FCGCP Handbook

An Overview of Cancer Related Infertility for Men

ROGEL CANCER CENTER
MICHIGAN MEDICINE

Developed by the staff of the Assisted Reproduction Technologies laboratory at the UMHS Center for Reproductive Medicine; the Department of Urology; and the Patient Education Program of the Rogel Cancer Center

Welcome

This guide provides answers to many common questions about male infertility treatment; offering ideas to prepare for treatment and describing what it will be like.

Our goal at the University of Michigan Rogel Cancer Center is to provide our patients and families with the highest quality care. This includes administering the necessary treatments as well as providing the education and support needed throughout these treatments.

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Infertility and the Male Reproductive System

Infertility is the inability to initiate a pregnancy. Infertility can occur in both men and women, and can be the result of many factors. Cancer related infertility is specifically related to damage of the reproductive organs by the cancer itself, or more commonly, the cancer treatment. For males, this usually means a decrease or complete absence in the number or quality of sperm.

Male infertility can result from certain chemotherapy treatments, from radiation aimed at or near the testicles or the brain, or from surgery involving the male reproductive organs. Cancer treatments can damage the sperm-making cells, the body parts that carry sperm outside the body or damage the area of the brain that controls reproduction.

Infertility can occur as a permanent "late effect" of cancer treatment. However, not every man with cancer faces the same risk of developing infertility. The location of the cancer, as well as the type, amount and intensity of treatment will determine the risk of infertility as a long-term effect. Discuss the risk of infertility associated with your treatment plan with your cancer healthcare team.

Male Reproductive System

The *testicles* are the male reproductive organs. Coiled within each testicle are hundreds of *seminiferous tubules*. These tubules contain *spermatogonia*, which are the cells that make sperm. Semen is the fluid released when a man ejaculates. During sexual intercourse, the semen will carry the sperm until it reaches a female egg.

In order to produce sperm, a man needs adequate levels of two hormones, one called FSH (follicle stimulating hormone) and the other called LH (luteinizing hormone). LH and FSH are released by the *pituitary gland*, which is located in

the brain. Testosterone is another of the male hormones, and is responsible for the development of facial hair, deep voice, mature penis and testes as well as maintaining normal male sexual function. Leydig cells make testosterone. These cells are found throughout the testicle and surround the seminiferous tubules.

An important distinction to make is that the cells that secrete testosterone and the cells that make sperm are separate systems, even though both are located within the testicle. Infertility means that the sperm producing cells are not working, but the testosterone making cells may still be normal. In other words, erection and ejaculation can still be normal in a man with infertility.

