

Vasectomy and vasectomy reversal

What is a vasectomy?

Vasectomy is a surgical operation that cuts the tubes that carry the sperm from the testes (the vas deferens or the "vas"). The goal of a vasectomy is to make a man sterile, that is, unable to father children naturally. It is a very effective, safe and permanent form of contraception.

Where are sperm made?

Sperm are made in the testes in many loops of small, tightly packed tubes called seminiferous tubules.

How do sperm move from the testes?

The epididymis is a highly coiled tube (duct) that lies at the back of each testis and connects the seminiferous tubules to the vas deferens, a muscular tube about 30 cm long. When released from the testis, the sperm spend two to ten days passing through the epididymis where they gain the vital ability to swim strongly (become 'motile'), and to attach to and penetrate (get into) the egg.

At orgasm waves of muscle contractions transport sperm, with a small amount of fluid, from the epididymis to the vas deferens. The seminal vesicles and prostate contribute extra fluid to protect the sperm. This mixture of sperm and fluid (the semen) travels along the urethra to the tip of the penis where it is ejaculated.

Only about five per cent of the semen fluid comes from the testis and epididymis but contains all the sperm. Therefore, after the vas is cut the volume of ejaculated fluid does not notably decrease.

How common is vasectomy?

About 30,000 men have a vasectomy in Australia each year. About one in four men over the age of 40 have had a vasectomy.

Is vasectomy right for me?

Vasectomy may be right for you if:

- you and your partner are sure you have completed your family
- you want to take responsibility for family planning

- you want an effective, permanent method of contraception that does not need ongoing treatment.

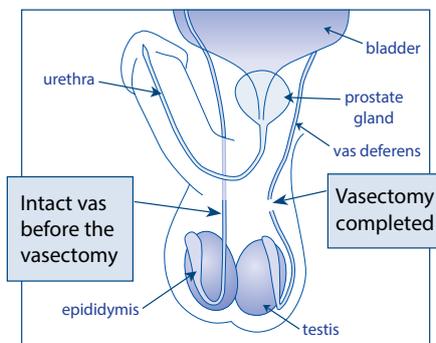
Vasectomy may not be right for you if you are:

- relatively young and do not have any children
- not in a relationship, or you have recently separated or divorced
- having relationship or marriage problems.

Who performs a vasectomy?

Vasectomies can be performed by specialists (e.g. urologists, general surgeons, some gynaecologists) or some general practitioners (GPs). A referral (usually from a GP) is needed to see a specialist.

A vasectomy is performed in a hospital or in a doctor's private rooms under either a general anaesthetic (where you are unconscious) or a local anaesthetic and takes 15-30 minutes.



Are there different techniques for vasectomy?

A vasectomy can be done using a scalpel or a no-scalpel technique. In the scalpel technique, a small cut of 1-2 cm is made on each side of the scrotum to access the vas deferens. In the no-scalpel technique, a sharpened instrument pierces the skin over the vas deferens, giving a skin opening of about 1 cm. Subsequent steps in the vasectomy are then the same.

In both techniques, once the vas deferens are located by the doctor, they are cut and a small piece of tissue removed. The ends of the vas deferens are then sealed with a stitch or using diathermy (heat).

In some cases additional steps are done to minimise the chances of vasectomy failure, such as placing some surrounding tissue (fascia) in between the two ends of the vas deferens.

The recovery time from scalpel and no-scalpel techniques is the same.

What should I expect after the operation?

After the operation, there is often a small amount of bruising and mild discomfort for a few days; usually over-the-counter pain-killers and supportive underwear are all that is needed. Ice packs may help but should not be put directly onto the skin.

Your surgeon will talk to you about how much time off you will need for your type of work.

Does vasectomy affect sex drive or ejaculation?

After a vasectomy, sperm are still made but are stopped in the epididymis where they are reabsorbed. A vasectomy does not interfere with a man's ability to get an erection, have an orgasm or ejaculate. There is no evidence that vasectomy alters a man's libido (sex drive) or blood testosterone (male sex hormone) level.

It is important to note that vasectomy does not protect against sexually transmitted infections (STIs).

What are the risks of vasectomy operations?

Vasectomy is safe but carries a small risk (1-2%) of infection or significant bleeding. A small proportion of men have long-term pain or discomfort in the scrotum and some have pain with ejaculation; it can't be predicted before the vasectomy which men will have ongoing pain. Some medicines can help with pain or, in very rare cases, other surgery is needed. There is no evidence that vasectomy increases the risk of other health problems. A link between vasectomy and a small increased risk of prostate cancer was previously suggested but recent larger studies did not find any significant link.

