illume fertility

Planning for the Future:

Your Complete Guide to Oncofertility Preservation

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Cancer touches the lives of almost all Americans. Up to 40 percent of people will at some point face a cancer diagnosis, so we see and feel its effects in our families and across our communities.

Take breast cancer, for instance. One in eight women will receive this diagnosis in their lifetime, making it the most common cancer in the US. While most new cases occur in those who are postmenopausal, 19% of breast cancer cases occur in younger, reproductive-aged women.

For cancer patients who still dream of growing their family, it can be overwhelming and stressful to juggle a new diagnosis and treatment options with concerns about future fertility and pregnancy.

Fortunately, in the midst of a battle with this terrible, indiscriminate disease, there is hope for the future. We have many ways to help patients with cancer grow their families.

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Why Consider Fertility Preservation?

During cancer treatment, the very chemotherapy that may save a person's life can also damage and deplete their eggs or sperm, making future conception more difficult. The risk of infertility depends on the type and dose of medication, and the age of the patient at the time of treatment.

The likelihood of becoming pregnant also decreases naturally as you age, and delays due to cancer treatment and recovery can increase fertility challenges.

Planning for Pregnancy After Cancer

Deciding when to become pregnant after cancer treatment is a complex choice, influenced by many factors. The type of cancer, stage and need for ongoing treatment all play a role in determining a safe time to conceive. It is always important to discuss these issues with your oncologist prior to proceeding with pregnancy.

Most of the time, you will be advised to wait at least a few years after the completion of treatment before trying to conceive. If your cancer is estrogen-sensitive and long-term hormonal suppression is required, the recommendation may be to wait significantly longer.

"Before I started my journey, I didn't know anything about IVF, oncofertility preservation, surrogacy, or all of the amazing, incredibly intelligent and caring people who work so hard every day to help families like ours."

-Erin A. (Breast Cancer, Surrogacy)

What if it isn't safe for me to be pregnant?

Gestational Carrier (Using a Surrogate)

For women with estrogen-sensitive cancers and/or those taking long-term hormonal suppression to reduce the risk of cancer recurrence, another option is to build their family with the help of a gestational carrier, also known as a surrogate.

An embryo created prior to cancer treatment (or an embryo created after treatment with previously frozen eggs) can be transferred into the uterus of a gestational carrier, who carries the pregnancy but has no genetic link to the baby. This option allows for healthy, safe, family building for women who would have a high risk for cancer recurrence if they pursued pregnancy.

Other Options

Women who do not preserve their fertility before cancer treatment have other options for expanding their family. If they do not ultimately conceive on their own, they may use a donated egg or embryo to become pregnant, or can pursue private or public adoption pathways.

Fertility Preservation Methods

Egg Freezing

Egg freezing is the process in which mature eggs are removed from the ovaries and frozen for potential use in the future. In order to freeze eggs prior to breast cancer treatment, a woman takes injectable medications to stimulate the ovaries for 10 to 14 days. The goal is to mature multiple eggs simultaneously, which will then be removed during an egg retrieval procedure and frozen in the embryology laboratory.

This process can be started very quickly and at any point in a woman's menstrual cycle, an important consideration when a patient needs to start cancer treatment as soon as possible. For example, a breast cancer patient could complete a preservation cycle in the time period between breast surgery and chemotherapy or radiation.

Additionally, since some forms of cancer (such as breast and endometrial) are sensitive to estrogen, and a woman's estrogen levels typically rise during an ovarian stimulation cycle, a medication called Letrozole can be given to lower the body's exposure to estrogen for the duration of the treatment.

When a woman decides to use frozen eggs in the future to build her family, they are thawed and fertilized with sperm to create embryos, which can then be transferred into the uterus directly, or after genetic testing.

Sperm Freezing

Sperm freezing can help preserve future fertility for men who are about to undergo cancer treatment.

Here's how it works: After a semen sample has been collected, it is allowed to liquefy for half an hour after which a comprehensive semen analysis is performed. Parameters such as Volume, Concentration, Motility, Forward Progression, PH and morphology are evaluated by an andrologist. If motile (moving) sperm are present, the sample will then be cryopreserved.

Cryopreservation media (a special, sperm-compatible fluid) is added to the sample to protect the sperm from the freezing process. The specimen then undergoes a slow freeze process where they are allowed to cool in the refrigerator (2-8C) prior to being exposed to the extreme cold temperatures of liquid nitrogen vapors. After 30 minutes, the samples are then submerged in liquid nitrogen where they remain until the patient is ready to use them.

Embryo Freezing

Some women with partners will opt for embryo freezing prior to cancer treatment. The initial part of the process is the same as egg freezing, but after ovarian stimulation and egg retrieval, sperm is used to fertilize the eggs and create embryos.