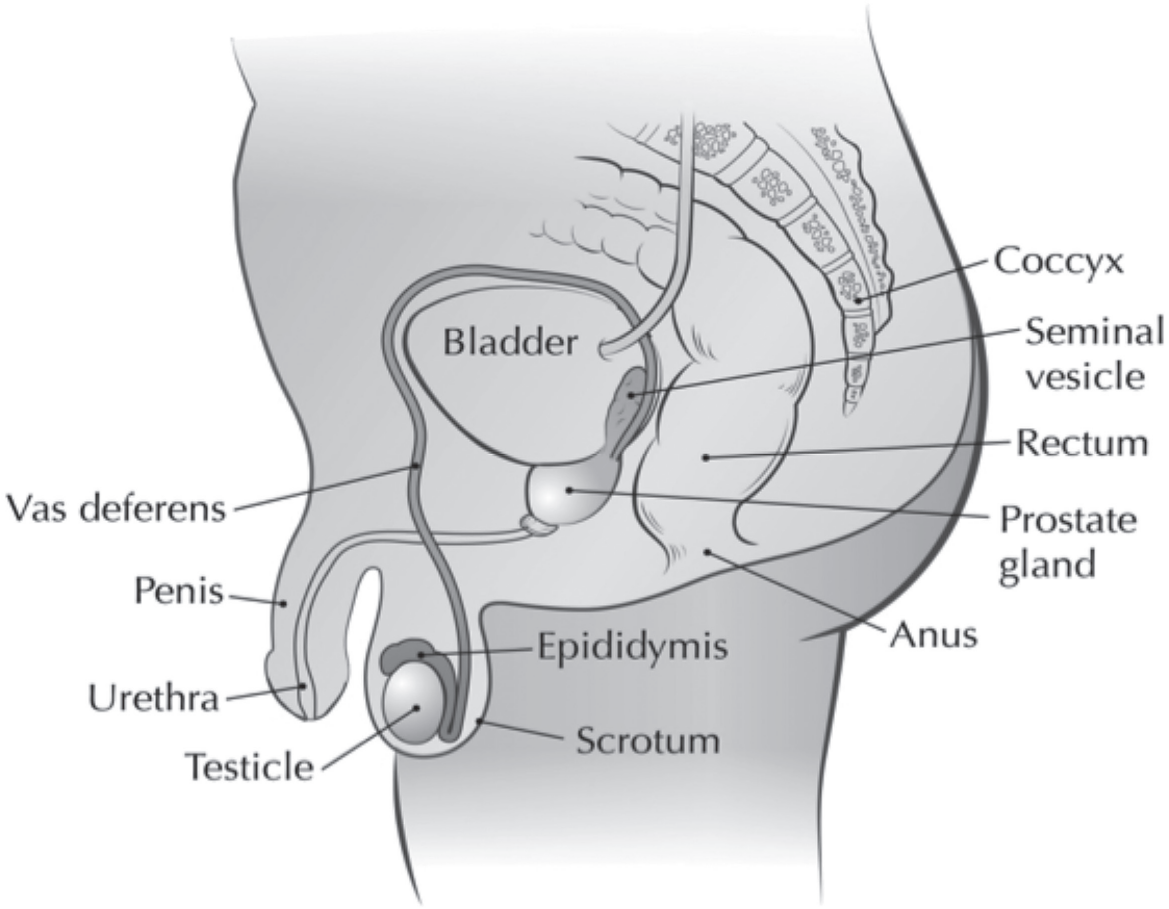

Figure 1: The Male Reproductive System

Cancer Treatment Related Causes of Infertility

Surgery

Some surgical techniques used for primary cancer control will result in infertility. This may be the result of removal of organs necessary to make or transport sperm, as in some prostate cancer surgeries. Surgical removal of both testicles or the bladder will also result in infertility. Damage to the nerves in the pelvic area may result in the loss of ability to ejaculate. Removal of the lymph nodes in the lower back area can sometimes cause retrograde (backward) ejaculation, making conception difficult.

Radiation

Radiation therapy can result in infertility in two distinct ways. These are called primary or secondary testicular damage.

Primary testicular damage occurs from radiation aimed directly at or near the testicles. The cells that create sperm are very sensitive to the effects of radiation therapy. Even low doses of radiation (doses as low as 600 cGY) cause permanent damage to the sperm forming cells. Doses less than this may cause a temporary drop in the number and quality of sperm produced.

The type and location of cancer determines the area of the body that needs radiation and how much radiation is given. For example, radiation may be delivered directly to the testicles as treatment for testicular leukemia or as part of the total body irradiation used before bone marrow transplant.

Scatter radiation is the term used to describe low dose radiation that occurs in areas not directly within the treatment field, but near to it. Examples of radiation sites that may result in scatter radiation to the testes include: radiation to the lymph nodes in the lower abdomen used for treatment of

higher stage Hodgkin Disease or testicular cancer, or radiation delivered to the upper thigh for a tumor located in this area. Lead shields are used to protect the testes when the treatment field is nearby, but small amounts of radiation exposure may still occur.

