

FERTILITY RISKS RELATED TO CANCER TREATMENT

What Are My Options and
How Can I Plan for the Future?

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Talking to your health care team about fertility risks related to cancer treatment

Talking to your health care team about what matters most to you

It is important to talk openly and honestly with your doctor about your wishes and plans for your life after treatment and even before treatment. When it comes to fertility, it is especially important to start taking steps early to know and understand important factors that will need to be considered to decide what is best for you and your care.

These key questions can help you start the conversation with your doctor.

How will my cancer and cancer treatment affect my fertility?

Based on my treatment plan, what is my risk of infertility (high, moderate, low)?

What are my options for fertility preservation before I begin cancer treatment?

Can you refer me to a fertility preservation specialist to discuss my options further?

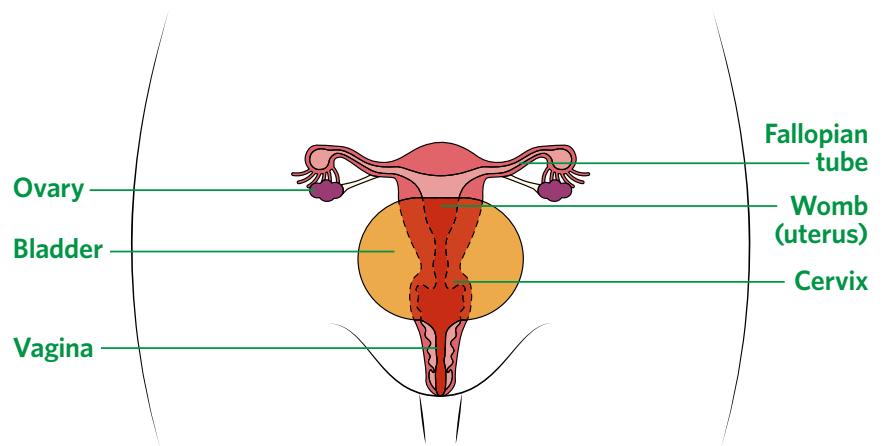
Before starting treatment, your doctor can refer you to see a fertility preservation specialist. Talking with a specialist can help you explore what your options are now. You will also learn about other options to build a family after cancer if you are unable to preserve your fertility.

Once you have received a referral, it is important you also ask to speak with your City of Hope clinical social worker to help you plan and navigate the resources available to you.

Could cancer treatment affect my fertility?

For women

Fertility is the ability to conceive a child. This depends on the health of your reproductive system. Your ovaries need to have a supply of healthy eggs, and your hormone levels need to be stable for a pregnancy.



Reproductive system problems can develop after some types of cancer treatment. After treatment, your fertility may fall into one of these categories:

1.

Fertility followed by early menopause

There may be damage to some of the eggs in your ovaries. After treatment, you may have a period of time when you are fertile and then go into early menopause.

2.

Immediate menopause

This can occur if your eggs are damaged and/or destroyed by cancer treatment and or reproductive organs are damaged or removed.

3.

Compromised fertility

Due to damage of the reproductive system, infertility can be temporary or permanent. Women closer to the natural age of menopause are at a greater risk of infertility.

4.

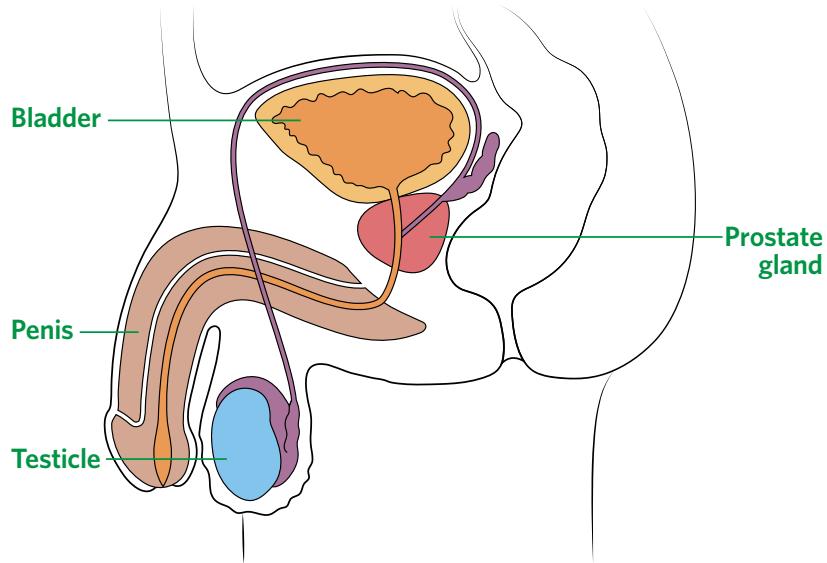
Lack of estrogen

If there is damage to the ovaries, you may not make enough estrogen. The estrogen hormone is needed for reproduction, and it is also important for keeping your bones strong and your heart healthy.

There is also a chance your fertility will not be affected. Pregnancy after cancer treatment can be safe for both mother and baby. However, your doctor may suggest to wait a period of time before you try to get pregnant. The timing will vary depending on your particular situation.

For men

Fertility is the ability to conceive a child. This process depends on the health of your reproductive system and hormone levels, which enables you to make healthy sperm, get an erection and ejaculate.



Reproductive system problems can develop after some types of cancer treatment. Reproductive problems that can develop after treatment include:

1. Early, delayed or absent puberty

Some cancer treatments affect when puberty starts. Puberty can start earlier, be delayed or be absent.

