

What can decrease your risk of breast cancer?

Dietary:

- ◆ Eat cruciferous vegetables, such as broccoli, Brussels sprouts, cauliflower, watercress, kale, cabbage.
- ◆ Eat omega-3 fatty acids found in foods such as oily fish, flax oil and walnut oil.
- ◆ Eat foods with phytoestrogens such as soy beans, tofu, olive oil, and flax and sesame seeds.
- ◆ Do not take pills with concentrated phytoestrogens such as isoflavone.

Life Style:

- ◆ Avoid **all** hormones, including bioidentical (non-synthetic) hormones.
- ◆ Avoid “The Pill” and all hormonal contraception including the patch, injections, the vaginal ring, and IUDs.
- ◆ Avoid hormone replacement therapy.
- ◆ Use non-hormonal birth regulation, such as natural family planning.
- ◆ Do NOT smoke!
- ◆ Do not consume alcohol regularly.
- ◆ Exercise 3 hours a week.
- ◆ Avoid obesity after menopause.
- ◆ Avoid induced premature deliveries before 32 weeks for fetal abnormalities.
- ◆ Breast feed your child.
- ◆ Have children earlier in life.
- ◆ Avoid induced abortion.
- ◆ If you have had an induced abortion, having a full-term pregnancy within 5 years greatly lessens breast cancer risk.



Make good health care choices, such as eating foods that reduce risk, not using hormonal therapies for contraception, osteoporosis, acne or painful periods, getting exercise, and NOT smoking. Use natural family planning (NFP) instead of birth control pills, patches or injections.



What can increase your risk of breast cancer?

- Alcohol use
- Benign proliferative breast disease
- Chest radiation therapy for cancer or TB
- Cigarette smoking
- Delayed child-bearing (having children later in life)
- A family history of breast cancer
- First period at an early age
- Hormone Replacement Therapy
- Increasing age
- Induced abortion
- Inherited BRCA genes
- Late menopause
- Obesity after menopause
- Oral contraceptives
- 2nd trimester miscarriage

Summary

There are some risk factors that a woman cannot control, such as her family history of breast cancer, or that she got her period very early.

But there are many ways she can **reduce** her risk of breast cancer by following the guidelines in this brochure.

Also, importantly, a woman should get yearly mammograms and a breast exam from her doctor starting at age 40, or 10 years before the age at which her mother or sister got breast cancer. She can regularly do self-breast exams.

Finding breast cancer early increases survival.

Where can I find more detailed information on breast cancer?

You can visit the Breast Cancer Prevention Institute website for:

- ◆ An online copy of BCPI's booklet: ***Breast Cancer Risks and Prevention***
- ◆ Online copies of all BCPI's brochures
- ◆ Fact Sheets, and more

Some publications are available on the website in both English and Spanish.

www.bcpinstitute.org

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The WHYs of Breast Cancer

What can women do to help protect themselves from breast cancer?



BREAST CANCER
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Why does breast structure account for vulnerability to breast cancer?

Breast tissue contains lobules, which are composed of a milk duct and some ductules which form the milk glands.

Before a woman's first full-term pregnancy, the breast is composed mostly of Type 1 and some Type 2 lobules. Type 1 lobules are where 85% of all breast cancers start. Type 2 lobules are where 15% of breast cancers start.

When a woman first becomes pregnant, the embryo secretes a hormone which causes the mother's ovaries to produce more hormones (estrogen and progesterone). This increase in hormones causes the mother's breasts to become enlarged, sore and tender.

In a normal pregnancy, the estrogen levels in a woman's body increase 2,000% by the end of the first trimester. This causes the breasts to grow by making **more** of the Type 1 and Type 2 lobules, **which is where breast cancers start**. The breast doubles in size by 20 weeks.

After 32 weeks of pregnancy, the Type 1 and Type 2 lobules mature into Type 3 and Type 4 lobules in preparation for breast feeding.

