

## Sperm Freezing

### What Is Sperm Freezing?

Sperm freezing or cryopreservation is the process of freezing and storing sperm so that it can be used for future reproductive needs. The sperm is frozen in containers of liquid nitrogen at  $-196^{\circ}\text{C}$ .

### How Long Can Sperm Remain Cryopreserved?

Sperm can remain frozen in liquid nitrogen for an indefinite amount of time. It is estimated that a sample can remain in storage for approximately 1,000 years before cumulative DNA damage from cosmic radiation renders the sperm nonviable.

### Why Should I Consider Cryopreservation?

There are a variety of reasons why a man would consider freezing his sperm. For example, many men will freeze their sperm:

- prior to chemotherapy or radiation therapy
- in the early stages of certain diseases or illnesses that may affect future fertility
- prior undergoing a vasectomy or other pelvic surgeries
- when working in an occupation that has a high risk of testicular or pelvic injury
- in advance of reproductive treatment if they have difficulties collecting semen through masturbation
- if they will be out of town when their partner is undergoing fertility treatment
- to serve as a safeguard against any unforeseen circumstances in the future that may affect their fertility.

### How Do I Arrange To Freeze My Sperm?

The first thing you need to do is contact your physician or Kelowna Regional Fertility Centre and make arrangements for Hepatitis B, Hepatitis C and HIV testing. This is required by Health Canada and the results are usually available within a few weeks. Please arrange to have copies of your blood work results sent to our clinic.

Once we have your blood work results, we can schedule an appointment for cryopreservation, simply call The Kelowna Regional Fertility Centre for an appointment. We prefer that the sample is collected on site in our office, however if you prefer to collect the sample at home we can provide a sterile cup and ask that you please bring the sample to the lab within 30 minutes after it is produced. Please keep the sample close to your body (in your armpit or jacket pocket) so that it stays close to body temperature during transport.

### **How Will The Sperm Be Stored?**

All sperm from each sample will be frozen. Most men yield between two and five vials (which are the individual storage units), depending on the volume and quality of the sperm.

### **Is There Anything I Need To Do Prior To Collecting A Sample?**

It is best to abstain from ejaculation for at least two days prior to giving the sample at the laboratory, and to wait at least two days between freezing appointments. Exceptions can be made to this, especially if cancer treatment is to be started soon. The staff at The Kelowna Regional Fertility Centre are able to discuss your cryopreservation options and will give you the results of your freeze so you can be better informed in deciding if you wish to bank more sperm.

### **What Happens When I Want To Use A Sample?**

When you decide that it is time to thaw and use your sperm, you and your partner will meet with Kelowna Regional Fertility Centre's medical staff to discuss your options. Your partner will undergo some basic female fertility investigations so that we can decide which approach will be best. If the cryopreserved sperm are of good quality, they can be used for intrauterine insemination (IUI) at the time of ovulation. When sperm have been frozen and thawed, pregnancy rates are generally a bit lower per cycle than the general fertile population (10-15% per cycle vs. 20% per cycle for women under 40 years).

However, many men who freeze sperm have been ill and their sperm counts may already be reduced. If this is the situation, our staff may recommend that more advanced forms of assisted reproduction (i.e. In vitro fertilization or Intracytoplasmic sperm injection).

### **Does Freezing Affect The Sperm?**

Some sperm in each sample will not survive the freeze/thaw process. However there is no evidence to indicate that the DNA quality of those that survive is affected. It is difficult to predict the survival rate, as each sample is unique and responds differently to cryopreservation. The Kelowna Regional Fertility Centre will perform a "test-thaw" on a small portion of frozen semen so that we have an idea of how the sperm will react to the freezing. Babies born from frozen sperm do not have a higher incidence of abnormalities or birth defects than those conceived with fresh semen.

### **Could There Be Problems With The Quality of Sperm?**

It is possible for challenges to occur with respect to the number and quality of frozen sperm, especially if the sample was produced by men who are about to undergo cancer treatment. This is because the sperm count and/or the ability of the sperm to swim may have already been affected. In these situations, if time is permitting it may be advisable to freeze more specimens.

If the sperm count or swimming ability is low, and our staff does not believe it is of good quality for insemination, other reproductive therapies can still be used.

**Is Cryopreserved Sperm At The Kelowna Regional Fertility Centre Kept Secure?**

Yes. Your samples will be stored in secure cryogenic storage. We use cryovials that are labeled with several unique identifiers to ensure that your sample is not confused with another patient. When the time comes that you want to use your cryopreserved sperm, a minimum of three people check the identity on the vial prior to insemination.

**What Does It Cost To Freeze Sperm?**

Sperm Cryopreservation is not an MSP-covered service in British Columbia. The Kelowna Regional Fertility Centre has a fee for processing the sample and preparing it for freezing, as well as an annual storage fee. Please see The Kelowna Regional Fertility Centre's fee schedule for current pricing.