

Fertility Options for Men Who Need Cancer Treatment (Sperm Banking) Answers to Common Questions

How Does Cancer Treatment Affect Fertility?

Fertility in men means the ability to produce healthy sperm cells that can make a woman pregnant.

It is common for men with cancer to have a temporary drop in semen quality. Semen quality includes:

- The sperm count (how many sperm are in a man's semen).
- Sperm motility (ability of sperm to swim to the egg).
- Sperm morphology (the percent of sperm with normal shapes).

The ability to make healthy sperm cells may return after cancer treatment. However, some cancer treatments can damage fertility permanently.

How Does Surgery Affect Fertility?

Most cancer surgeries do not damage a man's fertility unless they take place in the pelvic area.

Testicular Cancer

Men with testicular cancer usually have one testicle removed. A man can still be fertile with only one testicle. If the remaining testicle is not functioning normally, it might not make enough healthy sperm. If both testicles are removed, infertility is permanent.

Prostate Cancer

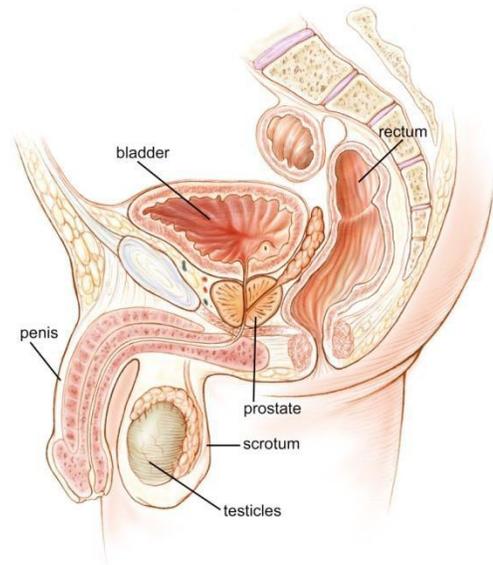
Some men have both testicles removed to treat advanced prostate cancer. If both testicles are removed, infertility is permanent.

What Is a "Dry Orgasm"?

A dry orgasm occurs when a man has the feeling of orgasm pleasure but no semen comes out of his penis. Dry orgasms can occur after cancer surgery. The prostate and seminal vesicles are glands that make the liquid part of semen. Sometimes, these parts are removed as a part of surgery. Nerves involved in ejaculation of semen may also be damaged.

The following types of surgery may cause dry orgasms:

- Surgery to remove lymph nodes in the abdomen.
- Surgery to remove a tumor in the sigmoid colon, a part of the large intestine.
- Surgery to remove the prostate or bladder.



Fertility specialists can get sperm cells from men who have dry orgasm by using a variety of methods, including medication, electrical stimulation or surgery.

These methods do not always work, and health insurance does not always pay for them.

What Is “Retrograde Ejaculation”?

Retrograde ejaculation occurs when semen goes into the bladder instead of through the penis. This happens when the valve between the bladder and urinary tube fails. Surgery may damage the valve or the nerves that control the valve.

How Does Radiation Affect Fertility?

Radiation treatment to an area near the testicles may damage sperm production. Infertility may be temporary or permanent.

Men who have radiation to their whole body may have permanent infertility. This can happen in patients preparing for a stem cell or bone marrow transplant.

Radiation to the prostate can decrease the amount of semen a man ejaculates. He may have dry orgasms or just a few drops of semen.

Radiation to the brain can damage the hypothalamus and pituitary gland. These areas of the brain control sperm production in the testicles. If these areas are damaged, a man may be unable to make sperm.

How Does Chemotherapy Affect Fertility?

Chemotherapy may damage sperm cell production in the testicles. The damage may be temporary or permanent, depending on the drugs and doses.

The drugs most likely to cause infertility are the alkylating chemotherapy drugs. These include: ifosfamide, cyclophosphamide, busulfan and nitrogen mustard. The risk of infertility increases as the dose of chemotherapy increases.

Sperm Banking

Before cancer treatment starts, men who may want to have a child in the future should consider banking sperm. Banking sperm involves freezing a semen sample. The sample can later be thawed and used to make a woman pregnant.

Most health insurance plans do not pay for sperm banking. Some sperm banks have payment plans for patients with cancer. There are also financial assistance programs that can lower the cost of banking and storage.

How Do I Bank Sperm Before Starting Cancer Treatment?

