

 ANDROLOGY AUSTRALIA

YOUR SPERM

AND HOW TO LOOK AFTER THEM

INTRODUCTION

You don't often think about fertility or the health of your sperm until it comes time to start a family. For the best chances of starting a healthy pregnancy you need to make large numbers of sperm that are good swimmers, and that 'know' how to fertilise the egg when they arrive. Sperm also has to contain genetic information (DNA) in good condition. Having regular sex also helps!

Whether young or old, with a current partner or not, you should be looking to protect your fertility so that natural conception can happen when you're ready to have children.

In about half of cases where couples have trouble getting pregnant naturally, the problem lies with men. In many cases, there are no treatments to correct poor sperm production, blockages to sperm tubes or when couples have difficulty having sex, which means that assisted reproductive technologies such as in vitro fertilisation (IVF) treatment are needed.

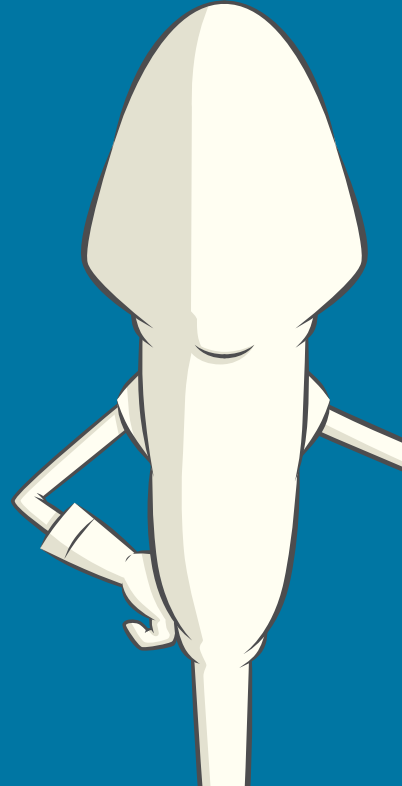
There are certain things that you can also do to protect your fertility, protect your partner's fertility and lessen the chances of needing IVF treatments in the future.

And don't forget, it 'takes two to tango', so taking into account your partner's age is important when starting a family as a woman's fertility levels naturally drop after the age of 35.

This guide is aimed at both single and partnered men of all ages. It explains the environmental, lifestyle and medical conditions that can reduce fertility and provides tips on how to maintain your chances of natural fatherhood.

Your chances of fathering a child may be better if you pay attention to your overall health, which means:

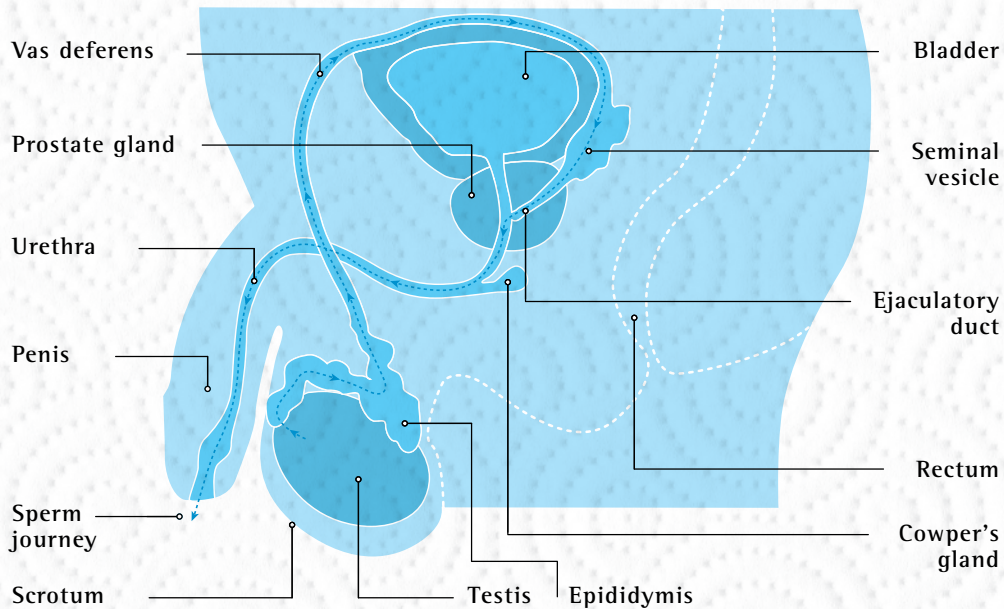
- Exercising regularly
- Having a healthy diet
- Watching your weight
- Not smoking



THE SPERM'S JOURNEY

Testicles are important for fertility because this is where sperm and the male sex hormone testosterone are made.