The Leydig cells that make testosterone are more resistant to the damaging effects of radiation therapy. Normal function remains following exposure or treatment with doses less than 2400cGy. This is important because testosterone is required for normal sexual development and sexual activity.

Secondary or indirect testicular failure may occur following radiation therapy to the brain. Radiation may damage the pituitary gland, located in the brain, which is responsible for secreting the hormones needed for normal sexual function. Both LH and FSH are produced by the pituitary gland. Pituitary damage may result in low doses of the hormones (FSH and LH) needed to stimulate the sperm forming cells and Leydig cells. This in turn causes infertility and low testosterone levels.

Chemotherapy

Type of Chemotherapy

The sperm producing cells (called spermatogonia) may be damaged by some chemotherapy drugs. Certain types of drugs have a much greater chance of causing a condition called azoospermia, the medical name for the absence of sperm in a semen sample.

A particular family of drugs called alkylating agents has the greatest potential for damaging fertility. Your medical team can tell you if the regimen you will receive includes this type of drug. Other drug classes are usually less toxic to

sperm forming cells, but may cause infertility when used in high doses or in combination with other drugs. Common Alkylating Agents:

- Busulfan
- Carmustine (BCNU)
- Chlorambucil
- Cisplatin
- Cyclophospamide (Cytoxan)
- Ifosfamide
- Lomustine (CCNU)
- Melphelan
- Nitrogen Mustard
- Procarbazine
- Temozolomide
- Thiotepa

Total Dose of Chemotherapy

The total dose of a chemotherapy drug is an important determinant of infertility. Not surprisingly, the higher the total dose, the more potential for damage to the sperm producing cells.

Chemotherapy Regimen

Combinations of certain drugs may result in a higher risk of infertility than the individual drugs would have if given separately. If you are receiving a combination of chemotherapy drugs, talk to you doctor about your infertility risk. Leydig cells produce testosterone which is necessary for normal sexual functioning. These cells are fairly resistant to the effects of chemotherapy. **Testosterone production is rarely affected by chemotherapy alone.**

It is very difficult to predict exactly which men will experience permanent sterility following chemotherapy treatments. Individual issues, such as pre-cancer fertility and the influence of the cancer itself, in addition to the therapy, play an important role. However, even with the same therapy, one man may develop permanent infertility and another may not.

Sperm Banking and Assisted Reproduction Techniques

Sperm banking offers men facing the possibility of infertility from cancer treatment the chance to preserve the option of biologic fatherhood. The technical name for sperm banking is semen cryopreservation. The cryopreservation process rapidly cools, then stores the frozen sperm at a very low temperature (-196C°). At this low temperature, no biologic activity is possible, so men have the ability to use their sample many years in the future. Men may choose to bank sperm if there is a possibility of losing fertility.

"Do I have to make the decision to bank sperm right now?" is a common question men have while in the midst of a new cancer diagnosis. Not uncommonly, a new cancer diagnosis includes many medical exams and diagnostic tests, and sometimes surgery and recovery. Sperm banking can become secondary to the many urgent, necessary medical concerns and appointments. Most people feel a sense of urgency to begin cancer treatments. However, even a single dose of chemotherapy or testicular radiation can affect sperm quality. Optimal sperm banking can take some time and coordination, and should be completed **prior** to the administration of cancer treatments. Therefore, the decision to bank sperm is necessary, soon after diagnosis, in what can be a very busy, anxious and sometimes chaotic time.

A semen analysis is performed on all specimens soon after collection and prior to freezing (cryopreservation). This analysis is done in the Assisted Reproductive Technologies (ART) laboratory and involves examining a small amount of the semen specimen under a microscope. The analysis includes an examination of the color, viscosity (thickness), and the amount of time it takes the sample to liquefy. The most important information about samples to be frozen includes the total number of sperm (count), their motion (motility), and their shape (morphology).

