

Educational Guide to Preserving Fertility in Prepubertal/Adolescent Males



Sperm banking via alternative methods of collection

Some boys have difficulty ejaculating for various reasons. Fortunately, the following options are available:

Electroejaculation is a method used to stimulate a patient to produce sperm through the use of a gentle electrical current and is typically performed under anesthesia. Once a sample is produced and collected, it is transferred to a sperm bank for cryopreservation and storage.

Additionally, there are techniques available that involve surgical extraction of sperm from the testicular tissue. This procedure is performed under sedation by a reproductive urologist where a small piece of testicular tissue is removed and examined for mature sperm. The mature sperm is extracted and then cryopreserved and transferred to a sperm bank for storage.

Additional Resources

A number of resources are available to help you make decisions about fertility preservation. First, speak with your oncologist to make sure it is safe for your son to pursue fertility preservation. If you would like more information about the options available, or about support as you consider the issues, ask your oncologist to refer you to the fertility preservation program at Miami Cancer Institute.

Cancer and Fertility

- Cancer.net (American Society of Clinical Oncology + Conquer Cancer Foundation)
- Cancer.org (American Cancer Society)
- Cancer.gov (National Cancer Institute)
- LIVESTRONG.com/Fertility
- MyOncofertility.org (Oncofertility Consortium of Northwestern University)
- SaveMyFertility.org

General information about fertility and fertility treatment

- ASRM.org (American Society of Reproductive Medicine)
- ReproductiveFacts.org
- INCIID.org (International Council on Infertility Information Dissemination)
- Resolve.org (National Infertility Association)

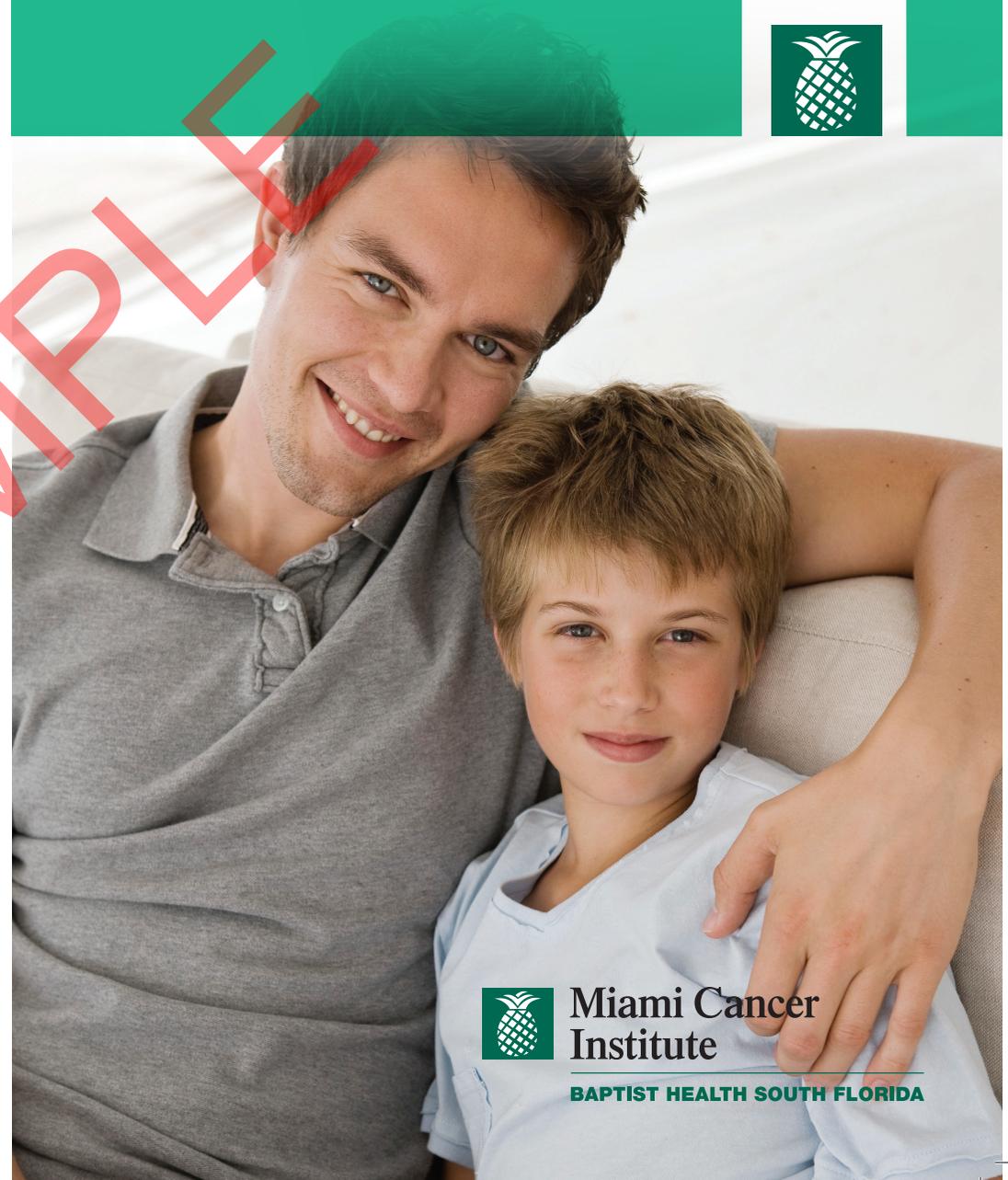
If you would like more information about the Fertility Preservation Program or want to speak to a fertility preservation advance practice provider, please call 786-527-8825 or visit MiamiCancerInstitute.com.