These embryos are cultured in the embryology laboratory and are typically frozen at the blastocyst stage (Day 5 of the embryo's development). Blastocyst embryos can be safely tested for chromosomal abnormalities, or even for cancer-causing genes (such as BRCA) in women that have a genetic predisposition to cancer.

Fertility Preservation Methods, cont'd.

Ovarian Tissue Cryopreservation

Women who need to begin treatment urgently and do not have time for an egg or embryo freezing cycle also have the option of ovarian tissue cryopreservation. Laparoscopic surgery is performed to remove part of one ovary, and this tissue is divided into pieces and frozen for the future.

When a woman wants to build her family later on, a piece of that tissue will be thawed and surgically transplanted onto her existing ovary. Some of these tissue grafts will become hormonally active, and ovulate eggs in the future. Incredible, right?

This method was considered experimental until recently, but over 130 babies have now been born worldwide from ovarian tissue transplantation.

GnRH Agonists

During chemotherapy treatment, medications called GnRH agonists (gonadotropin-releasing hormone agonists) can be given to suppress a woman's hormones - keeping the ovaries "quiet" in order to make the eggs less susceptible to damage.

This medication may reduce the chances of going into menopause during cancer treatment, but the degree of benefit that it provides is still a matter of debate. It is not a substitute for the other methods of fertility preservation listed above, but can be given in addition to these treatments.

FAQs About Oncofertility Preservation

How long can eggs, sperm or embryos be frozen?

When correctly preserved in liquid nitrogen, eggs, sperm and embryos can be frozen indefinitely. Modern cryopreservation technology has become so advanced that they can be thawed for use in IUI, IVF or other fertility procedures many years after being frozen.

What is oncofertility preservation and what does it involve?

For women, the process begins with you taking fertility medications (including injections) to encourage your ovaries to release more than one egg at a time. This is called ovarian stimulation and can help your body increase the number of mature eggs ready to be fertilized to give you the best chance at growing your family in the future.

To retrieve your eggs, you will be sedated as your physician uses a special transvaginal ultrasound probe equipped with a needle guide into each ovary to harvest (remove) your eggs. This is a 15-20 minute procedure. Your eggs will either be frozen using a rapid freezing method called vitrification or mixed with sperm to create embryos for cryopreservation. When you are ready to grow your family, the eggs or embryos will be carefully thawed for use. Once your eggs or embryos are frozen, they can last indefinitely.

FAQs About Oncofertility Preservation

How much does oncofertility preservation cost?

Many states have passed laws mandating insurance companies to cover the costs of fertility preservation procedures for both men and women. Connecticut was the very first state in the country to pass "Melissa's Law," and we are very proud at Illume Fertility to have had a hand in getting this legislation off the ground. New York became the sixth state, with its new mandate going into effect in 2020.

Even if you do not have any insurance, or your specific policy somehow circumvents these laws, there are many resources for both men and women with cancer to help with affording fertility preservation procedures. Livestrong Fertile Hope is a non-profit organization that provides free medications and financial support that many fertility centers, including Illume Fertility, work closely with.

If you are considering oncofertility preservation, please notify us before your initial consultation so we can connect you with resources for support and assistance.

How long does oncofertility preservation take? Will I have to postpone cancer treatment?

Fertility preservation can be done within days for men and within weeks for women. Fertility preservation is done in conjunction with the patient's cancer treatment schedule and with the clearance and collaboration of their oncologist.

How can I be certain that my eggs, embryos or sperm are going to be kept safe until I am ready to start my family?

Our award-winning laboratories are staffed with highly-trained professionals who maintain the highest level of quality assurance. Here's how:

- We have 36 liquid nitrogen tanks on-site which currently store 25,000+ frozen samples.
- As a part of our daily quality check, we inspect the level of liquid nitrogen in our storage tanks. At least once a week, we fill tanks to the top level.
- Liquid nitrogen is delivered twice a week to ensure we have the amount we need to keep tanks at the correct levels that are suitable for storage.
- We have a state-of-the-art alarm system attached to each of our tanks. In the event of an emergency when the lab is closed, the alarm alerts our staff remotely, and a trained staff member will respond to the laboratory at any hour.
- All alarm systems are connected to a backup power source. This ensures that the alarm will not be shut off in the event of a power outage.
- Most importantly, our embryology staff is on-site weekdays, weekends, and holidays, which allows us to monitor and confirm that all lab equipment is functioning properly.

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You're not alone.

Illume Fertility takes great pride in caring for you and offering the best oncofertility preservation options possible. We want you to feel reassured during this difficult time that you are in the best hands.

Visit illumefertility.com for more resources, or call (203) 750-7400 to get started with oncofertility preservation right away.

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