Collecting semen is not painful. The sample is collected at an infertility clinic or sperm bank. To get the sample, a man must ejaculate through masturbation. The clinic will test the semen for sperm count and motility. The sample is divided into small amounts and frozen.

How Long Can Sperm Be Frozen?

Frozen samples may be stored a long time. Although freezing and thawing may kill some of the sperm cells, the actual time the sample is frozen does not cause damage. Healthy babies have been born with sperm stored over 20 years.

What Happens If My Son Has Not Gone Through Puberty?

Most boys start making sperm at age 12 or 13. Sperm may be collected in different ways. Some cancer centers offer testicular tissue freezing. Small pieces of testicular tissue are surgically removed and frozen. Doctors will transplant the tissue back into the boy's body when he is older and cancer free. Hopefully, the tissue will produce mature sperm. This method is still experimental. Testicular tissue freezing should only be considered if it is part of a research study approved by an Institutional Review Board (IRB). Removing too much tissue could decrease a boy's chances of regaining his fertility. There may also be some risk of reintroducing cancer cells into the body.

How Much Sperm Should I Bank?

Ideally, a cancer patient should try to bank at least two to three times. The number of samples you bank depends on:

- How much time you have before starting cancer treatment.
- Sperm quality.
- The cost of storing samples.

How Much Does It Cost to Bank Sperm?

The costs for banking sperm are approximately \$550. This cost may be different from clinic to clinic. There are also costs for blood tests, however, these are usually covered by insurance.

What Personal Information Will I Need to Provide?

You will need to provide:

- Full name.
- Date of birth.
- Social Security number.
- Street address.
- An emergency contact.

Your cancer doctor should also send a referral form that includes information about your cancer diagnosis and treatment plan to the clinic.

Will I Be Fertile After Treatment?

Fertility may return at any time, even many years after treatment. Many men will recover sperm production within four years. The chance and timing of recovery depends on:

- Age.
- The cancer treatment.
- Medical history.

The testicles contain many "stem cells," special cells that divide and grow over and over again to produce sperm cells. If cancer treatment kills the stem cells, no more sperm will be produced.

What Tests or Procedures May I Need?

A semen analysis helps predict a man's fertility. A semen sample can be analyzed for:

- The sperm count (how many sperm are in a man's semen).
- Sperm motility (ability of sperm to swim to the egg).
- Sperm morphology (the percent of sperm with normal shapes).

Even if a man has no sperm in his semen, he may be making some in isolated parts of the testicle. About half of men with no sperm in their semen have enough sperm cells in the testicle to use in fertility treatment. In this case, sperm may be collected through an outpatient surgical procedure.

What is Intrauterine Insemination?

Some men recover enough sperm to father a child through sexual intercourse. However, some cancer survivors have low sperm counts and low sperm motility.

Intrauterine insemination is the placement of semen into the uterus. A fertility specialist prepares a fresh semen sample or thaws a banked semen sample. The sample is washed and concentrated and then injected into the woman's uterus. This procedure is done in the doctor's office.

What is In Vitro Fertilization (IVF)?

In vitro fertilization is a process where the sperm is placed near or into an egg outside of the body. The fertilized egg will become an embryo. The embryo can be placed in the woman's uterus or frozen for the future.

After Cancer Treatment, How Long Should I Wait Before Trying to Father a Child?

Chemotherapy and radiation can affect sperm cells. It takes a sperm cell about three months to mature. Doctors usually recommend waiting at least six to twelve months after treatment has ended to father a child.

Will My Children Be Healthy?

People who have had cancer have the same birth outcomes as the general population. Your child will have no additional birth or developmental risks.

Some cancers (about five to 10 percent of all cancers) have a strong genetic factor. This means there is an increased chance of other family members getting cancer. If you have a family history of cancer, you may want to talk with a genetic counselor.

Sperm Banking Resources:

Main Line Fertility Center
Paoli Point, Suite 100
11 Industrial Blvd.
Paoli, Pa. 19301

Andrology Center
Amy Brennen, Financial Coordinator
484.337.8975

Fairfax Cryobank
34th and Market Street
Philadelphia, Pa.
215.386.1997
Christina Boyd (x1990)

RMA of the Leigh valley
1401 N. Cedar Crest Blvd., Suite 200
Allentown, Pa.
610.820.6888

Resources:

LIVESTRONG fertility website: www.livestrong.org/we-can-help/fertility-services/#.

The American Society for Reproductive Medicine Patient Website: ReproductiveFacts.org.

American Society of Clinical Oncology: "Fertility Preservation for Patients with Cancer."