tea polyphenols such as epigallocatechin gallate (EGCG) have been shown to reduce **breast density** in younger women after 12 months of green tea extract supplementation.[28]

This is important because dense breast tissue is an independent risk factor of breast cancer incidence and makes early detection with standard mammography more difficult.[29]

In a study including about 500 women with the aggressive **triple negative form** of breast cancer, follow-up information on tea consumption was gathered at 18, 36 and 60 months after diagnosis.

Women who consumed tea during five years after diagnosis had **46%** reduced risk of combined recurrence and breast cancer mortality, and **43%** lower overall mortality risk, as compared to non-tea drinkers.[30]

Two meta-analyses of clinical studies have shown **14%-18%** reduced risk of breast cancer in women who consumed *higher* amounts of tea as compared to those consuming the lowest.[31,32]

FLAVONOIDS

Flavonoids are plant-derived compounds with numerous health benefits, including anti-inflammatory, and anticancer activity.[4,7,33-38]

In addition to green tea **catechins**, **apigenin**,[38] **fisetin**,[35] and **quercetin**[6] have all demonstrated cancer-fighting activity in preclinical models.

SELENIUM

The mineral **selenium** has been studied for decades for its potential to help prevent or manage cancer.

A meta-analysis of 18 observational studies including **thousands** of women found that those with *higher* body levels of selenium have a *lower* risk of developing **breast cancer**.[39]

In women with breast cancer, those in the highest quartile of dietary intake of selenium had a **31%** reduced risk of **death** from the disease as compared to the lowest quartile.[40]

In another study, **82%** of women in the *highest* quartile of serum levels of selenium had a five-year survival rate, while only **68%** of women in the *lowest* quartile reached a five-year survival. The risk of mortality for patients in the lowest quartile of serum selenium was **2.5 times** greater than those in all other quartiles.[41]

CRUCIFEROUS COMPOUNDS

Intake of **cruciferous vegetables**, including broccoli, kale, cabbage, and brussels sprouts, is associated with a lower risk of breast cancer.[8,10]

These foods provide nutrients that have demonstrated potent anticancer activity in preclinical studies, including **sulforaphane**,[8] **I3C** (**indole-3-carbinol**),[5,10] and **DIM** (**3,3'-diindolylmethane**).[5,10]

The concentration of **sulforaphane** found in broccoli sprouts is up to *100 times* higher than mature plants. The compounds in different parts of broccoli cells mix together to release sulforaphane for assimilation into the bloodstream.[42]

VITAMIN D

Several studies show that maintaining higher **vitamin D** levels protects against developing breast cancer *and* improves survival in women with cancer.[43-46]

In one analysis, women with vitamin D levels of **60 ng/mL** or more had an **82% lower risk** of breast cancer than women with low vitamin D levels.[44]

High blood levels of vitamin D in breast cancer patients are associated with a **42%** lower risk of mortality as compared to lower blood levels.[43]

A meta-analysis found that every **4 ng/mL** increase in vitamin D blood levels decreased the risk of breast cancer death by **6%**.[47] This implies that boosting *25-hydroxyvitamin* D blood levels from **30 ng/mL** to **50 ng/mL** might decrease risk of death by around **30%**.

OTHER NUTRIENTS

Curcumin from turmeric and **resveratrol** from red grapes and other plants successfully block breast cancer development and spread in animal and cell models.[9,48]

Preclinical studies have also found that **curcumin** can make breast cancer cells more sensitive to chemotherapy drugs.[9,49]

Carotenoids, pigments found in many fruits and vegetables, have anticancer activity.[50] They include lycopene, astaxanthin, lutein, and zeaxanthin.

One study that followed over 32,000 women for more than ***20 years*** found that higher blood levels of **carotenoids** were associated with up to a **28% lower risk** of breast cancer. In women who did develop cancer, those with the highest carotenoid levels were less likely to suffer **recurrence** or **death**.[51]

Maintaining adequate levels of these nutrients and making other lifestyle changes may help reduce the risk of breast cancer.

Summary

Avoiding smoking, reducing alcohol intake, improving diet, losing weight, and increasing exercise can significantly **reduce breast cancer risk**.

Ensuring adequate intake of vitamin D, cruciferous vegetables, selenium, and other nutrients may also help reduce risk, according to published biomedical studies. •

If you have any questions on the scientific content of this article, please call a **Life Extension** Wellness Specialist at 1-866-864-3027.

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