

Fertility Preservation – Frequently Asked Questions

Background

What is “fertility preservation”?

Fertility preservation is the process of removing reproductive cells, like sperm and eggs, from the body to protect them from being damaged or destroyed by medical interventions that could harm them.

Who needs fertility preservation?

Cancer patients who must undergo particular medical treatments like chemotherapy, radiation, or certain surgeries, that are toxic or damaging to their reproductive cells or reproductive system.

Which cancers cause a risk for infertility?

While cancers of the reproductive organs such as ovarian or testicular cancer confer a clear threat to a patient’s fertility, it is important to understand that the primary threat comes from the *treatments* for cancer, and not from the cancer itself. Infertility is a known and common side effect of many cancer treatments. Because of this, almost all cancer patients may face some level of risk to their future fertility.

How do cancer treatments harm fertility?

Each type of treatment can cause damage in different ways:

Chemotherapy: Because it is systemic, it can affect every cell in the body. Specific types of chemotherapy are extremely damaging to reproductive cells, while other types may be low or moderate risk. In addition, the amount (dose) of chemotherapy received also influences the level of damage.

Radiation: This causes damage to everything in its path. Therefore, limited, targeted radiation to areas of the body not involved with reproductive functioning should not confer a risk of reproductive harm. Infertility results from radiation that affects reproductive organs like the ovaries, uterus, and testes; this also includes the hypothalamic-pituitary axis, so radiation to the head can affect hormone production and, therefore, reproductive functioning.

Stem Cell Transplant: This modality combines high-dose chemotherapy with full-body radiation. It generally conveys a very high risk of infertility.

Surgery: Depending on the organs involved, e.g., the uterus, ovaries, cervix, testes, etc., fertility can be compromised or destroyed.

If all types of cancers can put patients at risk, do ALL patients need fertility preservation?

No, not necessarily. Some patients, for example, those with very low-grade, early-stage disease may not need to undergo treatments that carry a potential risk to their fertility. If infertility is not a potential side effect of the treatment for their cancer, they would not need fertility preservation.

Is cancer-related infertility permanent?

It depends. Some patients will suffer temporary infertility following cancer treatment but may then recover reproductive functioning. For some, however, infertility is permanent. If sterility does result from treatment, it cannot be restored. For women, even if they return to normal hormonal cycling after treatment, they may have suffered a partial depletion of their egg reserve thereby making them less fertile and at risk for early menopause.

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Are there other conditions that put people at risk for treatment-induced infertility?

Yes. Some patients with other conditions such as sickle cell anemia, certain blood diseases, and some genetic conditions require patients to essentially undergo the same kind of “cancer treatments” – chemotherapy, radiation, or stem cell transplants – so the side effects of those treatments, including infertility are the same.

How many people need fertility preservation?

Each year in the United States approximately 1.8M people are diagnosed with cancer. Approximately 9% of those new diagnoses occur in patients who are under 45 years of age, or around 160,000 people.

Do cancer patients care about fertility? Aren't they just focused on surviving their cancer?

Studies have shown that fertility and concerns about being able to have a family one day are a significant concern to cancer patients, second only to concerns about mortality. Unresolved infertility due to cancer has been correlated to depression and anxiety, and overall lower quality of life. Studies have shown that for many patients, infertility can be as distressing as cancer itself.

Why is fertility an issue in cancer now?

Better, more effective cancer treatments over the last generation have greatly impacted the prospect of survival, especially for young patients. The likelihood of survival for patients diagnosed under the age of 45 is more than 80%. For many patients, cancer, while life-threatening, is not necessarily deadly, and consideration of the long-term effects of both the disease and its treatments is now an integral part of treatment.

Why is fertility preservation an option for patients now?

In addition to improvements in cancer care, reproductive medicine has evolved dramatically in the past 10-20 years, especially for women. In particular, egg freezing has become more effective, and can be completed more quickly making it more available and attractive, especially to single patients. In addition, procedures such as tissue freezing have begun to open options for prepubertal patients.

Costs

How much does egg banking cost?

The average cost for one cycle of egg freezing in the United States is \$12,400. This cost does not include the medications needed for the process, which typically cost approximately \$5000. There is some variation in the cost of these services, both geographically and from clinic to clinic.

How much does sperm banking cost?

Sperm banking can range from approximately \$500-\$1000 for testing and banking.

How much does storage of sperm/eggs cost?

Storage of reproductive tissues is approximately \$200-\$500 per year. Multi-year package rates for long-term storage are available and can often reduce the per-year cost.