The major risk of cryopreservation is the possibility that the sperm will die during the freezing and thawing process. In general as many as one-half of the sperm cells in a sample will not survive the process. Therefore, the laboratory personnel remove a very small amount of every semen specimen and freeze it in a test vial separately from the rest of the sample. The test vial is then thawed and analyzed for the "post-thaw motility" the next day. The data obtained from the post thaw vial is useful to determine how many semen collection appointments are recommended to optimize chances of successful reproduction in the future.

Volume

This is a measurement of the volume of a single ejaculate. Normal is 2 milliliters (about half a teaspoon) or greater. The volume may be low if a man is anxious when producing a specimen, or if the entire specimen is not collected.

Sperm Count

This is a measurement of how many million sperm there are in each milliliter of semen. Normal sperm count is more than 20 million per milliliter. Counts less than 20 million per milliliter are considered low.

The highest number of sperm will be found in the semen if at least 48 hours is allowed between ejaculates.

Motility

(sometimes referred to as the "mobility" or sperm movement). This describes the percentage of sperm that are moving. 50% or more of the sperm should be moving in a normal forward movement.

Morphology

This describes the shape of the sperm. The sperm are examined under a microscope and must meet specific sets of criteria for several characteristics in order to be considered normal. A high percentage of abnormal sperm are found in every semen sample.

Total Motile Count

This is the number of moving sperm in the entire ejaculate. It is calculated by multiplying the volume by the count (million sperm/ml) by the motility (% moving). There should be more than 20 million motile sperm in the ejaculate. This is the most important value as it represents the number of healthy sperm available to cryopreserve.

Post Thaw Motility

This describes the percentage of sperm that are moving in the small test vial that was frozen and thawed. This number will help determine the use of the samples in the future, and is a guide for recommending the number of samples a man should produce for cryopreservation.

The recommended number of specimens stored will differ for each patient and depends on several factors. The patient's age and the number of children already fathered are important considerations. Semen quality, partner's fertility status, and overall health will be among the factors considered when deciding the number of specimens to freeze.

Future Use of Frozen Sperm

One-two years after the completion of all cancer therapy, men who cryopreserved sperm should ask their doctor to order a semen analysis. The post treatment semen analysis is important and will help determine if you should continue storage of your samples. Any of your doctors (oncologist, primary care physician) can order a semen analysis. The sample is produced and collected in the same fashion as the samples that were cryopreserved.

If the semen analysis is normal, you may choose to no longer keep your specimens and instead, have the lab destroy your samples.

If the semen analysis results are abnormal, you will want to continue cryopreservation of your sperm. Frozen sperm can be used for reproduction in several ways. The medical procedures used to produce a pregnancy with frozen sperm are called Assisted Reproduction Technologies, or ART. All procedures using frozen sperm will require a physician's assistance.

Intra-Uterine Insemination (IUI)

The simplest and least expensive method of conception using banked sperm is Intra Uterine Insemination (IUI). However, IUI requires the highest number of healthy sperm for success. During IUI, a doctor places the thawed, washed sperm within the uterus of the female partner near the time she is ovulating. Semen quality, female fertility factors and female age will affect pregnancy rates. The number of specimens frozen will determine how many IUI attempts can be made. According to the American Society of Reproductive Medicine, the average pregnancy requires 4-5 ovulatory cycles with IUI. More vials of frozen sperm increase the chance of a successful pregnancy, as well as the ability to attempt subsequent pregnancies.

In-Vitro Fertilization (IVF)

In vitro fertilization (IVF) refers to the assisted reproductive technique in which eggs are removed from a woman's ovaries and placed in a container with her partner's sperm in the laboratory. The sperm will attempt to enter the egg, called fertilization. If the eggs are successfully fertilized, they are called embryos. The embryos are then transferred into the womb and the fetus is carried in the woman's uterus until birth. Less sperm is needed for IVF than IUI. The UM Center for Reproductive Medicine recommends IVF if the stored samples contain at least 5 million sperm.