After sperm are made in the testicles, they travel with a few drops of fluid through the male reproductive system. As they move through the system, the sperm mix with more fluid made by the prostate and seminal vesicles, until the sperm are released (ejaculated) at the time of sexual climax (orgasm).



INFECTIONS

Sexually transmitted infections (STIs):

Gonorrhoea, chlamydia, syphilis, warts... these little nasties can not only be painful, but some of them can affect your fertility. STIs, especially untreated gonorrhoea and chlamydia, can cause blockages in the sperm tubes so that sperm can't move on from the testicles (where they are produced) and into the semen and ejaculated. Surgery to fix the blocked tubes isn't always possible.

It's essential to practice safe sex by using a condom to stop infection. Some infections like chlamydia may show no symptoms, yet damage can still be happening.

If you think you have a STI, it's important to see a doctor and get treatment straight away as this can lower the chance of getting blockages in your reproductive system. Chlamydia can cause fertility problems in women so getting treatment can also stop the spread of disease to a female sexual partner.

You should practice safe sex by using condoms as this can stop STIs from being passed to or from a partner, and can also reduce the chance of blockages and permanent damage to the tubes in the male reproductive system.



Prostate infections:

The prostate sits underneath the bladder and adds fluid to protect sperm on their journey through the reproductive system.

Infections of the prostate, known as prostatitis, can cause pain in the abdomen and fever. As the sperm move through the prostate into the urethra, swelling of the prostate may stop sperm from passing through the reproductive system. White blood cells from the infection can also damage sperm.

Some STIs can cause bacterial prostatitis, so it pays to use protection!

Epididymo-orchitis:

Painful or swollen testicles may be the result of epididymo-orchitis (pronounced ork-eye-tis). Usually caused by an infection, it may be hard to ignore because it can be painful. Sometimes lasting for days, this viral or bacterial infection happens in the tube (epididymis) that carries sperm out of the testicles, but also spreads back into the testicle.

Epididymo-orchitis usually happens with infections in the urinary tract. Epididymo-orchitis can cause permanent blockages and damage to the testicles (and the ability to make sperm), but this is rare. It's important to get treatment for the infection early with antibiotics to stop blockages and other damage from happening.

Mumps:

Mumps is a viral infection that can be caught by anyone at any age, but it's much more dangerous for adult men.

Besides causing swelling of the salivary glands, fever and headaches, mumps can also cause inflammation and pain in the testicles.

The mumps virus can totally destroy the tubes that make sperm and permanently stop sperm production. Mild cases of mumps still stop sperm production, but only for a short time (six to twelve months).

It's important for young boys to be vaccinated against the mumps virus to protect their fertility for the longer-term. To check whether you've been immunised, ask your doctor or your parents! Adult men who have missed out can still be vaccinated.

HEAT



To keep producing top quality sperm, the testicles need to be a couple of degrees cooler than normal body temperature. Normally the scrotum serves as an 'evaporative air cooling' system. But if it is too hot and the scrotum can't sweat, your testicles will have trouble making sperm.

Taking regular very hot baths or spas is a no-no. Some say wearing loose fitting underwear may be good for sperm counts: while this is unproven, it seems easy to do and sensible.

If the scrotum has been too hot for too long, sperm production starts again once the temperature of the scrotum stays at its normal lower level. However, because it takes about 70 days for sperm to be made, it may take a few months of keeping the testicles at a normal temperature for sperm counts to improve.

Avoid spas, saunas and hot baths if trying to father a child. Wearing boxer shorts may also help keep things cool down there.

DRUGS

Treatments for cancer:

Cancer affects males of any age and radiation or drugs are often given as treatment to kill the cancer cells. Cancer drugs can cause short-term or long-term fertility problems. Radiation attacks and destroys rapidly dividing cancer cells, so radiation therapy for testicular cancer or other cancers near the testicles can easily damage sperm-producing cells.