2. Infertility

Due to low sperm count, this can be temporary or permanent.

3. Lack of testosterone

This can happen when the testicles are not making enough testosterone.

There is also a chance your fertility will not be affected. Men can try to have a child after cancer treatment ends. However, your doctor may suggest to wait a period of time before you try to have a child. The timing will vary depending on your particular situation.

The effect of your cancer treatment on your fertility will depend on important factors such as:



- Age and cancer type
- Fertility status *before* treatment
- If getting chemotherapy: type, duration and dose of treatment
- If getting radiation: location and dose of treatment
- If getting surgery: location and type of surgery
- If getting targeted immunotherapy: type, duration and dose of treatment

Fertility risks that might come with targeted immunotherapy are still considered a new area of research. It is very important you talk to your doctor about the risks related to your specific treatment.

How can my fertility be saved or protected before and during treatment?

There may be ways to save or protect your fertility before and during treatment.

New reproductive technologies are providing possibilities for preserving fertility in survivors of cancer and other diseases. In most cases, decisions on fertility preservation need to be made before treatment begins. The impact of a given treatment on fertility can vary and so can the time available before starting lifesaving cancer treatments. Fertility preservation treatments must be tailored to the individual circumstances and integrated with the treatment regimen.

Can I plan ahead to have children after treatment?

Yes.

There are many ways to build a family after cancer treatments end, even if you are not able to preserve your fertility prior to starting treatment. Your doctor can refer to you a fertility specialist who can help you explore what options might be right for you.

What are the options for fertility preservation?

Fertility preservation is the process of saving or protecting eggs, sperm or reproductive tissue so that a person can use them to have biological children in the future. There are several ways to preserve fertility before cancer treatment.



For women

Embryo Banking Ovarian stimulation; harvesting eggs, IVF and freezing of embryos	Eggs are collected, fertilized with sperm to create embryos, and then frozen and stored for later use.	Before or after treatment. Outpatient surgical procedure. Process can take 10 to 15 days.
Egg Banking Ovarian stimulation; harvesting and freezing of unfertilized eggs	Eggs are collected and then frozen, unfertilized and stored for later use.	Before or after treatment. Outpatient surgical procedure. Process can take 10 to 15 days.
Radiation Shielding Use of shielding to reduce scatter radiation to the ovaries	A protective cover is placed outside of the body during radiation therapy over the areas of the ovaries, fallopian tubes, uterus, cervix and vagina.	
Ovarian Transposition Surgery that moves ovaries out of the field of radiation	This procedure lowers the amount of radiation your ovaries are exposed to during radiation therapy.	Before or after treatment. Outpatient procedure.
Radical Trachelectomy Surgical removal of the cervix with preservation of the uterus	This procedure is used to preserve fertility in women under the age of 40 who are diagnosed with early-stage cervical cancer.	Before treatment. Inpatient surgical procedure. Limited to early stage cervical cancer.
Ovarian Tissue Banking (Experimental) Surgical removal of ovarian tissue and processing of tissue for freezing	This experimental technique is an option for patients with little or no time for ovarian stimulation before cancer treatment. One of the ovaries is surgically removed and stored until cancer treatment is completed. The ovary is then reimplanted and, when successful, will resume producing hormones and maturing eggs.	Before or after treatment. Outpatient surgical procedure.
Ovarian Suppression (Experimental) GnRH analgs used to suppress ovaries	This experimental technique is an option that can be done during cancer treatment. Medications are used to suppress the ovaries and prevent them from producing hormones or maturing eggs until after cancer treatment has finished.	During treatment. It is taken in conjunction with chemotherapy.

For men

Sperm Banking

A semen specimen is produced, analyzed, frozen and stored for future use.

If the man makes too little or no sperm, sperm can be taken from the testicles by surgical extraction.

Before treatment.
Inpatient surgical procedure.

If there is no semen with ejaculation due to retrograde ejaculation (ejaculation into bladder), your doctor can isolate the sperm from the urine to provide sperm for banking.

Before treatment

If the man is unable to ejaculate, a stimulate ejaculation (vibration or electrical) can be done to provide sperm for banking.

Before treatment

Testicular Tissue Freezing

Testicular tissue, including cells that produce sperm, is surgically removed, analyzed, frozen and stored.

This procedure is mostly aimed as an option for prepubescent boys (as young as 13 years old) who are not yet producing sperm.

Before treatment

Radiation Shielding of the Testes

This procedure involves the placement of shields over the scrotal sac to reduce radiation exposure to the testes.

Before treatment



Understand your fertility options before cancer treatment

There are many important factors to think about before, during and after cancer treatment. Your treatment team can help you understand the options available, assess risks and eligibility, and provide referrals to specialists in the field of fertility preservation. Understanding there are fertility preservation options available and seeing a reproductive specialist in a timely manner can improve your emotional outlook and future quality of life.

Many people who have been diagnosed with cancer think preserving their fertility is important and want information about their options. However:

- You may not feel comfortable bringing up fertility issues.
- You may not be aware of your options for preserving fertility.
- You may be focused on your cancer diagnosis and unable to think about fertility or the possibility of having a future family.
- You may later regret not considering fertility issues prior to starting cancer treatment.
- Even patients with a poor prognosis may want to consider fertility preservation.

Talk to your doctor about your fertility concerns and questions as early as possible. Knowing your options will help you plan and pursue the fertility preservation treatment that is best for you.



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