Intra-Cytoplasmic Sperm Injection (ICSI)

When a couple has decided on Intra-Cytoplasmic Sperm Injection (ICSI) eggs are harvested from the female's ovaries the same way as in IVF. However, instead of simply placing the egg and sperm together waiting for fertilization to occur, during ICSI, one single motile sperm is injected directly into the egg, greatly increasing the chances of successful fertilization. Thus, ICSI can be successful even with very poor sperm counts and quality. The fertilized egg is transferred into the womb and carried in the woman's uterus until birth.

Most people would agree that the least technical approach to using samples is desirable. Because of the high numbers of sperm needed, we encourage some men to produce several sperm collections, increasing the number of available sperm for post-treatment use. However, males who are unable to produce more than one sample because of health or time constraints, or whose sample may have sub-optimal levels of sperm are still encouraged to bank. Men with some types of cancer may have abnormal sperm counts even before treatment is started. About one-half of men with testicular and about 40% of men with Hodgkin disease have low sperm counts at the time of diagnosis.

Assisted reproductive techniques, such as Intra-Cytoplasmic Sperm Injection (ICSI) make fertilization possible with very few sperm. For this reason, all men who hope to father a child in the future should consider cryopreservation of semen even if the specimens have low numbers of sperm. There may be times, unfortunately when cryopreserving sperm is not recommended. Semen samples that contain no sperm (azoospermia) or very low numbers of non-motile sperm will not be cryopreserved.

Cryopreserved semen can be stored indefinitely. Successful pregnancies have been documented 30 years after freezing.

Instructions for Collecting a Sperm Specimen

The Semen collection must be in the laboratory within one hour after ejaculation. The specimen may be collected at home, in the hospital or in the private rooms available in the Center for Reproduction Medicine within the ART laboratory at Briarwood. Providing the specimen at the center is recommended to avoid delays in transport. **No specimen will be accepted, from either home or the collection room, without a scheduled appointment.**

General Instructions:

1. The semen specimen should be obtained by masturbation. Alternate methods of collection may be discussed but are not recommended.
2. Do NOT use any lubricant, including saliva, when collecting semen.
3. The specimen should be collected in a container provided by the ART laboratory. Do NOT collect the specimen in a condom because these contain spermicidal agents, which will alter the results of the analysis. If a condom must be used, the laboratory will provide a special semen collection condom.
4. Be sure hands and penis are cleaned prior to collection.
5. Avoid touching the inside of the cup.
6. If any semen is spilled, Do NOT attempt to put it in the cup. Inform the lab personnel about the spill.
7. Label the specimen collection container with the self-adhesive label printed with your name and registration number provided with the specimen container.

8. Unacceptable specimens:
    a. container is cracked, broken or leaking
    b. container not approved by the ART lab
    c. container is hot or cold to the touch
    d. specimen collected in condom not approved by ART lab
    e. specimen brought in without scheduled appointment
    f. Semen older than 1 hour will not be accepted.

Specimens Collected Outside of the ART Center at Briarwood:

1. Bring the specimen to the laboratory **within one hour** after ejaculation.
2. Do not expose the specimen to temperature extremes. Place the specimen container upright in a plastic bag, with the lid securely tightened, and keep the specimen close to body temperature by transporting it close to the body. The specimen should not be placed in a purse, pocket, or briefcase. Sperm do not have a long life outside of the body and delays in delivering semen and exposure to various temperatures will result in lower overall motile sperm count and poor semen cryopreservation.
3. We will contact you within 24 hours with the results of the semen analysis. This will include information regarding the quality and number of sperm in the test vial. (Refer to semen analysis section on page 11.)

Based on this information, you will be able to decide if you would like to bank additional semen. We will keep your primary oncologist informed throughout the collection process.

How to Collect the Best Specimen:

1. Refrain from sexual activity (including masturbation) for at least 2 days and no more than 10 days before collecting the specimen.

