

How Hormones Affect Breast Cancer

The hormone story

Exposure to hormones, specifically estrogen, increases a woman's risk of developing breast cancer. Throughout life, women are exposed to hormones. From their first menstrual period to the onset of menopause, estrogen and progesterone stimulate normal breast cells. It is this lifetime exposure to ovarian hormones that is believed to put a woman at risk for breast cancer. Still, it is not clear if estrogen or other hormones cause breast cancer. What is known is that a woman who begins her menstrual cycle before age 12, has her first child after age 35 or goes through menopause after age 55 has an increased risk of breast cancer. Two other potential risks are described below.

Oral contraceptives

Recent studies have looked at the effects of lower-dose birth control pills, as well as the low-dose "mini-pill." The risk from the lower-dose pills may be less than the risk from pills that contain more estrogen.

Results have largely shown that oral contraceptive use slightly increases breast cancer risk. The increased risk disappears 10 years after stopping birth control pills. If you are taking some form of oral contraceptives now, the best advice is to check with your doctor about your personal risk.

Hormone Replacement Therapy (HRT)

During menopause, a woman's body produces much lower amounts of estrogen and progesterone than when she was having periods. Low levels of estrogen may cause hot flashes, bone loss, vaginal dryness and mood swings. To help lessen these side effects, doctors may prescribe hormone replacement therapy (HRT). Since HRT *adds* the lost estrogen (and progestin for women who have a uterus) back into your body the risk for breast cancer may increase. Many studies have looked for a possible link between the use of HRT and

breast cancer. Recent studies have shown that HRT, especially combined estrogen and progestin, can increase the risk of breast cancer. This risk declines over time once the woman stops taking HRT. Any woman currently taking or considering HRT should ask her doctor about the potential risks and benefits.

Related terms

Estrogen — A hormone produced primarily by the ovaries that aids in developing female sex organs and in regulating monthly menstrual cycles

Hormone — A substance that helps regulate body functions

Hormone Replacement Therapy (HRT) — Hormone-based drugs given to women to help control the effects of menopause

Menopause — The time in a woman's life when menstrual cycles stop and the level of estrogen in her body decreases

Oral Contraceptive — Hormone-based drugs used to prevent pregnancy or help regulate a woman's menstrual cycle

Osteoporosis — A disease in which bones become less dense and may break more easily

Progesterone — A hormone that is released by the ovaries during every menstrual cycle and helps prepare a woman's body for pregnancy

Progestin — A synthetic progesterone-like ingredient found in HRT drugs.

But what about...

- the effects of estrogen when breast cancer cells are already present?

Although it still has not been proven that estrogen directly causes breast cancer, estrogen may help some breast cancer cells grow when the tumor is already present in a woman's body.

- the risk of breast cancer for women who are currently taking birth control pills?

Studies have shown that the use of birth control pills slightly increases breast cancer risk.

- women who have stopped using birth control pills? Should they be concerned about their risk of breast cancer?

Once stopped, the risk decreases over time. After 10 years of not using birth control pills, a woman's risk is the same as a woman who never took the pills.

- the benefits of birth control pills in preventing pregnancy, and reducing the risk of ovarian cancer?

Together with her doctor, each woman must weigh the risks and benefits of taking birth control pills — making a decision based on all the information that is available to her.

- the benefits of hormone replacement therapy (HRT) in reducing the symptoms of menopause and the risk of osteoporosis?

Each woman must weigh the pros and cons of taking HRT. For short-term relief of menopausal symptoms, HRTs are approved therapies. HRT works best when used only at the lowest doses for the shortest amount of time. Other drugs or ways to manage these symptoms are available. Together with her doctor, each woman should look at all the options and make an informed decision.

- women who have already been diagnosed with breast cancer? Why are they taken off HRT?

Some doctors are concerned that exposure to additional estrogen may increase a woman's risk of breast cancer recurring. Talk to your doctor about your personal risk.

- women who have a family history of breast cancer?

There is no clear reason to avoid birth control pills or HRT. However, this area is controversial and studies are still ongoing. Talk to your doctor about how your family history may affect your risk.



Related fact sheets in this series:

- Breast Cancer Risk Factors
- Breast Health Resources
- Medical Vocabulary
- Types of Breast Cancer
- What is Breast Cancer?