

# Male Fertility Surgery

A Guide for Men and Couples

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[www.expertfertility.org](http://www.expertfertility.org)

# When is Surgery Required for Men?

When fertility is an issue for a couple, some men will face surgery as a part of management. There are three common reasons that surgery might be considered for men as part of infertility care...

## To make a diagnosis

In some cases where there is no sperm in a man's ejaculate, it is unclear what is causing the problem. A typical example of this might be where full investigation has not uncovered any obvious cause – the man has normal hormone levels and no sign of a condition such as absence of the vas deferens (as might be found in cystic fibrosis carriers).

In situations like this, an open biopsy of the testicle might be taken. The biopsy is carefully analysed under the microscope. One diagnosis that might be made is a condition known as 'Sertoli-only syndrome.' In this case, the testicular tubules do not have any of the cells that make sperm, only the supporting cells (the Sertoli cells).

## To obtain sperm for IVF

In the situation of a past vasectomy, or a blockage of the vas deferens due to cystic fibrosis genes, either a needle biopsy or open surgical procedure might be considered to obtain sperm if there are none in the ejaculate.

## To fix an anatomical problem

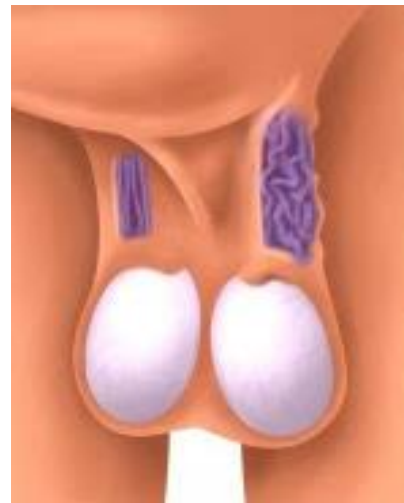
There are two anatomical problems that might contribute to fertility delays. The most common is an obvious one – vasectomy. Surgery might be performed to join the ends of the vas deferens together.

Another, less common, example is varicocele. In this situation, varicose veins are present around the testicle. In some situations, usually where there is associated pain or discomfort, the abnormal varicose vessels are removed.

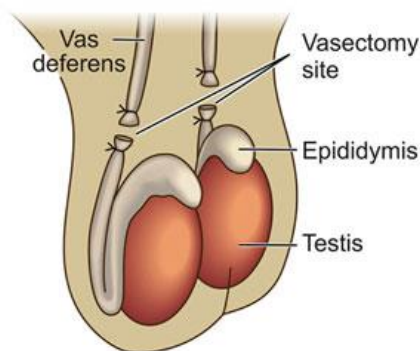


# Treating a Varicocele

There are a number of ways in which a varicocele can be treated. The more traditional method of open surgery is becoming less common, and minimal access (keyhole) approaches more common. It is also possible to use radiology techniques – where the blood vessels to the varicocele are blocked under x-ray control.



# Reversing Vasectomy



The reversal of vasectomy is usually performed using the techniques of microsurgery. The scrotum is opened and the end of the vas deferens are identified. The vas is carefully sliced back until the open tube – the ‘lumen’ – is found. Although there are various surgical techniques, typically the two ends of the vas are sewn together in two layers. This is called ‘anastomosis.’ If the anastomosis is successful, sperm will return to the ejaculate over several months.

# Open Biopsy of the Testicle

An open biopsy of the testicle is a much greater surgical procedure than a needle technique for sperm retrieval in IVF, and a much larger amount of tissue is obtained for analysis. The scrotum is opened with a small incision, and the surface of the testicle identified. The covering of the testicle – the ‘tunica’ – is opened and the soft tubules within the testicle examined. A biopsy is taken. Typically, some of the tubular tissue is sent to the pathologist for careful examination and diagnosis, as well as being used for IVF purposes. The covering of the testicle is closed with a fine suture. The skin of the scrotum is then closed too, usually with sutures.