   Note: Longer or shorter periods of abstinence may result in a lower sperm count or decreased sperm motility.

2. Collect the specimen at the Assisted Reproduction Center or get it to the ART laboratory within one hour of collection.
3. Do NOT use any lubricant, including saliva, when collecting semen
4. Avoid exposing the specimen to extreme temperatures after collection. Do not transport the specimen in a purse, pocket or briefcase.

Especially For Partners

Your partner has just been diagnosed with cancer. To hear cancer in the same sentence as his name is terrifying. Many people are in a state of shock, anger, sadness or some combination of all three. However, once the initial shock has worn off, the reality that cancer therapy offers the chance of long-term survival brings hope.

The list of potential side effects of the treatments the doctor has prescribed can often sound worse than the disease. Many of these side effects are immediate and life altering, and may cause your partner to feel unwell. These immediate side effects may cause fear and anxiety. Long-term side effects are often not recognized or discussed at the time of diagnosis. Infertility, or the inability to father children later in life, occurs following treatment with certain chemotherapy drugs, radiation therapy directed at or near the testicles, high doses of radiation therapy to the brain, total body irradiation and testicular surgery. Infertility can be a devastating side effect of cancer treatment.

Infertility is a great concern to adults undergoing cancer therapy, and is also a source of great concern to their partners. Men are no less saddened by infertility than their female counterparts. It can be emotionally difficult to discuss the possibility of infertility. Nevertheless, couples facing cancer therapy should be aware of the potentially sterilizing effects of some treatments, and options available for preserving sperm. Cancer survivors are often angry that they were not more informed about infertility and semen cryopreservation at the time of their cancer treatment. Cryopreservation of sperm does provide the chance to biologically father a child.

It is important to understand that decreased sperm production is not the same thing as impotence. Sexual functioning is not related to the production of sperm. (See page 3 for a description of testicular function.)

Pregnancy using frozen (cryopreserved) sperm always requires the care of a physician. The simplest method will involve a doctor placing the thawed sample within the women's uterus at the time of ovulation. More technical methods, such as In-Vitro Fertilization (IVF) or Intra-Cytoplasmic Sperm Injection (ICSI) may be recommended in certain situations.

We invite you to participate with your partner during the initial counseling session prior to semen collection. At that time, questions about the procedure, costs and future use of the cryopreserved sperm will be discussed. HIPPA regulations require signed consent from the patient prior to discussion or release of medical information to family members. (UM Friends & Family Release form located in your information packet.)

Emotional Considerations of Sperm Banking

Semen for cryopreservation is obtained by masturbation. This subject can be quite embarrassing or uncomfortable for many men. Some men may decide against sperm banking because of their discomfort about obtaining the sample. Our sexual practices are very personal and private parts of our lives. Typically, we don't talk about our sexuality, especially masturbation, with anyone, much less our medical team.

We would like to reassure you that the staff of the University of Michigan Fertility Preservation program will treat you in a professional, courteous manner at all times. We deal on a daily basis with infertility in both males and females and are quite comfortable discussing all aspects of sperm collection and banking. Our goal is to help you preserve your reproductive potential.

There is a private locked room located close to the ART laboratory that can be used to collect your semen sample. You can be assured of complete privacy. The room is equipped with erotic magazines and videos with a VCR/DVD player. We encourage you to bring any viewing materials that will help you obtain the specimen. Your partner may accompany you in the collection room.

Some men prefer to obtain their sample away from the medical center. If you decide to do this, we will provide you with an approved container. Please do not collect your sample in an unapproved container or in a commercial condom. Many containers, even those of medical grade can cause sperm to die rapidly. Commercially available condoms are coated with a spermicide that will damage and kill motile sperm. If you need to use a condom to collect your specimen, we will provide you with a laboratory-approved model. Semen samples must be in the laboratory within one hour of collection. We can provide a list of hotel accommodations located near the medical center.

