SURGICAL SPERM RETRIEVAL (SSR)

Information about your procedure from
The British Association of Urological Surgeons (BAUS)

This leaflet contains evidence-based information about your proposed urological procedure. We have consulted specialist surgeons during its preparation, so that it represents best practice in UK urology. You should use it in addition to any advice already given to you.

To view the online version of this leaflet, type the text below into your web browser:
http://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Sperm retrieval.pdf

Key Points

- Surgical sperm retrieval (SSR) involves extracting sperm from the male genital tract (the testis or epididymis) to use for assisted reproductive techniques (ART)
- The actual technique used depends on the nature and site of the underlying infertility problem
- Techniques range from simple needle aspiration of the epididymis (PESA) or testis (TESA) through the scrotal skin, to the more advanced microsurgical sperm extraction from the testicle (microTESE)
- MicroTESE is only available in a few selected centres

What does this procedure involve?

Sperm collection from the male genital tract (the testis or epididymis) for use in assisted reproductive techniques e.g. IVF / intracytoplasmic sperm injection (ICSI).

What are the alternatives?

- **Donor insemination (DI)** – assisted conception using donor semen
- **Adoption**

What happens on the day of the procedure?

Your urologist (or a member of their team) will briefly review your history and medications, and will discuss the surgery again with you to confirm your consent.

An anaesthetist will see you to discuss the options of a general anaesthetic or spinal anaesthetic. The anaesthetist will also discuss pain relief after the procedure with you.

If only needle aspiration is required to retrieve sperm, we usually perform this under local anaesthetic and sedation.

We usually provide you with a pair of TED stockings to wear, and we may give you a heparin injection to thin your blood. These help to prevent blood clots from developing and passing into your lungs. Your medical team will decide whether you need to continue these after you go home.

Details of the operation

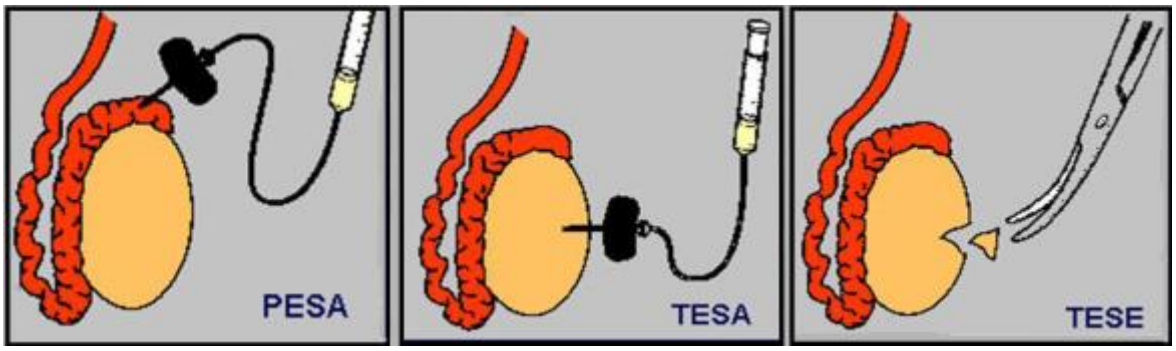
The type of surgical sperm retrieval used depends on the nature and site of the problem. If the infertility is due to an obstruction or blockage in the system (obstructive azoospermia), then sperm can be retrieved with more ease since there is no problem with how your sperm is being made in your testicle. This is most often seen in men who have had a previous vasectomy.

- we may give you an injection of antibiotics before the procedure, after you have been checked for any allergies
- we puncture the skin of your scrotum with a needle and syringe, to draw sperm out of your epididymis (percutaneous epididymal sperm aspiration, PESA) or your testis (testicular sperm aspiration, TESA)
- the chance of finding sperm in obstructive azoospermia is close to 100%

Where the infertility problem is not due to obstruction, but due to how the testicle makes sperm (non-obstructive azoospermia), then sperm retrieval is more challenging.

- in this situation, more tissue needs to be sampled and we do this using testicular sperm extraction (TESE) or microscope-assisted testicular sperm extraction (microTESE), usually performed through a small incision in your scrotum
- with TESE, we usually take multiple, small biopsies from your testis, at random, to find sperm; with microTESE, we make a larger incision

in your testicle to allow a more complete, systematic search of your testis to find sperm using a high-power microscope
- micro-TESE is only available in selected centres and has a better success rate (approximately 50%) in finding sperm in difficult cases
- we close any incisions in the scrotum or testicle with absorbable stitches; these do not need removal and normally disappear within two to three weeks



Are there any after-effects?