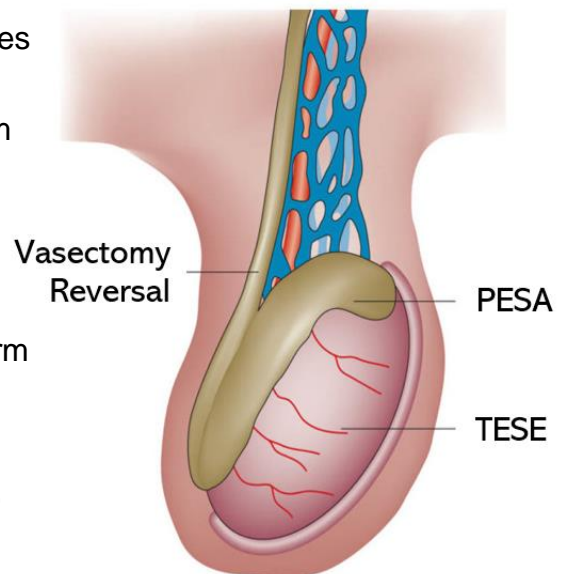
# Needle Sperm Retrieval Procedures

For men who have previously undergone a vasectomy – and, occasionally, those with a blockage in the vas deferens tube – sufficient sperm for use in IVF procedures can be obtained with a needle.

In the 'TESE' procedure ('testicular exploration for sperm extraction') a needle is placed into the substance of the testicle, and small amounts of tubule obtained. The IVF scientist can use microscopic instruments to wash the sperm from the tubular material.

In the 'PESA' procedure ('percutaneous epididymal sperm extraction') a needle is placed into the epididymis to obtain sperm.

When these procedures are performed, it is important to take a couple of days to recovery. Wearing firm underpants will allow support and comfort afterwards. Using some analgesic medication – and perhaps cool packs – recovery is usually rapid, and work can be commenced within a couple of days in most cases.



# Potential Complications of Sperm Retrieval Procedures

**No surgical procedure is free of risk.** Fortunately, the risk of complications from sperm retrieval surgery is low. Before making any decision about sperm retrieval procedures it is important to have a clear idea of the potential adverse outcomes.

**Bleeding** can occur with any procedure, and one potential problem is bleeding and the development of a collection of blood in the scrotum – this is termed a **haematoma**. In the majority of cases, management with pain relief and cool packs is sufficient.

**Infection** is a potential risk, and if the testicle itself is involved the infection may be serious. Antibiotics could be required in some cases.

**Pain** is very common after sperm retrieval procedures, but is usually very transient and controlled well with oral medications and cool packs.

**No sperm are obtained.**

This is always a potential risk with any surgical sperm procedure.





**Steve Robson** is internationally recognised as one of the world's foremost specialists. In 2019, Steve was the recipient of the American College of Obstetricians and Gynaecologists highest honour - the **Distinguished Service Award**.

Steve undertook his specialist training in Australia, England, and Canada. In his first year of formal training in IVF and reproductive medicine in 1998 he won the **Young Clinician's Prize** of the Fertility Society of Australasia (FSA).

**Steve Robson** is the immediate past-President of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG), and is Professor in Obstetrics and Gynaecology at the Australian National University. He holds two doctorates, both a Doctor of Medicine (MD) and PhD, as well as Fellowships of the Australian, British, and American Colleges of Obstetricians and Gynaecologists.

Steve was appointed by the Health Minister to the National Health and Medical Research Council (NHMRC), as well as to the National Endometriosis Advisory Group – part of the National Action Plan for Endometriosis.

Professor Robson is one of the authors of the *Oxford Textbook of Obstetrics and Gynaecology*, and as a researcher is the author of hundreds of research articles, editorials, reviews, and book chapters. His research has been published in the most prestigious international IVF journals – *Fertility and Sterility*, and *Human Reproduction*.

He has published research papers not only on IVF and assisted reproduction, but also on reproductive surgery and endometriosis surgery.

In addition, Professor Robson is Chair of the organising committee for the International FIGO meeting in 2021, and is a member of the internationally ground-breaking *Mackenzie's Mission* project.

