PATIENT & CAREGIVER EDUCATION

About Ovarian Tissue Freezing

This information explains ovarian tissue freezing for young females with cancer and answers some commonly asked questions. Ovarian tissue freezing is sometimes called ovarian cryopreservation or ovarian tissue banking.

For the rest of this resource, the words “you” and “your” refer to you or your child.

What is ovarian tissue freezing?

Some cancer treatments may affect your fertility (ability to have biological children). Ovarian tissue freezing is a procedure to remove, freeze, and store your ovarian tissue before you start treatment. This protects them from being harmed during your treatment so you can use them to try to get pregnant in the future.

Ovarian tissue freezing is done by removing 1 of your ovaries before you start cancer treatment. The part of your ovary that holds your eggs is separated from the rest of your ovary. Then, your tissue is frozen and stored.

When you’re ready to try to get pregnant, you will have a procedure to put the tissue back in your body. If you’re no longer fertile after cancer treatment, using this tissue may help you get pregnant.

MSK works with Weill Cornell’s Center for Reproductive Medicine to provide this service.

Who is eligible for ovarian tissue freezing done?

Ovarian tissue freezing is not an option for everyone. You may be eligible for ovarian tissue freezing if:

- Your cancer treatment will cause you to lose many eggs. This puts you at a high risk for infertility (not able to get pregnant naturally) after treatment.
- You have enough eggs to have this option work for you. You may not have enough eggs if you're over 40 years old or you lost most of your eggs from past cancer treatment.
- You cannot have your eggs or embryos frozen before treatment. While egg or embryo freezing is generally the best option to preserve fertility, not everyone can have this done.
    - You may not be able to freeze your eggs or embryos if:
        - You're too young. Before puberty, females do not have mature eggs.
        - You cannot delay your cancer treatment for the 2 weeks it takes to have your eggs or embryos frozen.
        - You recently had chemotherapy.

How is ovarian tissue removed and frozen?

The first step in freezing ovarian tissue is to have a surgery to remove one of your ovaries. This surgery will be done at either MSK or Weill Cornell. You'll have this surgery at MSK if you're age 13 or younger, or if you're having another procedure here with anesthesia. You'll have it at Weill Cornell if you're age 14 or older, and are not having another procedure at MSK.

After your ovary is removed, we will send it to a special lab at Weill Cornell. The outer layer of the ovary, which holds the eggs, will be removed. Then, it will be divided into small pieces and frozen.

A small amount of your tissue will be sent to Weill Cornell so they can use it for research. This research will help find the best way to place ovarian tissue back into the body so that eggs in the tissue will grow. The eggs developed from this

research will not be fertilized or used for any other purpose. The rest of the ovarian tissue will be stored for you to use in the future.

What happens when I'm ready to use the tissue to try to have children in the future?

When you're ready to try to get pregnant, the tissue will be thawed. Then, you will have a minor surgery to place the tissue back into your body. Your surgeon will place the tissue onto your remaining ovary or near where your ovary was removed. It can take several months for the tissue to begin working. The hope is that eggs in this tissue will mature so you can try to get pregnant.

Some people will get pregnant naturally and some will need in vitro fertilization (IVF). With IVF, mature eggs are removed from your body and fertilized with sperm in a lab to make embryos. Then, the embryos are placed in your uterus to attempt pregnancy.

Doctors are learning how to mature eggs in the lab without having to place tissue back in the body. This is called in vitro maturation. They're hoping this will be possible in the future.

How successful is ovarian tissue freezing?

- About 200 babies have been born from frozen ovarian tissue. Half of the females got pregnant naturally, and half got pregnant after IVF.
- Based on recent research studies, about 4 out of every 10 females who tried to get pregnant using frozen ovarian tissue were successful.
- Most females who got pregnant using frozen ovarian tissue had their tissue removed after puberty. Only 1 female so far has had a baby using tissue that was removed when she was a child. Most females who had tissue removed before they had reached puberty have not tried to use it yet.
- No babies have been born yet using in vitro maturation.
- Nearly all females had their ovary start working again once their ovarian tissue was placed back into their bodies. On average, this tissue functions

for up to 5 years after being placed back in your body. The tissue starts making the hormone estrogen, which delays the start of menopause (when your period stops).

There is no way to know if ovarian tissue freezing will work for you. Doctors are working to find ways to improve the success rates.

How can I get started?

Talk with your healthcare provider if you're interested in freezing your ovarian tissue. They will refer you to a reproductive endocrinologist (fertility specialist) at Weill Cornell for a consultation.

Your Weill Cornell doctor will confirm that you're eligible for the procedure. They will explain the process and discuss the costs with you. They will also give you consent forms to sign. These forms say you agree to the procedure and understand the risks.

If you would like to have a different center or fertility specialist freeze your ovarian tissue, we will have your tissue sent to them.

How much does ovarian tissue freezing cost?

There are different costs for each stage of ovarian tissue freezing. Some insurance plans will cover the cost of the surgery. But you may need to pay out-of-pocket (with your own money) for freezing and storing your tissue.

For more information about how to get insurance coverage for your surgery, call Patient Financial Services at 212-639-3810.

For more information about the cost of freezing and storing your tissue, call Weill Cornell's billing office at 855-880-0343.

What else should I know about ovarian tissue freezing?

With some types of cancers, there is a risk that cancer cells may be hidden in your ovary. Research studies have helped us figure out which cancers have the greatest risk of this happening. Only people who have a very low risk of having cancer cells in their ovary will be offered ovarian tissue freezing. Talk with your healthcare provider about your risk based on the type of cancer you have and the treatment you had.

For more information about ovarian tissue freezing, ask your healthcare provider to put you in contact with a fertility nurse specialist. They will answer your questions about the procedure and help you schedule an appointment at Weill Cornell to learn more.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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