What to Know

ASCO’s Guideline on Fertility Preservation

MAY 2013

KEY MESSAGES

• Because specific types of cancer treatments can decrease a person’s fertility (ability to have children), it’s important to talk with your doctor about how each type of treatment will affect your fertility before treatment begins.

• There are options to help preserve fertility in men and women, as well as children with cancer.

• Ask for a referral to a reproductive specialist to discuss preserving your fertility, even if you are unsure whether you want to have children.

To help doctors give their patients the best possible care, the American Society of Clinical Oncology (ASCO) asks its medical experts to develop recommendations for specific areas of cancer care. In 2006, ASCO developed recommendations for fertility preservation for people with cancer. These recommendations were updated in 2013 to reflect new research and highlight the importance of fertility preservation discussions. This guide for patients is based on ASCO’s recommendations.

CANCER TREATMENT AND FERTILITY

Sometimes, cancer treatment can decrease fertility or cause infertility (not being able to have children) for women who have not yet been through natural menopause and for men. These effects may be temporary or permanent. The risk of infertility from cancer treatment depends on several factors:

• The type and dose of drugs used

• The dose of radiation given and where on the body it is being directed

• The type of cancer

• The patient’s age and sex

• Whether a patient had fertility problems before cancer treatment

For women who have not been through menopause, menstrual periods may become irregular or stop during cancer treatments. Fertility may be decreased
even if regular menstrual periods continue during treatment or return after treatment. In addition, cancer treatment can cause premature menopause, which shortens the length of time a woman is able to have children. For men, decreased fertility may continue for years because the body is making sperm more slowly or has stopped making sperm altogether.

For children who have been diagnosed with cancer, chemotherapy, radiation therapy, and surgery all can have lasting effects on a child’s reproductive health and cause temporary or permanent infertility. The risk depends on your child’s treatment plan based on the diagnosis.

It is important to talk with the doctor about your concerns about fertility before treatment begins. Not all cancer treatments harm fertility, but if the treatment does include a risk of infertility, there are ways to decrease or prevent this risk. The chances for maintaining fertility are greatest if you discuss and think about the options as early as possible. That is why it is important to ask for a referral to a reproductive specialist immediately after being diagnosed with cancer.

**RECOMMENDATIONS**

ASCO recommends that all patients with cancer and parents or guardians of children with cancer discuss the risk of infertility and fertility preservation options with their doctors as soon as possible before cancer treatment begins. If you are interested in preserving fertility, you should ask for a referral to a reproductive specialist, even if you are unsure whether you want to have children in the future.

**For women**
The standard fertility preservation methods include:

- **Embryo cryopreservation**: The process of collecting a woman’s eggs followed by in vitro fertilization and freezing of the embryos
- **Oocyte cryopreservation**: The collection and freezing of unfertilized eggs
- **Oophoropexy or ovarian transposition**: This procedure involves surgically moving the ovaries to another place in your body, away from where radiation therapy will be directed.
- **Specific methods of performing surgery and giving radiation therapy can help protect a woman’s fertility.**

Methods of fertility preservation still being researched include:

- **Ovarian tissue cryopreservation**: The freezing of ovarian tissue that can be placed back in the body after cancer treatment
- **Ovarian suppression**: The use of specific hormones to stop the ovaries from working. Current research suggests that this does not work well for protecting fertility during cancer treatment, but clinical trials are ongoing.

**For men**

- **Sperm cryopreservation** (also called sperm banking) is an effective method for fertility preservation. It involves the freezing and storing of sperm. This
is best done before treatment begins, as there is a higher risk of genetic damage in the sperm collected once treatment has started.

- Other methods, such as testicular tissue cryopreservation and reimplantation, are still being studied. This is the removal, freezing, and storage of testicular tissue that can be placed back in the body after cancer treatment.

- Hormonal therapy is not effective for preserving fertility in men.

**For parents or guardians of children and teens with cancer**

- The standard ways to preserve fertility for teens who have gone through puberty include semen cryopreservation for boys and oocyte cryopreservation for girls.

- Methods of fertility preservation for children who have not been through puberty are still being studied and include testicular cryopreservation for boys and ovarian cryopreservation for girls.

**WHAT THIS MEANS FOR PATIENTS**

If you have cancer, making decisions about your options for preserving fertility so soon after diagnosis can be difficult. Not all cancer treatments cause infertility, but it is important to find out if you are at risk for fertility problems and ask about the options for preserving your fertility before you begin treatment. In the past, many of the options available took time to finish before cancer treatment could begin, but newer methods can take less time. It’s important to discuss your specific situation, such as your age, the type of cancer you have, and your treatment timing with your doctor and reproductive specialist to help choose your options for fertility preservation.

