



Surgical sperm retrieval

Approximately 1% of all men will have no sperm in their ejaculate (azoospermia) and this is one possible cause of male infertility. After a number of tests and examinations, your doctor may suggest surgical sperm retrieval as a way of enabling couples to conceive.

What is surgical sperm retrieval (SSR)?

SSR is a technique for collecting sperm from a man's testicles. It is a minor procedure, which can be carried out as a day case under local anaesthetic and sedation. An alternative option to this would be to consider using donor sperm.

Who needs SSR?

SSR is intended to help men who have no sperm in their ejaculate. This can be the result of two main causes:

1. Failure of sperm delivery. Most of these men produce healthy sperm in the testicles that can be retrieved by SSR:
 - a blockage in, or absence of, the vas deferens (the tube which carries the sperm to the penis).
 - a blockage in the epididymis (the structure connecting the testis to the vas deferens).
2. Failure of adequate sperm production:
 - Sperm can be retrieved in some cases with microsurgical testicular sperm extraction (mTESE) (see below).

Types of SSR

There are different types of SSR. The cause of the sperm problem will determine which procedure is most suitable for you.

- **Percutaneous epididymal sperm aspiration (PESA):** It is a short, relatively painless procedure and requires no surgical incisions. A fine needle is inserted into the epididymis through the scrotum and fluid aspirated. This fluid is then inspected under a microscope for sperm content and motility. The procedure takes about 15-20 minutes. This procedure will be performed under sedation.
- **Microsurgical testicular sperm extraction (mTESE):** This operation is performed using a surgical microscope (mTESE), which provides up to 20x magnification. The testicles are examined microscopically to look for areas where the sperm containing structures (seminiferous tubules) are dilated, and thus more likely to contain sperm. This procedure will cause some pain and tenderness so is usually performed under sedation or general anaesthetic; however, full recovery is expected within a few days.
- **Vasectomy reversal:** A vasectomy reversal is an operation to reconnect the tubes (called the vas deferens) that carry sperm from the testicles to your penis. This aims to restore fertility after a vasectomy.

What to expect afterwards

- You will be reviewed in fertility clinic post-operatively and your testosterone level measured in a blood test, particularly if you have had the mTESE procedure.
- Some side effects include some testicular discomfort and mild bruising may occur.
- The sedation, administered by a consultant anaesthetist, will wear off quickly following the operation.
- You will need to rest until the effects of the anaesthetic have passed. Your scrotum will feel sore as the anaesthetic wears off and you may need painkillers.
- You will be wearing supportive underwear to help relieve any discomfort and will normally be able to go home after you have passed urine.
- You will need to arrange for someone to drive you home. You should try to have a friend or relative stay with you for the first 24 hours.
- If you need pain relief, you can take over-the-counter painkillers such as paracetamol or ibuprofen. Follow the instructions in the patient information leaflet that comes with the medicine and ask your pharmacist for advice.
- Continue to wear close-fitting underwear day and night for a few weeks. This will help ease any discomfort and swelling.
- You can bathe and shower but you should dry the area gently and thoroughly afterwards.
- Don't do any heavy lifting or vigorous exercise for the first four weeks.
- You can have sex as soon as you feel comfortable.

What are the possible complications?

This is when problems occur during or after the operation. Most men are not affected. The possible complications of any operation include:

- An unexpected reaction to the anaesthetic, excessive bleeding, or infection.
- Fluid building up in your scrotum (hydrocele). This may need treatment to drain the area.
- Damage to blood vessels. This can cause permanent damage to one or both testicles (testicular atrophy).
- Long-term testicular discomfort.

Effectiveness of SSR

The sperm retrieved is frozen and this does not affect its ability to subsequently fertilise an egg. However, the sperm retrieved is usually low in numbers and may not be sufficiently mature to successfully fertilise an egg using IVF techniques. Therefore, the embryologist will select a single sperm to inject into each egg. This procedure is called Intracytoplasmic Sperm Injection (ICSI).

If you have any questions or concerns regarding your treatment, please call the Fertility Clinic on **0118 322 7286** and ask to talk to one of the nurses.

Where can I find further information?

The clinic doctors produce a number of information sheets especially for this clinic and update them frequently. You can find some of these sheets on the Trust website [here](#)

[Male Fertility Clinic \(Urology\) - Royal Berkshire NHS Foundation Trust](#)
[Fertility tests.pdf](#)

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

RBFT Fertility Clinic, February 2025

Next review due: February 2027