THE HORMONE FOUNDATION®

the Oncofertility® Consortium

SaveMyFertility.org

WOMEN AND CANCER
Preserving Fertility

Why is it important to think about your fertility when you have cancer?

Fertility—a woman's ability to get pregnant or maintain a pregnancy—can be damaged by some cancer treatments. Many young women facing a cancer diagnosis want to have **children in the future**. Some may not know they have options to protect their fertility. The best time to preserve your fertility is before cancer treatment starts.

Ask your doctor about fertility-saving options as soon as possible after your cancer diagnosis. Sometimes your doctors can choose a treatment plan that does less harm to your fertility.

How does cancer treatment affect fertility?

Girls are born with all the eggs they will ever have. Women cannot grow or make new eggs. Chemotherapy, radiation therapy, and some surgeries can harm or destroy the eggs or cause other fertility problems.

The best time to preserve your fertility is before cancer treatment starts.

Chemotherapy can damage your eggs, ovarian follicles (sacs in the ovaries that contain the eggs), and sex hormones. Radiation can do the same damage when treatment is to your whole body or near certain organs. These include your reproductive organs and the pituitary gland (a hormone-producing gland at the base of the brain).

Often, chemotherapy or radiation therapy can stop your periods for a while or make them irregular. Your periods may continue or return after treatment, but you should know that having periods does not always mean that you are fertile. In some cases periods may never return. There is still a small **chance of pregnancy** even if you are not having periods.

Chemotherapy or radiation therapy can cause infertility right away, or years later by causing you to go into menopause early. Premature menopause is the end of your menstrual periods before age 40. Surgery that removes both ovaries causes menopause right away.

Your cancer treatment may affect your ability to **carry a pregnancy**. For instance, high-dose radiation to the pelvic region can raise the risk of a future miscarriage or cause premature birth. Women who have had a hysterectomy (surgery that removes the uterus) cannot become pregnant.

What is the chance of infertility?

Not all women become infertile after cancer treatment. The impact that cancer treatment may have on fertility depends on many factors. These include:

- Cancer type and stage (how much it has spread)
- Type and total dose (amount) of chemotherapy
- Dose and location of radiation therapy
- Site of surgery
- Your age (risk of infertility rises as you age)
- Your fertility status before treatment

If you plan to have chemotherapy, **ask your oncologist about options** that are less likely to damage your fertility.

What are the options for fertility preservation?

Your doctor may refer you to a reproductive endocrinologist, a doctor who is a fertility specialist.

Fertility-saving options vary by person, type and stage of cancer, and how quickly you must start cancer treatment. **Standard methods** include:

- **Embryo banking.** Freezing of embryos (fertilized eggs) may be an option. You may need fertility drugs (usually daily injections) to boost egg production. Your eggs are "harvested" (removed surgically) and combined with your partner's (or donor's) sperm in a laboratory dish. This is called in vitro fertilization, or IVF. The embryos stay frozen, or "banked," until you need them.
- **Pelvic shielding during radiation therapy.** It may be possible to shield one or both ovaries to protect them from radiation during treatment.
- **Ovarian transposition.** Before radiation treatment to the pelvic region, a surgeon moves one or both ovaries to another spot in your body outside the treatment field. If it is not possible to get pregnant naturally with the ovary in its new spot, you may need to have it moved again or use IVF to become pregnant.
- **Ovarian-sparing (conservative) surgery.** The standard treatment of gynecologic cancers such as endometrial (uterine) or ovarian cancer is to remove both ovaries and the uterus. Some women may be able to keep their ovaries if their cancer is early stage (stage I) and low grade, meaning a low risk of spreading.
- **Removal of the cervix but not the uterus.** Women with cervical cancer most often have their uterus and cervix surgically removed. Those with early-stage cancers of the cervix may choose to have just the cervix taken out.
- **Medical treatment of endometrial cancer.** Early, low-risk endometrial cancers can often be successfully treated without surgery. Instead, doctors can use hormonal drugs, such as a progestin, to shrink the tumor.

