



# Fact Sheet

From ReproductiveFacts.org

The Patient Education Web Site of the American Society for Reproductive Medicine

## Female Cancers, Cryopreservation, and Fertility

### ***Are there options for preserving fertility in women who have been newly diagnosed with cancer?***

Yes! New technology lets your doctor remove and freeze some cells, tissues, or fertilized eggs (embryos) before treating your cancer. This way you may be able to have children after your treatment. This process is called cryopreservation or freezing. The kind of cancer that you have determines what your options are.

The most common cancers in girls and young women are Hodgkin's or non-Hodgkin's lymphomas, leukemia, thyroid cancer, breast cancer, melanoma, or gynecologic cancers (cervix, uterus, or ovary). Most of these cancers can be successfully treated with chemotherapy, radiation, or a combination of both. There are several things that determine infertility after treatment. These include how old you are, the dose and the location of the radiation and what kind of chemotherapy drug they give you. Chemotherapy is effective at treating many cancers, but these drugs are likely to cause infertility. Infertility from using these chemotherapy drugs usually happens because a woman produces fewer or no eggs.

### ***Embryo cryopreservation***

Embryo cryopreservation is the most common way of preserving your ability to get pregnant in the future. Before freezing the embryos, you have a procedure done called in vitro fertilization (IVF). In IVF, you will be given hormones to stimulate the growth of your eggs. After that the eggs will be aspirated (removed by gentle suction). Embryos are then produced by joining the sperm and egg together in the laboratory. The embryos are then frozen. If you decide you want to have children after your cancer treatment is completed, one or two embryos can be placed in your uterus (womb) with or without the help of medications.

Not everyone can have this procedure. You'll have to take medications that make you produce more eggs than usual. In total, the process may take two to three weeks to complete. Unfortunately, if you need chemotherapy or radiation treatment for your cancer, you may not be able to wait that long. The medications that make your body produce more eggs may also make your body produce more hormones, such as estrogen. Estrogen can make some cancers worse.

Embryo cryopreservation offers the best chance of pregnancy. The odds of an embryo surviving the freezing and thawing process and implanting in your uterus are much higher than those noted with thawing and fertilizing an unfertilized egg or ovarian tissue.

If you decide to use embryo cryopreservation, you will need to have a man's sperm to fertilize your egg before it

is frozen. If you do not have a partner, donor sperm can be used. If neither of these sperm sources is possible or available to you, this procedure is probably not the best option for you.

### ***Ovarian tissue cryopreservation***

Doctors are experimenting with a procedure to freeze the tissues from a woman's ovary. The ovaries produce eggs. In this procedure, doctors cut the tissue from one of your ovaries into thin slices. These slices are then frozen.

After your cancer treatment, the doctors can place a slice of thawed ovarian tissue back into your body. The tissue does not need to go back where it came from in order to start producing eggs! The doctor might place the tissue in your arm or your belly. You may need to be treated with fertility hormones in order for this tissue to produce an egg. Once the tissue produces an egg, your doctor will retrieve it and fertilize it in the laboratory. After your doctor places the subsequent embryo into your uterus, you may be able to get pregnant.

There are some disadvantages to this procedure. You will need to have surgery several times. It also is dangerous if you have cancer of the ovary. If the tissue has cancer and is placed back in your body, the cancer could spread.

It is important for you to know that ovarian tissue cryopreservation is still an experimental procedure. It has not always been successful at all fertility centers. Right now, the success rate is very low.

### ***Egg (oocyte) cryopreservation***

Freezing a woman's eggs is also a new and experimental procedure. Just like embryo cryopreservation, you'll take medications that make you produce many eggs. This takes two to three weeks. But unlike embryo cryopreservation, the eggs are not fertilized before they are frozen. Eggs that survive the freeze-thaw process will then be fertilized in the laboratory with the partner's or donor sperm. Embryos that develop will be placed in your uterus.

Unfortunately, human eggs do not survive freezing very well and this procedure has not been very successful. Doctors are still in the process of figuring out if more mature (developed) eggs freeze better than less developed (immature) eggs. The aspiration (gentle suction) of immature eggs without using stimulation medications has also been performed and some pregnancies did occur. The success of egg cryopreservation is currently low.

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