We would be happy to discuss any aspect of sperm banking with you and your partner, and help put your mind at ease.

Frequently Asked Questions

Who "owns" my sperm sample(s)?

The male who produced the samples is the sole owner. Wives, girlfriends, partners, significant others, or parents do not have legal rights to the samples.

Why is legal custody of cryopreserved samples an issue?

Cryopreserved semen, when combined with a female's egg, can result in the conception of a human life. The male who produced the sample has the right to determine the use of his genetic material. The storage and use of preserved gametes is strictly regulated by the American Association of Tissue Banks. The University of Michigan adheres to their guidelines. The University of Michigan accepts responsibility for the storage and custody of banked cryopreserved sperm.

After the initial storage of my sperm, what are my options for use?

1. You may request release of the frozen specimen for use in an assisted reproduction (ART) procedure at the University of Michigan Medical Center.
2. You may request that the banked specimens be released from the University of Michigan Medical Center and transferred to another medical facility for use in an assisted reproduction procedure (ART). The sample will be sent in a special liquid nitrogen tank to the physician responsible for the ART procedure. Ten business days are required to prepare and ship the sample. Please send a written, notarized request to our lab in advance of the procedure.

3. You may request that the banked specimens be released from the University of Michigan Medical Center and transferred to the responsibility and custody of another sperm bank. A written, notarized request is required.
4. You may no longer desire or need to continue banking your samples.
    a. You may direct the samples to be destroyed. A written, notarized request is required.
    b. You may release ownership and donate the specimens for use in scientific research. A written, notarized request is required.

Is there a time limit for using my sperm?

At this time, we believe that sperm will survive indefinitely.

Is there a charge for transfer of specimens to another facility for reproductive use or storage?

Yes. Please contact the laboratory (734-763-5384) for current information.

Who can request release or transfer of banked specimens?

Specimens will be released ONLY with the written consent of the patient and ONLY to another laboratory, sperm bank or physician. Wives, fiancées, girlfriends and significant others of donors have no ownership of banked specimens. Parents of minor donors, although responsible for the storage fee, cannot request release of the specimen for reproductive use.

Do I have any options if I am without funds at the time of the annual storage bill?

Yes, let us know, and we will help devise a payment plan. **Do not ignore the bill,** as we will assume you are no longer interested in maintaining the samples, and after 2 years with no contact, the specimens will be destroyed.

What happens to my samples if I die?

The specimens are your legal property. The final disposition of the samples must be recorded in your Last Will and Testament. In the absence of legal documentation, the specimens will be destroyed.

What happens if I move from the state of Michigan?

You are responsible for notifying us about your address change. If we are unaware of your new address, you may not receive your annual storage invoice. If we do not receive payments for 2 consecutive years, the specimens will be destroyed.

In summary, specimens will be destroyed under the following circumstances:

- At the direction of the male.
- If the storage fee has not been paid for a period of 2 years.
- In the event of the male's death, if there is no last will and testament that directs disposition of the semen.

Glossary of Terms

ART: Assisted reproductive technologies. All treatments that include laboratory handling of eggs, sperm and/or embryos.

Azoospermia: the absence of sperm in a semen sample.

Cryopreservation: rapid freezing in liquid or vapor nitrogen at -196C to preserve (sperm) for future use.

Epididymis: tiny tube where sperm collect after leaving the testes.

FSH: Follicle-stimulating hormone. Released from the pituitary gland, FSH is necessary to make sperm.

ICSI: Intra-Cytoplasmic Sperm Injection: A technique for fertilizing a female's egg with one single sperm in the ART laboratory.

Infertility: the inability to conceive a child.

Gamete: sperm cells or eggs.

Hypothalamus: Control center of the brain that regulates the amount of hormones produced by the pituitary gland.

IUI: Intrauterine Insemination. An assisted reproductive technique where a doctor inserts washed sperm inside the female's uterus.