The possible after-effects and your risk of getting them are shown below. Some are self-limiting or reversible, but others are not. We have not listed very rare after-effects (occurring in less than 1 in 250 patients) individually. The impact of these after-effects can vary a lot from patient to patient; you should ask your surgeon's advice about the risks and their impact on you as an individual:

After-effect	Risk
Mild bruising and swelling of the scrotum	 Between 1 in 2 & 1 in 10 patients
No sperms are found (the exact rate depends on the underlying problem & the type of SSR used; you should discuss this further with your surgeon)	 Between 1 in 2 & 1 in 10 patients
Chronic pain in your testicle	 Between 1 in 50 & 1 in 250 patients
Testicular atrophy (shrinkage of your testicle) requiring hormone replacement therapy	 Between 1 in 50 & 1 in 250 patients

Worsening obstruction of the vas deferens or epididymis		Between 1 in 50 & 1 in 250 patients
Infection and/or bleeding in the scrotum or epididymis requiring surgical intervention		Between 1 in 50 & 1 in 250 patients
Anaesthetic or cardiovascular problems possibly requiring intensive care (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death)		Less than 1 in 250 patients (your anaesthetist can estimate your individual risk)

What is my risk of a hospital-acquired infection?

Your risk of getting an infection in hospital is approximately 8 in 100 (8%); this includes getting *MRSA* or a *Clostridium difficile* bowel infection. This figure is higher if you are in a "high-risk" group of patients such as patients who have had:

- long-term drainage tubes (e.g. catheters);
- bladder removal;
- long hospital stays; or
- multiple hospital admissions.

What can I expect when I get home?

- you will be given advice about your recovery at home
- you will have some swelling and discomfort for a few days after the procedure
- we usually provide you with a scrotal support to make the post-operative period more comfortable
- you will be given a copy of your discharge summary and a copy will also be sent to your GP
- any antibiotics or other tablets you may need will be arranged & dispensed from the hospital pharmacy
- you should avoid all sexual activity until your scrotum and testicles are comfortable
- we will discuss the arrangements for ongoing treatment with you before you go home

General information about surgical procedures

Before your procedure

Please tell a member of the medical team if you have:

- an implanted foreign body (stent, joint replacement, pacemaker, heart valve, blood vessel graft);
- a regular prescription for a blood thinning agent (warfarin, aspirin, clopidogrel, rivaroxaban or dabigatran);
- a present or previous MRSA infection; or
- a high risk of variant-CJD (e.g. if you have had a corneal transplant, a neurosurgical dural transplant or human growth hormone treatment).

Questions you may wish to ask

If you wish to learn more about what will happen, you can find a list of suggested questions called "Having An Operation" on the website of the Royal College of Surgeons of England. You may also wish to ask your surgeon for his/her personal results and experience with this procedure.

Before you go home

We will tell you how the procedure went and you should:

- make sure you understand what has been done;
- ask the surgeon if everything went as planned;
- let the staff know if you have any discomfort;
- ask what you can (and cannot) do at home;
- make sure you know what happens next; and
- ask when you can return to normal activities.

We will give you advice about what to look out for when you get home. Your surgeon or nurse will also give you details of who to contact, and how to contact them, in the event of problems.

Smoking and surgery

Ideally, we would prefer you to stop smoking before any procedure. Smoking can worsen some urological conditions, especially male-factor infertility, and makes complications more likely after surgery. For advice on stopping, you can:

- contact your GP;
- access your local NHS Smoking Help Online; or
- ring the free NHS Smoking Helpline on **0800 169 0 169**.

Driving after surgery

It is your responsibility to make sure you are fit to drive after any surgical procedure. You only need to contact the DVLA if your ability to drive is likely to be affected for more than three months. If it is, you should check with your insurance company before driving again.

What should I do with this information?

Thank you for taking the trouble to read this information. Please let your urologist (or specialist nurse) know if you would like to have a copy for your own records. If you wish, the medical or nursing staff can also arrange to file a copy in your hospital notes.

What sources have we used to prepare this leaflet?

This leaflet uses information from consensus panels and other evidence-based sources including:

- the Department of Health (England);
- the Cochrane Collaboration; and
- the National Institute for Health and Care Excellence (NICE).

It also follows style guidelines from:

- the Royal National Institute for Blind People (RNIB);
- the Patient Information Forum; and
- the Plain English Campaign.

Disclaimer

We have made every effort to give accurate information but there may still be errors or omissions in this leaflet. BAUS cannot accept responsibility for any loss from action taken (or not taken) as a result of this information.

PLEASE NOTE

The staff at BAUS are not medically trained, and are unable to answer questions about the information provided in this leaflet. If you do have any questions, you should contact your urologist, specialist nurse or GP.