



Hormones

Estrogens, a group of female sex hormones, are known human carcinogens. Although these hormones have essential physiological roles in both females and males, they have also been associated with an increased risk of certain cancers. For instance, taking combined menopausal hormone therapy (estrogen plus progestin, which is a synthetic version of the female hormone progesterone) can increase a woman's risk of breast cancer. Menopausal hormone therapy with estrogen alone increases the risk of endometrial cancer and is used only in women who have had a hysterectomy.

A woman who is thinking about menopausal hormone therapy should discuss the possible risks and benefits with her doctor.

Studies have also shown that a woman's risk of breast cancer is related to the estrogen and progesterone made by her ovaries (known as endogenous estrogen and progesterone). Being exposed for a long time and/or to high levels of these hormones has been linked to an increased risk of breast cancer. Increases in exposure can be caused by starting menstruation early, going through menopause late, being older at first pregnancy, and never having given birth. Conversely, having given birth is a protective factor for breast cancer.

Diethylstilbestrol (DES) is a form of estrogen that was given to some pregnant women in the United States between 1940 and 1971 to prevent miscarriages, premature labor, and related problems with pregnancy. Women who took DES during pregnancy have an increased risk of breast cancer. Their daughters have an increased risk of a cancer of the vagina or cervix. The possible effects on the sons and grandchildren of women who took DES during pregnancy are being studied.

For more information, see the following fact sheets:

- [Oral Contraceptives and Cancer Risk](#)
- [Menopausal Hormone Therapy and Cancer](#)
- [Reproductive History and Cancer Risk](#)
- [Diethylstilbestrol \(DES\) and Cancer](#)

Related Resources

[Breast Cancer Prevention \(PDQ®\)–Patient Version](#)

[Endometrial Cancer Prevention \(PDQ®\)–Patient Version](#)

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