How quickly does vasectomy work?

It can take a few months after a vasectomy for the sperm to clear out of the ducts. Over this period, it is useful for a man to perform about 20 ejaculations to help "clear the tubes" from residual sperm. A semen analysis is done around three months after a vasectomy to check there are no live sperm in the semen. About four in five men will have no sperm present, but for others, more tests are done every 1-2 months until they are clear. You should use another method of contraception until your doctor says there are no live sperm in the semen.

Can vasectomy fail?

Even after an initial negative sperm count, in about one in 500 men, sperm may reappear months or even years later. It seems that in some men, new passages for sperm to 'bypass' the vasectomy site form ('recanalisation'). The risk of pregnancy after a vasectomy is small (one in 2000).

Why is it important to think about sperm storage before vasectomy?

Even though only a small fraction of men who undergo vasectomy want another child, some men store sperm before a vasectomy "just in case". This may prevent the need for a vasectomy reversal in the future; however, when using stored sperm, the female partner will still need some form of assisted reproductive technology (ART) to fall pregnant. There are also costs involved with sperm storage.

VASECTOMY REVERSAL

What is a vasectomy reversal?

About three per cent of men who have had a vasectomy will think about having more children, for reasons such as a new relationship, either by having a vasectomy reversal or by using ART.

Vasectomy reversal involves re-joining the cut ends of the vas deferens usually by microsurgery (using an operating microscope). The operation is much more complex than the original vasectomy and is usually done under general anaesthetic by a specialist and can take several hours.

How successful is a vasectomy reversal?

In expert hands, in 80-90 per cent of vasectomy reversals, sperm return to the ejaculate. The chance is lower if:

- there has been a long time between the vasectomy and the reversal; after 12-15 years, the chances fall significantly
- a large amount of vas deferens was removed originally, or it was cut near the epididymis
- other blockages have developed in the epididymis. Even after technically successful surgery, pregnancy is not guaranteed. After vasectomy reversal, only about 40-70 per cent of couples achieve a pregnancy over the next 2-3 years of regular sex. The chance of pregnancy is lower when the woman is older or has other fertility issues. Sperm problems may contribute if there is a lower sperm count, poorer sperm function if the epididymis has been damaged, or because of sperm antibodies which may develop.

What are sperm antibodies?

Sperm antibodies happen when the immune system reacts to the man's own sperm as if it were foreign tissue. About four in five men develop sperm antibodies after vasectomy.

How is vasectomy reversal affected by sperm antibodies?

In most men sperm antibodies do not cause any problems and will not affect the chance of a pregnancy, so testing for sperm antibodies is not needed before a vasectomy reversal.

However, in a few men, sperm antibodies can interfere with the ability of sperm to swim, and to attach to and penetrate (get into) the egg. This can stop fertilisation happening, even if the vas deferens is successfully re-joined.

ASSISTED REPRODUCTIVE OPTIONS

When is ART used after vasectomy?

Men who have had a vasectomy reversal but their partner has been unable to become pregnant can seek ART. Some couples decide not to have a vasectomy reversal and go straight to ART depending on the couple's individual circumstances. Sometimes the choice is easy but often it needs in-depth discussion with a specialist to decide what is best. Factors that affect this choice include:

- the time since vasectomy
- the age and fertility of the female partner
- the couple's desire to have only one or many children
- the availability and cost of surgical and ART services.

How is ART used after vasectomy?

Sperm can be collected from the epididymis or testis using a fine needle under local anaesthetic. These sperm can then be injected one by one into eggs collected from the female partner in an ART process called intracytoplasmic sperm injection (ICSI). The success of treatment depends mainly on the age and health of the female partner. For women in their 30s, pregnancy rates around 40 per cent per cycle are typical.

Where can I get more information?

For more information about vasectomy or vasectomy reversal, speak with your local doctor, urologist or sexual health and family planning clinic.

🔗 For more information visit www.andrologyaustralia.org, call 1300 303 878, or speak to your doctor.

Expert reviewers

Dr Darren Katz
MBBS FRACP (Urology)
Mens Health Melbourne
Date reviewed: May 2018

Prof Rob McLachlan AM
MBBS FRACP PhD
Andrology Australia

Andrology Australia is an initiative funded by the Australian Government Department of Health School of Public Health and Preventive Medicine, Monash University 553 St Kilda Road, Melbourne Victoria 3004, Australia