If you are a parent or guardian of a child or teen with cancer, making decisions about your child’s future fertility may be uncomfortable. You may wish to explain the details of the procedure to your child as appropriate for their age, including why it is being done.

It’s also important to remember that research has not proven that fertility preservation methods increase the risk of the cancer coming back after treatment, even in cancers that depend on hormones to grow. In

**QUESTIONS TO ASK THE DOCTOR**

It is important to talk with your doctors about fertility preservation before beginning cancer treatment. Consider asking your doctor these questions:

- Based on my age, health, cancer type, and cancer treatment plan, what are my risks of infertility?
- Can you recommend a reproductive specialist with experience in fertility preservation for people with cancer who will understand my special needs (and timing)?
- For parents of children with cancer: will this cancer treatment affect my child’s future fertility?

If there is a possibility that cancer treatment will affect your fertility, consider asking these questions of an oncologist and/or a reproductive endocrinologist:

- What are my options for preserving fertility?
- Will any of the fertility-preservation options affect how well the cancer treatment works?
- Will using one of these options mean that I need to delay cancer treatment? If so, for how long and what are the risks?
- How will each option affect my health and the health of my future children?
- Will fertility treatments or becoming pregnant increase the risk that the cancer may return?
- What clinical trials are open to me?
- Where can I find support for coping with fertility issues?
- Where can I find more information about fertility preservation?
addition, having a history of cancer, cancer treatment, or fertility preservation treatment does not appear to increase the risk of cancer or birth defects for future children. However, patients with a hereditary genetic syndrome that increases the risk of cancer and women whose children were exposed to chemotherapy while in the uterus (womb) may have a higher risk of developing cancer or birth defects.

It is also important to remember that some women may have a higher risk of complications during pregnancy after cancer treatment and should talk with their oncologist and gynecologist (doctor who specializes in treating conditions of a woman’s reproductive organs) before getting pregnant. In addition, they should ask for a referral to a doctor who specializes in high-risk pregnancies early on in the pregnancy.

Concerns about future fertility and making decisions about fertility preservation are stressful for many people. Talk with your doctor about referrals for counseling or other types of support to help you cope with these challenges.

HELPFUL LINKS
Read the entire clinical practice guideline at www.asco.org/guidelines/fertility.

Fertility and Cancer Treatment
www.cancer.net/coping

“Moving Forward” Video Series for Young Adults With Cancer: Fertility
www.cancer.net/movingforward

Preserving Fertility in Children with Cancer
www.cancer.net/coping

For Teens: Fertility and Reproductive Health
www.cancer.net/coping

Having a Baby After Cancer: Pregnancy
www.cancer.net/coping

ABOUT ASCO’S GUIDELINES
To help doctors give their patients the best possible care, ASCO asks its medical experts to develop evidence-based recommendations for specific areas of cancer care, called clinical practice guidelines. Due to the rapid flow of scientific information in oncology, new evidence may have emerged since the time a guideline or assessment was submitted for publication. As a result, guidelines and guideline summaries, like this one, may not reflect the most recent evidence. Because the treatment options for every patient are different, guidelines are voluntary and are not meant to replace your physician’s independent judgment. The decisions you and your doctor make will be based on your individual circumstances. These recommendations may not apply in the context of clinical trials.

The information in this patient guide is not intended as medical or legal advice, or as a substitute for consultation with a physician or other licensed health care provider. Patients with health-related questions should call or see their physician or other health care provider promptly and should not disregard professional medical advice, or delay seeking it, because of information encountered in this guide. The mention of any product, service, or treatment in this guide should not be construed as an ASCO endorsement. ASCO is not responsible for any injury or damage to persons or property arising out of or related to any use of this patient guide, or to any errors or omissions.

ABOUT CANCER.NET
The best cancer care starts with the best cancer information. Well-informed patients are their own best advocates, and invaluable partners for physicians. Cancer.Net (www.cancer.net) brings the expertise and
resources of ASCO, the voice of the world’s cancer physicians, to people living with cancer and those who care for and care about them. All the information and content on Cancer.Net was developed and approved by the cancer doctors who are members of ASCO, making Cancer.Net an up-to-date and trusted resource for cancer information on the Internet. Cancer.Net is supported by the Conquer Cancer Foundation.

Visit Cancer.Net to find guides to more than 120 types of cancer and cancer-related syndromes, clinical trials information, coping resources, information on managing side effects, medical illustrations, cancer information in Spanish, videos, podcasts, the latest cancer news, and much more. For more information about ASCO’s patient information resources, call toll free 888-651-3038.