ATLANTIC CANADA
ONCOFERTILITY

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Fertility After Cancer Treatment

For Individuals Assigned Female at Birth (AFAB)

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This handout will provide you with information about your fertility options after cancer treatment.

Fertility is the ability to have biological children.

Your medical team will talk to you about your short-term and long-term follow-up after your cancer treatment ends. They can also refer you to a fertility provider (if you have not been connected with one already) to talk about your options after treatment.

Your experiences and preferences regarding your sexual and reproductive health are important.

A The Basics: Why do we need to talk about this?

- Cancer treatment can affect how the ovaries work and whether someone can have biological children in the future.
  - This depends on things like age, the type of cancer, and the kind of treatment used.
- Going through cancer treatment can be a challenging time and cause many different feelings. After treatment, it may take time to be ready to think about relationships, sex, or having children.

> Four years after treatment, would the chemotherapy still be in my body?
> *-Patient/Family Advisor*

B The Reproductive System

At birth, the ovaries contain all the eggs they will ever have.

When puberty begins (around ages 8-13 for AFAB individuals), the brain signals the ovaries to release hormones that help the ovaries develop and produce eggs.

Every month, one egg matures and leaves the ovary. If the egg does not meet a sperm (become fertilized), the body gets rid of it, and a period happens (menstrual cycle). This cycle happens about every 28 days.

If the egg does become fertilized by a sperm, these cells can develop into a baby. Over time, the total number of eggs gets smaller. When most of the eggs are gone from the ovaries, periods stop. This is called menopause, and it means having a baby is less likely.

C How does cancer treatment affect the ovaries?

Some cancer treatments, such as chemotherapy, radiation, or surgery, can sometimes harm the ovaries. This can make it harder for the ovaries to make hormones and can lower the number of eggs. This is called primary ovarian insufficiency and means that an individual might not start puberty or have their menstrual cycle.

Some people may have irregular periods, or their periods may stop too soon. This is called early menopause, which can make it harder to have a baby in the future.

Systemic Therapy

- Certain types of chemotherapy, immunotherapy, and targeted therapy can damage the ovaries.
- The higher the dose of these types of chemotherapy that was received, the higher the risk of infertility.

Surgery

- If both ovaries were removed by surgery (bilateral oophorectomy) during cancer treatment, a person cannot have biological children. This type of primary ovarian insufficiency is sometimes called “surgical menopause.”
- If one ovary was removed (unilateral oophorectomy), periods may stop earlier than normal.
- Surgery to the pituitary gland in the brain may impact hormones that are required for fertility.

C How does cancer treatment affect the ovaries?

continued

Radiation

Radiation therapy can affect the ovaries in two ways:

- *Radiation near the ovaries*: the amount of radiation and your age can change how much the ovaries are affected. Children usually have less damage than teens or young adults who get the same amount of radiation. High doses of radiation can stop the ovaries from making eggs and make it hard to have a baby, no matter the age. Radiation around the pelvis can also cause damage to the uterus, which means you might not be able to carry a baby.

- *Radiation to the brain*: some areas of the brain (the hypothalamus and pituitary gland) help the ovaries work by making and releasing hormones. If high amounts of radiation damage these parts of the brain, the body may not make enough of these hormones, which can make it harder for the ovaries to work properly.

If your treatment for cancer included both radiation and chemotherapy, the risk of primary ovarian insufficiency may be higher.

D Fertility Follow-Up

People who are post-pubertal and have had cancer treatments that might affect the ovaries should have fertility follow-up approximately one year after completion of treatment. You can arrange this with your health care provider.

If cancer treatment was received before puberty, fertility discussions may begin later than this – i.e. once you reach puberty. If you have questions, do not hesitate to ask your health care provider during follow-up.

- Blood tests may be done to check hormone levels. If problems are found, a health care provider may send you to a specialist for additional care.
- People with primary ovarian insufficiency may need a bone density test (a special x-ray) to check for weak bones (osteoporosis) – this is because hormones like estrogen can also impact your bone health.
- These regular check-ups can help find and treat problems early.