Although fertility is often the last thing you think about when diagnosed with cancer, radiation therapy and chemotherapy can cause long-term problems with sperm production. Often sperm can be stored before starting treatments.

See 'Storing sperm for later.'

Prescribed drugs:

If you've had cancer or a kidney problem, you may have been prescribed a drug called cyclophosphamide that can cause long-term fertility problems.

Fertility problems can also happen with other prescribed drugs such as salazopyrine, which is used to treat inflammatory bowel disease, ulcerative colitis, Crohn's disease, or other conditions such as rheumatoid arthritis.

Antidepressants and sedatives can also have a negative effect on sexual performance.

Illegal drugs:

Taking anabolic steroids for body building or competitive sports damages your body. Besides causing acne, weight gain and changes in mood, your testicles shrink in size and sperm production stops. In other words, “steroids = sterile”. Once the drugs are stopped, sperm production may take one to two years to return to normal.

Fertility can also be affected by using other illegal drugs, such as marijuana, cocaine and heroin because they lower testosterone levels and sex drive. Not having regular sex can make it more difficult to become pregnant. There are many other illegal drugs that affect sexual performance and may reduce sperm production or even damage the sperm themselves. We simply don't know all the risks – so don't take the chance!

With low doses of radiation and some types of chemotherapy, sperm production can return to normal after a period of time. Ask your doctor about sperm storage before having these treatments, and find out when it is safe to try to become pregnant naturally after the treatments have stopped.

Some drugs stop sperm production for only a short time. When you stop taking these drugs, sperm production should return to normal after a few months. When taking prescribed drugs that may cause fertility problems, talk to your doctor about using other medications, especially if you're trying to conceive.

You should avoid using illegal drugs including steroids because we don't know all the risks.

LIFESTYLE ISSUES



Smoking:

Smokers beware! Tobacco smoking is a well known major cause of many health problems, including lung cancer, emphysema and heart disease.

But there is another reason to QUIT! Smoking cigarettes also reduces your fertility - heavy smokers produce up to 20 per cent fewer sperm, and it may increase the number of abnormally shaped sperm, making it harder for sperm to fertilise the egg.

New evidence shows that the sperm DNA (genetic material) is damaged by the chemicals in tobacco smoke - this may lower the chance of a healthy pregnancy and may affect your child's future health.

Alcohol:

Drinking alcohol is a part of daily life for some people and drinking in moderation is not harmful to fertility.

However, binge drinking and regular heavy drinking can harm your health. Drinking heavily may cause liver problems, and affect a whole range of body functions including sexual and reproductive function. Also, drinking heavily, even if there is no damage to the liver, may damage the function of the testicles.

LIFESTYLE ISSUES

Obesity:

The number of overweight and obese men in Australia is rapidly rising.

Studies show that obese men are less fertile than men of normal weight, have lower sperm counts and fewer sperm that can swim well. Men who are very obese are particularly at risk. We are not sure why this happens but changes in hormone levels and too much heat around the scrotum may play a part. Weight loss may improve fertility but we can't be sure to what degree.

Diet and vitamins:

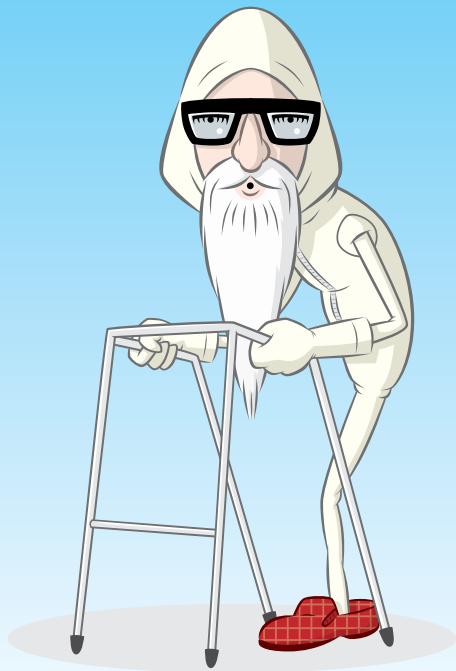
'You are what you eat' and having a healthy diet is important for general health and wellbeing, especially when trying to start a family.