Other methods are **experimental**. Their safety and how well they work are still under study. They include:

- **Egg banking (freezing unfertilized eggs).** Like embryo banking, you may need fertility shots or other drugs to boost egg production. Your eggs are then harvested and frozen.
- **Ovarian tissue banking.** This method involves removing small pieces of the ovary and storing the tissue frozen. A surgeon may be able to re-implant the tissue after cancer treatment. This may not be a safe option for women with leukemia or certain other types of cancers because there could be cancer cells in the tissue. The tissue might also be used to mature the follicles and enclosed eggs and fertilize the eggs outside of the body, but no children have been born using this method yet.
- **Medical treatments.** Certain medications may be used to try to protect the ovaries during chemotherapy. These drugs can shut down the ovaries during treatment. It is not clear if they improve fertility after cancer treatment.

Will fertility preservation delay your cancer treatment?

Some methods of preserving fertility may delay the start of cancer treatment. For embryo and egg freezing, you most often will need about 2 weeks of medication to increase egg production, starting from when you get your period. After your eggs are harvested, you can begin cancer treatment.

What are the success rates and costs of fertility preservation?

Many young women who had cancer treatment have a child in the future. Fertility success rates vary by treatment and each woman's situation. Your doctor will be able to give you more information about your **chances for success**.

The cost of fertility preservation also varies but may be expensive. Insurance companies may not cover the cost of certain fertility treatments. Financial help is available from some organizations (see Resources).

Is pregnancy safe after cancer treatment?

In general, pregnancy is safe after cancer treatment ends and you are in remission. Research shows that **pregnancy does not cause a cancer recurrence**.

However, your doctor may suggest you wait 6 months or more after you stop treatment before you try to get pregnant. That is because if cancer recurs, it is most likely to do so in the first 2 years. In general, it is not safe to become pregnant during cancer treatment. **Talk to your doctor** about the birth control options that are right for you, even if you think you're infertile, until your doctor tells you that you may try to become pregnant.

Some cancer treatments may cause heart or lung damage and complicate a future pregnancy. Ask your doctor if it's safe for you get pregnant.

What are the options if you are infertile?

If pregnancy is not possible after cancer treatment, there are other **options to build a family**. These include getting embryos or eggs from a donor, using a surrogate mother to carry a pregnancy (where it is legal), and adoption. Some adoption agencies may have restrictions on adoptions by cancer survivors, but others do not.

It is common to feel sad or angry about not being able to have a child. You may find it helpful to talk to a counselor or join an infertility support group.

What should you do with this information?

Your doctors may not discuss fertility preservation. You should raise this issue if fertility is a concern for you. Here are some questions to ask your doctor:

- How quickly do I need to start cancer treatment?
- Will my cancer or its treatment affect my future fertility?
- What are my options to preserve fertility?
- Do any of these options make my cancer treatment less effective or raise the chance of a recurrence?
- I am not in a relationship but still want a child; what are my options?
- If my prognosis is poor, may I still bank embryos or eggs?

Resources

Save My Fertility
SaveMyFertility.org

Oncofertility Consortium
myoncofertility.org
oncofertility.northwestern.edu *or call*
1-866-708-FERT (1-866-708-3378)

Find-an-Endocrinologist
www.hormone.org/FindAnEndo/index.cfm

The Hormone Foundation
www.hormone.org/Resources/menopause-and-womens-health.cfm

Fertile Hope
www.fertilehope.org

Sharing Hope Program
www.fertilehope.org/financial-assistance/index.cfm

American Society for Reproductive Medicine
www.asrm.org/patient_resources

American Society of Clinical Oncology
(cancer information)
www.cancer.net

RESOLVE: The National Infertility Association
www.resolve.org

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The Hormone Foundation®, the public education affiliate of The Endocrine Society®, serves as a resource for the public by promoting the prevention, treatment, and cure of hormone-related conditions through outreach and education.

The Oncofertility Consortium® is a national, interdisciplinary initiative designed to explore the reproductive future of cancer survivors.

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