

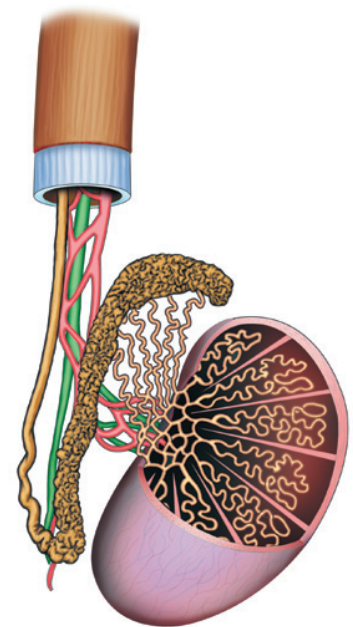
What is surgical sperm retrieval?

Men who are found to have no sperm in the semen (azoospermia) often require a surgical procedure in order to obtain sperm which can then be used to fertilise the egg. This is normally carried out for patients undergoing ICSI treatment.

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If you want more information about male related aspects of fertility visit the patient section of the British Andrology Society website at www.britishandrology.org.uk

Obstructive Azoospermia

Although obstructive azoospermia secondary to a vasectomy for sterilisation is amenable to surgical reconstruction by performing a vasectomy reversal, some men may not wish to undergo further surgery or the procedure may have failed. The patency rates and pregnancy rates will be governed by the time interval between having the vasectomy and the reversal and also the surgical expertise of the surgeon undertaking the procedure.

Men diagnosed with congenital bilateral absence of vas deferens (CBAVD) are not amenable to surgical reconstruction although almost all of these patients will have normal spermatogenesis within the testicles. Therefore a surgical sperm retrieval is likely to yield enough sperm for treatment by ICSI.

The surgical technique which is commonly used for men in this category include PESA (Percutaneous Epididymal Sperm Aspiration) which can be performed under a local anaesthetic and involves placing a small needle into the head of the epididymis and aspirating sperm. Occasionally sperm is obtained at the time of a surgical reconstruction by opening one of the epididymal tubules and aspirating sperm. This procedure is called a MESA (Microsurgical Epididymal Sperm Aspiration).

Generally there should be sperm obtained from these techniques but if this fails then sperm can be obtained directly from the testicles by aspirating the testicle (TESA) or by performing a small incision in the testicle and removing a small amount of testicular tissue (TESE) which can then be stored for later use or used as a fresh specimen and sperm is harvested. These procedures are classified as minor surgery with low rates of complications. However there is a risk of bleeding and infection.

Non-Obstructive Azoospermia

Men who have no sperm in the ejaculate and there is no obstruction present may still have focal areas of spermatogenesis within the testicle which can be isolated and checked for sperm.

Techniques for surgical sperm retrieval in these patients vary with some undergoing conventional TESE (as described above). However you may also be offered a technique known as microsurgical testicular exploration and sperm extraction (mTESE) which recent data suggest has a better success rate in patients with non-obstructive azoospermia.

The mTESE operation is ideally performed under a general anaesthetic and utilises a high magnification operating microscope (x20–x24) in order to identify the dilated tubules within the testicle that have a higher probability of spermatogenesis (sperm production). These are then removed and analysed intra-operatively by an Embryologist/Andrologist to check for sperm. This technique has now meant that some men previously deemed infertile now have a chance to father their own biological children including those with genetic disorders such as Klinefelters Syndrome.