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Chemotherapy and radiation can potentially damage developing testicles in prepuberty and adolescent males during cancer treatment. In general, the higher the dose of chemotherapy or radiation and the longer the treatment, the greater the chance for such damage. Other reproductive risk factors include a patient's age, the type of drugs used and the area of the body receiving radiation.

Parents of children diagnosed with cancer face many difficult issues in a time of severe emotional distress. They are often very focused on their child's treatment and survival making it difficult to think beyond the present. Many children treated for cancer are survivors, and infertility can become an issue for survivors when they reach young adulthood.

Regardless of a family's choice to preserve fertility or not, it is important to have the necessary knowledge to make an informed decision. Speak with your oncologist to make sure it is safe and necessary to pursue this option.

Talking to a Child or Teen About Fertility

The oncology team will discuss fertility with the parents of an underage cancer patient. It should also be discussed with the child as soon as he is old enough to understand. If the boy is old enough to understand fertility when he's being treated, he should be asked if he agrees to the treatment. Even though he's not yet able to give full legal consent, a child who can understand must generally agree (this is called assent) before a procedure can be done. The parents also must give consent before the procedure, after being told the risks, complications and success rates.

Prepubertal Fertility Preservation

At this time, fertility preservation in boys who have not yet gone through puberty (who are not yet able to produce a sperm sample) is regarded as experimental. Suppression of testicular function with hormone therapy has not been proven successful in protecting the fertility of prepubescent boys during chemotherapy.

Testicular tissue freezing

Boys who have not gone through puberty may be able to save sperm by freezing testicle tissue. This is an experimental approach that is still being studied and success rates are not yet known. This technique includes the collection of a small piece of testicle tissue via biopsy. The specimen is then cryopreserved. In the future, the tissue is thawed and reintroduced into the young man's testicle, or stem cells might be taken out of the frozen tissue and injected into the testicle to produce mature sperm.

For some types of cancer, the oncology team may advise against tissue freezing because frozen testicle tissue could carry cancer cells back into the body.

Sperm aspiration

This is another option being studied for boys who have not gone through puberty. During this procedure, immature sperm cells are removed from the testicle using a fine needle and stored for future use. When the patient is ready to start a family, the sperm would then be used to fertilize an egg in the laboratory by in vitro fertilization (IVF). After IVF, the fertilized embryo is placed into a woman's uterus to achieve pregnancy.

Currently, testicular freezing and sperm aspiration are being investigated and can be performed only via clinical trial or in a facility with an approved experimental protocol.

No intervention

You may also decide not to take any action to preserve your son's fertility if cancer treatment has a low risk of affecting fertility. It is possible for boys to go through puberty after cancer treatment and have children naturally. After puberty starts, the reproductive urologist can check your son's semen to see if he is making sperm.

Postpubertal Fertility Preservation

For boys who have reached puberty, the most common procedure to preserve fertility is the production and freezing (cryopreservation) of a semen sample, also known as "sperm banking."

Sperm banking via conventional methods of collection

Conventional sperm banking is done by having the patient ejaculate by masturbation into a sterile specimen container, and then cryopreserving the sperm. The sperm sample can remain frozen and stored until the patient is ready to build a family.

There's no set age at which a boy will be able to provide a semen sample. Generally, a boy is assumed to be producing sperm if he has had a nocturnal emission (wet dream) or if he has ejaculated. This can be checked by obtaining a morning urine sample. If sperm are present, this indicates your son would be a candidate for sperm banking.