Leydig cells: Located in the testicle, responsible for producing testosterone.

LH: Luteinizing hormone. Secreted from the pituitary gland, LH is necessary for the Leydig cells in the testicle to produce testosterone.

Ovaries: The two female sex glands that produce eggs.

Pituitary gland: A gland located in the brain which secretes FSH and LH.

Semen: White, protein-rich fluid ejaculated by males at the time of orgasm Usually contains sperm.

Semen Analysis: a laboratory analysis of sperm number, motility and health.

Seminiferous tubules: Tiny tubes in the testes where sperm cells are produced and mature.

Secondary Sexual Characteristics: In males, this includes facial, axillary and pubic hair, deep voice and adult size genitalia.

Sperm Bank: A facility that collects, freezes and stores sperm.

Spermatogonia: cells located within the seminiferous tubules that produce sperm.

Testosterone: Primary male hormone. Causes the reproductive organs to grow and develop; responsible for secondary sexual characteristics, and promotes erections and sexual behavior.

Testicles: The two male sex glands that produce sperm.

Information and Resources

Brochures

- Fertile Hope® publications:
  - ➢ Cancer and Fertility Annual Resource Guide
  - ➢ Cancer and Fertility: A Guide for Young Adults
  - ➢ Childhood Cancer and Fertility: A Guide for Parents
  - ➢ Sharing Hope Financial Assistance Program

  Printable versions of these publications are available online at: www.fertilehope.org

Web Resources

- **American Society for Reproductive Medicine** – www.asrm.org

  The site of this medical society has an extensive section for patients with frequently asked questions, fact sheets and booklets addressing many fertility issues.

- **fertileHOPE** – www.fertilehope.org/home.htlm

  The site of a non-profit organization dedicated to helping cancer patients faced with infertility. Includes detailed information on fertility risks, fertility preservation and financial assistance.

- **Livestrong** – www.livestrong.org

  The site of the Lance Armstrong foundation has an extensive section for males with cancer including links to fertile hope and other resources.

- **University of Michigan Fertility Preservation –**
  https://www.rogelcancercenter.org/fertility-preservation
  Information on fertility issues facing cancer survivors and the sperm banking program at the University of Michigan. Mcancer.org/fertility

- **MyOncofertility.org** – www.myoncofertility.org
  MyOncofertility.org is a patient education resource provided by the Oncofertility Consortium. This website provides information and tools to educate young adults about fertility preservation options before, during and after cancer treatment. Resources include survivor videos related to fertility issues that were obtained through Gilda's Club in Chicago. The site contains 126 fertility expert videos and 90 cancer survivor stories.

Email Groups (Listservs)

Cancer-Fertility is an email discussion group focusing on fertility issues associated with cancer, hosted by the Association of Cancer Online Resources.

To subscribe: http://listserv.acor.org/archives/cancer-fertility.html

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Appendix

Change of Address Notification

Patients are asked for updates or changes to their address and phone number at every visit to the University of Michigan Medical Center. However, once you are no longer returning for regular medical visits, YOU are responsible for notifying the University of Michigan about your change of address. The Center for Reproductive Medicine will mail your bill for the upcoming years' annual storage every September. Without an updated address, you may not receive the bill.

Patient Name:

_____

UMHS ID Number: (found on your blue card)

_____

New Address:

_____

_____

_____

Phone Number:

_____

OR:

You can call the Patient Registration Office at (866) 452-9896 or (734) 936-4990 to update your information. Please have your patient ID number available at the time of the call.

Directions to the Assisted Reproductive Technologies Laboratory

475 Market Place, Ann Arbor, MI 48108

(Found in the Center for Reproductive Medicine: Building #1)

This document is not intended to take the place of the care and attention of your personal physician or other professional medical services. Our aim is to promote active participation in your care and treatment by providing information and education.

Questions about individual health concerns or specific treatment options should be discussed with your physician.

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