- ◆ **Type 1** lobules are present at birth
- ◆ **Type 2** lobules form during puberty when estrogen levels rise and the breasts develop
- ◆ **Type 3** lobules form after the Type 4 lobules stop producing milk for breast feeding
- ◆ **Type 4** lobules contain colostrum which is the early milk

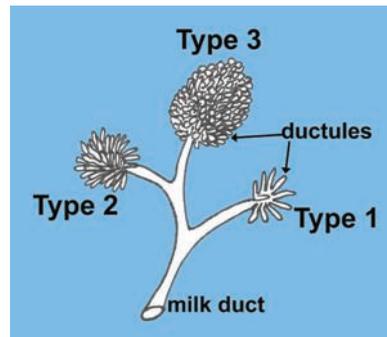
Are there more cases of breast cancer now?

- ◆ In 1970, breast cancer occurred in 1 out of 12 women.
- ◆ By 2002, that number was 1 out of 7 women.
- ◆ Since 1973, invasive breast cancer has increased by 40% and non-invasive (in-situ) breast cancer has increased by 400%.

Why are there more cases of breast cancer now?

- ◆ 82% of young women take the pill.
- ◆ There have been 52 million abortions.
- ◆ 50% of older women take hormone replacement therapy.
- ◆ 20% of women remain childless.
- ◆ 14% of women delay pregnancy over 35 years.

Types 3 & 4 lobules are resistant to cancer



The diagram above shows the difference between Type 1 and Type 2 lobules, which are **not cancer resistant**, and Type 3 lobules, which **are cancer resistant**. The cancer resistant Type 3 lobules form from the Type 4 lobules after a woman's first pregnancy and after she stops breastfeeding.

Why do women who wait to have children until they are past the age of 30 have an increased risk for breast cancer?

Women who delay having a child have a much higher risk of breast cancer than those who have a full-term pregnancy by age 20 because the breast lobules in their breasts stay immature and cancer vulnerable for a longer period of time before they mature. These immature lobules are exposed to carcinogens such as hormones for a longer period of time.

Why does abortion increase a woman's risk of breast cancer?

If a pregnancy ends by elective abortion before 32 weeks, the increase in the numbers of Type 1 and 2 lobules that are formed in the first two trimesters of pregnancy do not go on to mature to Type 3 and Type 4 lobules, so there are more of the immature lobules which provide more places for cancers to start.



Why is a woman who never has a full-term pregnancy at greater risk for breast cancer?

This is because the Type 1 and Type 2 lobules in their breasts have **never matured to the Type 3 and 4 lobules which are cancer resistant**.

Does a miscarriage in the first trimester increase a woman's chances of breast cancer?

No, because there is not the increased level of estrogen that is found in healthy pregnancies. The less estrogen a woman produces, the lower her risk of breast cancer. Her breasts are not stimulated and they remain unchanged.

Why does the "Pill" and hormone replacement therapy (HRT) raise a woman's risk for breast cancer?

When 15 million women stopped their HRT in 2002, by 2007 breast cancer cases in women over 50 decreased 11%. The same decrease would occur in premenopausal breast cancer if women stopped the Pill.

The "Pill" hormones increase breast cancer risk, whether given orally as a pill, by injection, by absorption through the skin, or other means (e.g., IUDs, Depo-Provera, the Patch, or vaginal rings). Even the newer lower-dose formulations, called "mini-pills," still increase breast cancer risk.

Hormone replacement therapy (HRT), prescribed for the side effects of menopause, such as hot flashes and mood swings, also increases the risk of breast cancer. The more years a woman takes HRT, the higher her risk of developing cancer.



Are mammograms safe?

Although it is true that large doses of radiation exposure can be a risk factor for breast cancer, with today's screening mammograms, the breasts are exposed to a very small amount of radiation. It is estimated that a woman would need at least 400 mammograms to increase her breast cancer risk at all.