E Common Questions

What are the effects of cancer treatment on the reproductive system?

Failure to enter puberty: Some people who have received cancer treatment but have not started puberty yet may not start puberty. This is because their ovaries or hormones may not work properly because of their cancer treatment. If this happens, a doctor may give hormones to help the body go through puberty.

Temporary pause of periods: Many people who have already had their period will stop having it during their cancer treatment. Most of the time, periods will come back after treatment, but sometimes it can take a few years. Since eggs can be released before periods start again, pregnancy can still happen. If you don't want to get pregnant, it's important to use birth control, even if your periods haven't returned yet.

Menstrual cycle stopping early: Most people stop having a menstrual cycle around age 50. Some people who had cancer treatment may stop getting their periods earlier or never get their periods back after cancer treatment. If someone has had chemotherapy, radiation, or surgery that can damage the ovaries, they may be at risk for early menopause.

E Common Questions

continued

What are the effects of cancer treatment on the reproductive system? (continued)

Low sex hormones: People whose ovaries have been damaged by cancer treatment may not make enough estrogen. Estrogen is an important hormone needed for fertility, pregnancy, and having regular menstrual cycles. It helps to keep bones strong, the heart healthy, and feeling well overall. If your estrogen is low, the doctor may give medicine called hormone replacement therapy.

Infertility: Infertility means not being able to get pregnant after trying for one year without birth control. This can happen if the ovaries do not make eggs or if the body cannot support a pregnancy. Some cancer treatments can cause infertility.

Sometimes, infertility happens for reasons that are not related to cancer.

E Common Questions

continued

What are the risks of pregnancy after receiving cancer treatment?

Certain medications used during treatments for cancer can sometimes increase the risk of problems that a person may experience during pregnancy and childbirth.

The following people may be at increased risk:

- People who had radiation to the pelvis, lower spine, or whole body may have a higher chance of miscarriage (losing a pregnancy), early birth, or other problems during pregnancy/birth.
- Those who had certain chemotherapy (like doxorubicin or daunorubicin), or radiation to the chest, belly, or upper spine may be at higher risk of heart problems that can get worse during pregnancy and childbirth.

People with these risks should see a doctor who specialize in high-risk pregnancies to make sure they and their baby stay healthy.

E Common Questions

continued

What are my parenthood options?

If your fertility has been unaffected by your cancer treatment, you may be able to have a baby using natural conception (using a partner's sperm and your eggs through sexual intercourse). There are also other family building options, such as adoption and gestational carriers, that may be a better option for you and your family.

If your fertility has been or may be affected, you can discuss egg or embryo banking with your doctor if you did not have one of these procedures prior to cancer treatment.

If you have had both ovaries removed, you will be infertile (cannot have a baby). If you have had your uterus removed (hysterectomy) but still have working ovaries, you may be able to have a baby with the help of a gestational carrier (someone else who carries the baby for you).

E Common Questions

continued

What are my parenthood options? (continued)

If you have immediately entered menopause due to your cancer treatment, natural conception will not be an option for you.

- If you have previously frozen eggs, embryos, or ovarian tissue, it may be possible for you to carry a pregnancy and have a baby. It may also be possible to use a surrogate to carry your frozen eggs or embryos.
- If you have not preserved your fertility, using donor eggs or embryos to carry a pregnancy or using a gestational carrier to carry the donor eggs/embryos may be an option.

How long does chemotherapy stay in my body?

Some cancer medications can stay in your body fluids up to 5 days after treatment. Ask your medical team how long you should follow this guideline if you are unsure.

E Common Questions

continued

How long should I wait after cancer treatment ends before trying to have a biological child?

Some experts recommend waiting 1-2 years after treatment completion to try to have children. It is recommended to speak to your health care team if you have specific questions on when to start a family following your cancer treatment.

What is the impact of cancer treatment on sexual health?

Resources on sexual health and cancer can be found by scanning this QR code.

Notes

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