

Fertility Issues in Girls and Women with Cancer

Cancer treatments can lower your fertility by making it difficult to become pregnant or to carry a pregnancy. Most likely, your doctor will talk with you about whether or not cancer treatment may increase the risk of fertility problems or cause infertility. Sometimes you, or parents of a child being treated for cancer, may need to initiate this conversation with the doctor.

Whether fertility is affected depends on factors such as:

- your age at the time of treatment
- the type of cancer and treatment(s)
- the amount (dose) of treatment
- the length (duration) of treatment
- the amount of time that has passed since cancer treatment
- your baseline fertility status, such as any fertility problems in the past
- other personal health conditions and factors

Learn about fertility issues for males in [Fertility Issues in Boys and Men with Cancer](#).

Ask your doctor how the recommended cancer treatment may affect your fertility before starting treatment. Consider asking questions such as:

- Could treatment increase the risk of, or cause, infertility? Could treatment make it difficult to become pregnant or carry a pregnancy in the future?
- Are there other recommended cancer treatments that might not cause, or cause fewer, fertility problems?
- Which fertility preservation option(s) would you advise for me?



Treatment for cancer may cause changes to a girl's or a woman's fertility.

Credit: iStock

- What fertility preservation options are available at this hospital? At a fertility clinic?
- Would you recommend that I talk with a fertility specialist, such as a reproductive endocrinologist, to learn more?
- Is birth control recommended, based on the treatment I will be receiving?
- After treatment, what are the chances that I will be able to get pregnant? How long might it take for my fertility to return?

Learn about side effects related to [Sexual Health Issues in Women with Cancer](#).

Cancer treatments may affect a female's fertility

Cancer treatments are important for your future health, but they may harm reproductive organs and glands that control fertility. Changes to your fertility may be temporary or permanent.

Talk with your health care team to learn what to expect, based on your treatment(s):

- Chemotherapy (especially with drugs called alkylating agents) can affect the ovaries, causing them to stop releasing mature eggs and producing estrogen. This consequence of chemotherapy is called primary ovarian insufficiency (also called premature ovarian failure). Sometimes it's temporary and your menstrual periods and fertility return after treatment. Other times, damage to your ovaries is permanent and you may experience premature menopause. Symptoms may include hot flashes, night sweats, irritability, vaginal dryness, and irregular or no menstrual periods. Chemotherapy can also lower the number of total eggs in the ovaries. Women who are closer to the age of natural menopause may have a greater risk of ovarian failure and/or infertility. Learn more [about primary ovarian insufficiency](#) from the National Institute for Child Health and Human Development.
- Hormone therapy (also called endocrine therapy) to treat cancer can disrupt the menstrual cycle, which may affect your fertility. Side effects depend on the specific hormones used and may include hot flashes, night sweats, and vaginal dryness. Learn more [about ways to manage hot flashes and nights sweats](#).
- Radiation therapy to or near the abdomen, pelvis, or spine can harm nearby reproductive organs. Radiation therapy to the ovaries can cause primary ovarian insufficiency, while radiation therapy to the uterus can affect blood flow, which may increase pregnancy-related complications. Radiation therapy to the brain can harm the pituitary gland. This gland is important because it sends signals to the ovaries to make hormones such as

estrogen that are needed for ovulation. The amount of radiation given, and the part of your body being treated, play a role in whether fertility is affected.

- Stem cell transplants involve receiving high doses of chemotherapy and/or radiation. These treatments can damage the ovaries and may cause infertility as a result.
- Surgery for cancers of the reproductive organs and for cancers in the pelvic region can harm nearby reproductive tissues and cause scarring, which can affect your fertility. The size and location of the tumor are important factors in whether your fertility is affected.
- Other treatments: Talk with your doctor to learn how specific types of immunotherapy or targeted cancer therapy may affect your fertility.

Making fertility-related decisions

Making decisions about whether to preserve your fertility isn't easy. You'll need to learn about the risks of the proposed cancer treatment to your fertility as well as the best fertility preservation options for you. Infertility can be a difficult and upsetting side effect of some cancer treatments.

Although it might feel overwhelming to think about your fertility right now, most people benefit from having talked with their doctor (or their child's doctor, when a child is being treated for cancer) about how treatment may affect their fertility and options to preserve fertility.

Although many people want to have children at some point in their life, families can come together in different ways. For support reach out to your health care team with questions or concerns, as well as to professionally led [cancer support groups](#).

If you are a young person with cancer or the parent of a young girl or teen with cancer, this [video of fertility options for young female cancer patients](#) from the Children's Hospital of Philadelphia may help you talk with the healthcare team.

Fertility preservation options for girls and women

Fertility preservation is the process of saving or protecting your eggs, or reproductive tissue, in order to have biological children in the future. Women and girls with cancer have options to preserve their fertility. These procedures may be available at the hospital where you are receiving cancer treatment or at a fertility preservation clinic.



Talk with your doctor about the best option(s) for you based on your age, the type of cancer you have, and the specific treatment(s) you will be receiving.

The success rate, financial cost, and availability of these procedures vary. A growing number of states require insurance companies to cover fertility preservation methods. Learn if the state you live or work in [requires insurance companies to cover fertility-related costs for people with cancer](#).

