

Sperm Retrieval

“MESA” (or Microsurgical Epididymal Sperm Aspiration), “TESE” (Testicular Sperm Extraction) and “PESA” (Percutaneous Epididymal Sperm Aspiration) are specialized procedures used for obtain sperm from men who have a condition that prevents sperm release via the genital tract often due to some form of obstruction:

- a. Vasectomy
- b. Failed reversal of vasectomy
- c. Congenital absence of the vas deferens

These procedures are used in conjunction with “ICSI” (Intracytoplasmic Sperm Injection) a specialized form of In Vitro Fertilization to help couples overcome fertility challenges.

MESA (Microsurgical Epididymal Sperm Aspiration)

MESA involves applying a general anesthetic to the male partner and an incision is made in the scrotum. The epididymis a tightly coiled tube located behind the testes and the site of sperm maturation is then exposed. Using a buffer filled syringe the Urologist aspirates sperm from the epididymis. The sperm is the collected and frozen until the female partner completes the egg retrieval procedure. MESAs are performed in one of the operating rooms at Kelowna General Hospital in conjunction with the Kelowna Regional Fertility Centre Andrology team.

TESE (Testicular Sperm Extraction)

TESE are performed under a local anesthetic. Following an incision in the scrotum a small amount to testicular tissue is removed and sperm are extracted. If TESE is performed before the day of egg retrieval, the sperm sample is frozen.

PESA (Percutaneous Epididymal Sperm Aspiration)

PESA is similar to the TESA in that a local anesthetic is applied and an incision is made, however sperm are collected from the epididymis as opposed to the testicle. The aspirated sample contained in buffer is either frozen for future use or the procedure is timed for the same day as egg retrieval.

Sperm Collection in Conjunction with Fertilization

Sperm collected using the MESA/TESE/PESA procedures are used in conjunction with Intracytoplasmic sperm injection (ICSI) is a type of in vitro fertilization procedure used in the treatment of male infertility. The procedure involves collecting eggs from the female partner and then preparing the sperm collected from the MESA/TESE/PESA procedure so ICSI can be performed.

What is Intracytoplasmic Sperm Injection (ICSI)?

ICSI is used in the treatment of male factor infertility or for couples who have had poor or no fertilization during standard in vitro fertilization. It is also used for some couples with unexplained infertility. It is most commonly used in men who have:

- A high number of abnormal sperm
- Very few moving sperm
- Very low numbers of sperm
- Obstruction in the testes that prevents sperm release
- Antibodies against their own sperm
- A reversed vasectomy
- Sperm retrieval or biopsy procedure

How is ICSI done?

Eggs are retrieved during a standard in vitro fertilization cycle. Sperm are then prepared in the lab to isolate as many healthy sperm as possible. Following a 4-6 hour resting period the outer coating of the egg is removed and eggs are assessed to ensure that they are mature enough to undergo the procedure.

Those eggs that are sufficiently mature are held in place using a specialized instrument and a very thin needle is used to select a single sperm. That sperm is pulled into the needle and the needle is inserted into the egg. The sperm is slowly injected into the egg and the needle is removed, leaving the sperm behind.

All eggs that are injected with a sperm are placed in an incubator and monitored for signs of fertilization and embryo formation. It is important to note that not all eggs fertilize and not all fertilized eggs go on to form embryos.

A number of factors determine how many embryos will be replaced. Your physician will discuss your options with you following egg retrieval and prior to implantation.

Assuming that the remaining embryos are healthy they can be frozen for future use.

What are the risks of sperm retrieval?

MESA/TESE/PESA procedures carry a small risk of infection or bleeding. If a MESA is required a general anesthetic is utilized (at Vancouver General Hospital). This carries additional risk.

It is important to note that there is no guarantee of obtaining sperm from this procedure.

ICSI procedure carries with it risk to the eggs as some may be damaged during the injection procedure and some may not fertilize. Reduced fertilization reduces the number of embryos that are available to transfer.

Male offspring may carry with them similar genetically related male factor infertility.

Healthy embryos transferred to the female partner's uterus may not result in pregnancy.

Other considerations

The MESA/TESE/PESA procedure carries with it the risk that no sperm are collected. As a result couples may consider using donor sperm instead of undergoing retrieval. Please refer to The Kelowna Regional Fertility Centre Sperm Freezing Patient Information Sheet for more information on sperm freezing.

Preparation for sperm retrieval

If you are having sperm retrieval (MESA) performed at Vancouver Hospital (UBC site) phone the Daycare Admissions (604-822-7517) the day before your surgery is scheduled to confirm the time to be there. You must not have anything to eat or drink after midnight on the night before surgery.

If you are having TESE or PESA at The Kelowna Regional Fertility Centre a light breakfast the day of the procedure is allowable.

What Does It Cost?

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