Sometimes, foods such as pumpkin seeds, parsley, as well as vitamins such as zinc, vitamin E and B12 and various antioxidants are promoted as improving fertility in men.

There is no strong scientific evidence to show that specific foods or other natural therapies improve fertility. So by all means eat healthily, but don't rely on eating a handful of nuts a day to strengthen your sperm.

Living a healthy lifestyle including watching your weight, having a healthy diet, exercising regularly, not smoking and drinking alcohol in moderation is the key to happy and healthy sperm. A healthy lifestyle will also improve your quality of life and that of your family, so it's a win-win situation for all!

AGE



Research is beginning to show that as you enter middle age, you become less fertile and it may take longer to get a partner pregnant. Reasons for this may include having sex less often, erectile problems, or other serious health problems that happen more often with ageing.

But what if you're a 'fit, fabulous fifty year old'? Well even then, the amount of semen, sperm movement and perhaps sperm DNA quality is lower in older men and lessens your chances of getting your partner pregnant. These effects of age are small compared to the dramatic changes that happen with women's fertility at mid life.

It's important that you understand the effects of age on your partner's and your own fertility. It's a good idea to put together a life plan with your partner that recognises that fertility lessens with age and think about parenthood before the age of 35.

WORK ENVIRONMENTS

Pesticides, heavy metals, toxic chemicals and radiation may affect the quality and quantity of sperm you produce. Men should try to avoid exposure to these harmful chemicals. For men who must work with such agents, sticking to occupational health and safety guidelines is crucial. If in doubt – ask!

And toxic agents are not the only cause for concern in the workplace. Physical injury at work can also affect fertility, so check your work environment and make sure your tackle is safe.

For men who work in occupations that may affect fertility, it's important to wear protective clothing and follow all occupational health and safety guidelines.

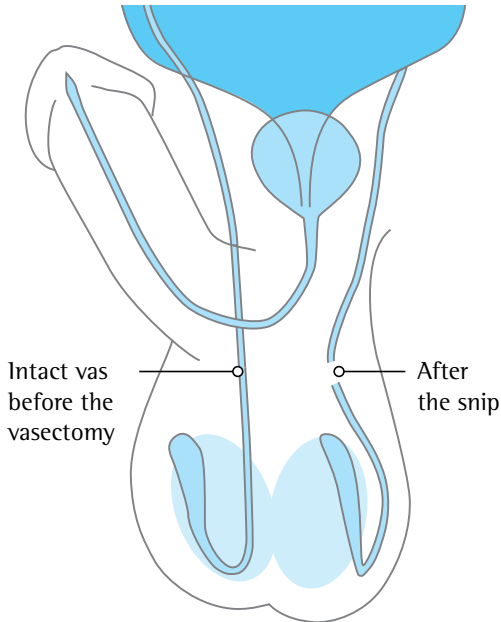
MEDICAL TREATMENTS

Vasectomy:

Australian men have one of the highest rates of vasectomy in the world – about one in four men in their forties have had the procedure, believing they will never want to have children again.

Having a vasectomy stops the worry about needing to use contraception. Vasectomy must be seen as a permanent form of contraception, so the decision to have one shouldn't be made lightly. If you change your mind later down the track, it's not going to be easy to get your fertility back.

'Think before you get the snip'. Men planning a vasectomy should think about storing sperm before having the surgery.



SURGERY AND SICKNESS



Any type of surgery is a serious medical treatment. There are many different kinds of surgery, but if you have to have a major surgical procedure with a general anaesthetic (which means getting 'knocked out'), the anaesthetic can lower your sperm count for a short time.

Surgery within the pelvis (for cancer or bowel problems) can damage nerves and create serious erection and ejaculation problems.

Getting sick with a fever can also make sperm production drop off, and it can take several months for sperm counts to recover.

Wait a couple of months after any major surgery or illness, especially illness with a fever, to start trying to have a family.