- Egg freezing (also called egg banking, egg cryopreservation, or oocyte cryopreservation) is a procedure in which mature eggs are removed from the ovary and frozen. Later, when you are ready to try to become pregnant, the eggs can be thawed, fertilized with sperm in the lab to form embryos, and placed in your uterus. Egg freezing is a newer procedure than embryo freezing and does not have as long of a track record of success as embryo freezing, but it may be especially suitable if you do not have a partner.
- Embryo freezing (also called embryo banking or embryo cryopreservation) is a procedure in which eggs are removed from the ovary and then fertilized with sperm in the lab to form embryos that are frozen for future use. When you are ready to try to become pregnant, the frozen embryos are thawed and placed in the uterus.
- Gonadotropin-releasing hormone agonist (GnRHa) is a drug that causes egg maturation as well as estrogen and progesterone production in the ovaries to stop. Research in women with breast cancer has found that using GnRHa can protect against premature ovarian failure.
- Ovarian shielding (also called gonadal shielding) is a procedure that can be done during radiation treatment, in which a protective cover is placed over the ovaries and other parts of the reproductive system, to shield them from scatter radiation.
- Ovarian tissue freezing (also called ovarian tissue banking and ovarian tissue cryopreservation) involves surgically removing part or all of an ovary and then freezing the ovarian tissue, which contains eggs. Later, when you are ready to try to become pregnant, the tissue is thawed and placed back into your body.
- Ovarian transposition (also called oophoropexy) is an operation to move the ovaries away from the part of the body receiving radiation therapy to lessen the potential for damage from the radiation. This procedure may be done during surgery to remove the cancer.
- Radical trachelectomy (also called radical cervicectomy) is surgery used to treat women with early-stage cervical cancer who would like to be pregnant in the future. This operation

Fertility Preservation Safe for Young Women with Breast Cancer

The finding supports offering fertility preservation as part of standard care, experts say.

removes the cervix, nearby lymph nodes, and the upper part of the vagina. The uterus is then attached to the remaining part of the vagina, with a special band that keeps the uterus closed during pregnancy.

If you choose to take steps to preserve your fertility, your doctor and a fertility specialist will work together to develop a treatment plan that includes fertility preservation, whenever possible. Your health care team will advise you on the timing of fertility procedures you may choose to have and whether a delay may affect your treatment plan and prognosis.

Getting personalized care

Regardless of your age, race, economic status, sexual orientation, or gender identity, it's important to make decisions that reflect what is important to you. If having biological children is important, talk with your health care team about how the proposed cancer treatment may affect your ability to become pregnant. These conversations can help you get the information you need to make decisions that feel right to you. Talking about issues related to reproduction, sexual orientation, and gender identity can feel awkward, to you or your doctor, but that doesn't mean you shouldn't have these conversations. They are important and most people with cancer are glad they had these discussions with their doctor.

Finding more resources, financial support, and clinical trials

These organizations also have information about fertility preservation options for people with cancer:

- [Oncofertility Consortium](#)
Learn more about fertility preservation options, connect with a patient navigator, and find community resources.
- [Alliance for Fertility Preservation](#)
Comprehensive information on fertility preservation, including [laws and legislation in some states](#) that require insurance companies to cover the cost of fertility preservation as well as answers to commonly asked questions.
- [Livestrong Fertility](#)
Access financial support and find a fertility clinic in your area if cancer treatment presents a risk to your fertility. Learn about a discount program for qualifying patients.

Learn about clinical trials by searching [NCI-funded clinical trials](#) and these [NIH-funded clinical trials](#). You can also get answers to commonly asked questions about clinical trials, learn how

clinical trials work, and why people participate in a clinical trial: [Clinical Trials Information for Patients and Caregivers](#).



[Listen to tips on how to manage changes in sexuality and fertility caused by cancer treatments such as radiation therapy.](#)

(Type: MP3 | Time: 3:55 | Size: 3.7MB)

[View Transcript](#)

Related Resources

[Oncofertility: Creating a Bridge Between Cancer Care and Reproductive Health](#)

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Cancer Treatment and Infertility

Some treatments for cancer can cause infertility in both men and women. Also, cancer treatment in children may affect their future fertility. Infertility from cancer treatment may be temporary or permanent.

Whether or not your cancer treatment will affect your fertility depends on many things, such as how many radiation treatments you get or the type of chemotherapy you have.

Before you begin your cancer treatment, talk to your doctor to find out if your fertility could be affected. Your doctor may refer you to a fertility specialist. If preserving fertility is a concern for you, knowing your options can help you know what to decide.

Men

Options to help preserve fertility in men may include:

- Banking sperm (freezing and storing sperm for use in the future) before having any cancer treatment.
- Having the testicles shielded during radiation therapy.

During treatment, use birth control. Radiation to the testicles and some chemotherapy can damage sperm and cause birth defects. If you are having chemotherapy, you need to use a condom during sex because your semen may contain chemotherapy medicines. Also, your partner may need to use birth control.

After treatment, it may take some time to find out if you are fertile. If you have very low sperm counts or if treatment has caused problems with ejaculation, you still may be able to father a child using assisted reproductive technologies.

Women

Options to help preserve fertility in women may include:

- Embryo banking (freezing and storing embryos for use in the future) before having any cancer treatment.
- Having the ovaries shielded during radiation therapy.
- Having surgery to move the ovaries out of the radiation-affected area of the body.
- Banking eggs or ovarian tissue (this is still experimental).

- Protecting the egg supply in other ways, such as by shutting down the pituitary gland.

During treatment, if you have not gone through menopause, you (or your partner) will need to use birth control. Getting pregnant during treatment should be avoided. Cancer treatments can harm a developing baby (fetus).

Children

If your child has cancer, talk to the doctor to find out whether treatment will affect your child's future fertility. This is important even for young children who have cancer. If treatment could affect your child's fertility, ask the doctor to recommend a fertility specialist. This specialist can work with your child's medical team to try to preserve fertility.

Related Information

- Infertility

Credits

Current as of: October 25, 2023

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