Fertility Preservation: Testicular Tissue Extraction in Pre-Pubertal Boys

This information describes testicular tissue extraction (removal) in pre-pubertal boys (boys who haven’t gone through puberty) at Memorial Sloan Kettering (MSK).

Testicular tissue extraction is a fertility preservation option that involves taking testicular tissue and freezing it to try to make sperm from it later. Right now, it’s being studied for boys who are starting cancer treatment that may affect their future fertility (ability to have biological children).

There are some important things you need to know about testicular tissue extraction:

- At MSK, testicular tissue extraction is currently only done during another procedure that requires anesthesia (medication to make you sleep).
- This procedure is experimental. Scientists are studying ways to form sperm from the tissue that’s removed, but we don’t know for sure if it will be possible.
- This procedure may not be fully covered by insurance. This is because it’s an experimental procedure. Financial support or assistance may available.

Fertility and Cancer Treatment

Your son will be starting treatment that may damage his spermatogonial stem cells (SSCs). SSCs are the cells that grow into sperm. If your son’s SSCs are damaged, he won’t be able to make sperm and will be infertile. This means he won’t be able to have biological children.
We can’t say for sure how or if your son’s treatment will affect his future fertility. There are some treatments that are known to cause permanent damage to sperm cells, which can lead to future infertility. Your son’s doctor will talk with you about the risks and side effects of his treatment.

Sperm Banking

Sperm banking is a standard option to help improve a person’s chance of having biological children after certain treatments. Sperm banking involves collecting and freezing mature sperm.

Before puberty, boys don’t make sperm. Sperm banking may not be an option for your son depending on his age and development. If your son isn’t able to make sperm, testicular tissue extraction may be another option for him.

About Testicular Tissue Freezing

Testicular tissue extraction and freezing is a fertility preservation option that’s used for adult males and is now being offered to pre-pubertal boys.

For testicular tissue extraction, your son will have a short procedure to remove a small piece of tissue from his testicles (testes). At MSK, this is currently only done during another procedure that requires anesthesia.

After the procedure, the tissue will be sent to The Sperm and Embryo Bank of New Jersey, where it will be frozen and stored.

Right now, there’s no way to make mature sperm cells from the frozen testicular tissue. Scientists are studying ways that frozen testicular tissue can be used to help pre-pubertal boys have biological children in the future.

Testicular Tissue Freezing Eligibility

Testicular tissue freezing isn’t an option for everyone. Whether it’s an option for your son depends on the type of cancer or disease he has, his treatment plan, and if he’s having anesthesia for another procedure. Your son will need to be examined before the procedure to make sure he’s a candidate for the procedure. For more information, speak with a fertility nurse specialist at MSK.
This procedure may not be fully covered by insurance. Before the procedure, a representative from MSK’s Patient Financial Services Department will talk with you about all possible fees for the procedure. They will also answer your questions about insurance coverage, financial assistance, and paying for the procedure.

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

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