Living With Cancer

Fertility Issues When You Have Cancer

Cancer and its treatments can sometimes impair a woman's ability to get pregnant or a man's ability to father children. But exactly what may happen depends on a person's age, general health, fertility prior to cancer and the type, amount and duration of cancer treatment.

Some cancers and their treatments can have detrimental effects on the reproductive system in both women and men. Sometimes it is necessary to remove cancer in reproductive organs such as the uterus, ovaries or testicles. Radiation and chemotherapy can have harmful effects on eggs and sperm. While many people who are still in their fertile years are able to have children after cancer treatment, some will become permanently infertile.

If you think you may want to have children in the future—or you're not sure—talk to your cancer care team about possible options and strategies before starting treatment. Treatment for younger cancer patients can sometimes be adjusted to preserve fertility, and freezing eggs or sperm may be an option. Some clinics have reproductive endocrinologists and other experts who specialize in fertility issues for people with cancer.

The National Cancer Institute suggests asking several questions before treatment begins to learn about possible fertility issues:

- Could the treatment cause, or increase the risk of, infertility?
- Are there other established treatments that are less likely to lead to fertility problems?
- What are some fertility preservation options, and which ones are available locally?
- Is there a fertility specialist available who can become part of the cancer care team?
- Is birth control or condom use advisable during treatment?
- What will fertility be like after treatment?

Loss of fertility can be an extremely upsetting consequence of cancer treatment. Many people want to have children at some point, and doing so may be part of their sense of identity and purpose. While the idea of infertility may be overwhelming to think about, it is important to discuss the issue with your care team prior to treatment. Some people may also benefit from talking with a family or couple's counselor or attending a professionally led support group.

Women and Fertility

A variety of changes in a woman’s fertility can happen as a result of cancer itself or its treatment. Gynecological cancers that affect the reproductive organs, including the ovaries, uterus and cervix, increase the chances of permanent loss of fertility, especially if they have to be removed. Surgery for other types of cancer in the same area can also affect the reproductive organs and cause scarring that could affect fertility.

Radiation therapy involving the abdomen, pelvis or spine can harm the reproductive organs and damage undeveloped eggs. In some cases the ovaries can be protected by shielding (such as wearing a lead apron) or by surgical procedures that moves the ovaries away from the radiation area. Radiation therapy to the brain can damage the pituitary gland, which can affect hormone production.

Some types of chemotherapy can affect sexual and reproductive function. Some drugs may damage undeveloped eggs or reduce the number of healthy eggs in the ovaries. Women who are close to the age of natural menopause have a greater risk of infertility. Depending on the type of treatment and individual factors, these may be temporary or permanent changes.

Estrogen promotes the growth of some breast and reproductive organ cancers, and these may be treated with hormone, or endocrine therapy that stops estrogen production or blocks its effects. Hormone therapy can stop the ovaries from releasing eggs and disrupt the menstrual cycle. In some cases hormone therapy is continued long-term to prevent cancer from coming back.

Some young women undergoing cancer treatment experience premature menopause, with symptoms such as hot flashes, vaginal dryness and reduced sex drive. This may be either temporary or permanent.

Many women will have options that can allow for pregnancy after cancer treatment. This includes having eggs or ovarian tissue collected and frozen prior to treatment. Eggs may also be removed, fertilized in a lab and the resulting embryos frozen for future use.

Pregnancy while undergoing cancer treatment can be risky because some types of tumors grow faster when exposed to the high estrogen and progesterone levels that occur during pregnancy. In addition, radiation and some types of chemotherapy can harm a developing fetus. Ask your care team about birth control methods that will not interfere with your medical treatment.

Men and Fertility

Cancer and its treatment can have a variety of effects on a man’s fertility. Depending on the type of treatment and individual factors, these changes may be temporary or permanent.

Cancers that affect the reproductive organs, including the penis, testicles and prostate gland, increase the chances of long-term or permanent fertility problems. Removal of one testicle usually

does not result in infertility if the other remains healthy. After removal of the prostate gland a man will no longer be able to produce semen. Some surgeries for other types of cancer in the same area (such as bladder or colon cancer) can also affect the reproductive organs. Surgery can sometimes cause nerve damage that leads to problems getting an erection or releasing semen.

Radiation therapy involving the abdomen, pelvis or spine can harm the reproductive organs. Often external organs including the testicles can be protected from radiation with shielding. Radiation therapy to the brain can damage the pituitary gland, which can lead to altered production of testosterone and other hormones.

Some types of chemotherapy can decrease sperm production. Radiation and chemotherapy can damage the genetic material in sperm, but new replacement sperm cells are continuously being produced. Some chemotherapy drugs can get into the semen, so use condoms during treatment to protect your partner from exposure.

Male hormones (androgens) such as testosterone can promote the growth of prostate cancer, and it is often treated with hormone, or endocrine therapy that stops production of androgens or blocks their effects. Hormone therapy can lead to reduced sex drive, problems with sexual function and reduced sperm production.

Many men will have options for fathering children after cancer treatment. These may include banking sperm and freezing testicular tissue prior to treatment. Saving testicular tissue can potentially preserve the future fertility of young boys who do not yet produce semen.

For more information on fertility issues when you have cancer, visit:

American Cancer Society: Fertility and Women with Cancer
American Cancer Society: Fertility and Men with Cancer
American Society of Clinical Oncology: Fertility Concerns and Preservation for Men
American Society of Clinical Oncology: Fertility Concerns and Preservation for Women
National Cancer Institute: Fertility Issues in Girls and Women with Cancer
National Cancer Institute: Fertility Issues in Boys and Men with Cancer

Last Reviewed: November 17, 2017