TESTICLES

Undescended testicles:

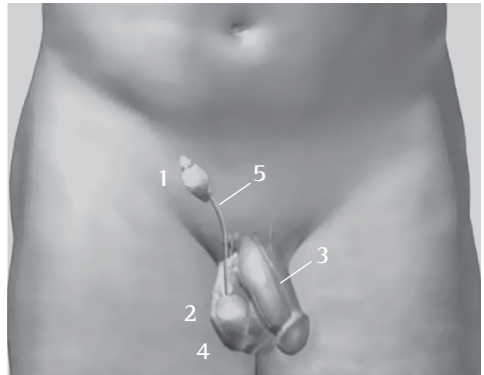
You probably won't remember, or even know, that your testicles haven't always been in your scrotum. When in the womb, your testicles grow in your abdomen and then move down into the scrotum before or just after you're born. When they don't move down into the scrotum around the time of birth, this is called undescended testicles (also known as cryptorchidism).

Testicles may get 'stuck' in the groin or even stay inside the abdomen. As it's too warm in these places, the sperm-producing tubes in the testicles are damaged. The longer the testicles spend in the abdomen, the more sperm production is affected. Even when the problem is surgically corrected in early childhood, usually before the age of one, there is a much higher chance of having fertility problems later in life.

There is also a higher risk of getting testicular cancer if you were born with undescended testicles.

Check with one of your parents to find out if you had an operation as an infant to correct undescended testicles. Or look to see if you have any lower abdominal scars.

If you know that you had this problem or had an operation as a child, you should check your testicles regularly for lumps and go to the doctor if you notice any changes in your testicles.



- 1 undescended testis
- 2 normal testis position
- 3 penis
- 4 scrotum
- 5 inguinal canal

TESTICLES

Twisted testicle:



You'll know if you ever have a twisted testicle (also known as torsion of the testicle) because you'll be in extreme pain. Most common in teenagers and young men, the testicle can twist in the scrotum and cut off the blood supply, causing the testicle to swell up. If not treated quickly, the testicle can die.

This condition is a medical emergency and needs to be operated on immediately, not only to relieve the pain, but also to 'save' the testicle. During surgery, the other testicle should be fixed in position to stop that one from twisting in the future.

If you experience extreme pain in the testicle, don't be embarrassed and get yourself to hospital straight away. Without a blood supply, the testicle will die and after 6 to 8 hours there is less and less chance of being able to save it.

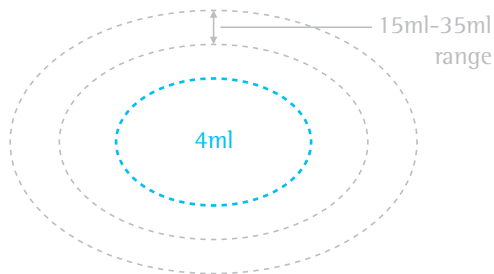
Small testicles:

Does size really matter? When it comes to the testicles, it sure does.

Small testicles are often a sign of problems with fertility or hormone levels. But how small is small? If as an adult male your testicles are around the size of a green grape from the supermarket, then this could be a sign that you may have problems getting a partner pregnant or your sex hormones levels are a bit low.

Know what size is normal when it comes to your testicles. And if you think that you're a bit on the small side, make an appointment to see your doctor for a full health check that includes a quick measure up of your testicles.

Testicle size chart (actual size):



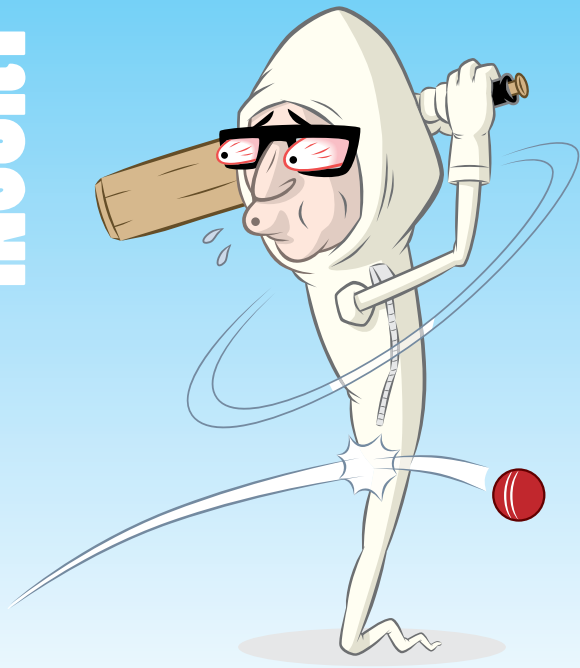
Abnormal testicle size range (blue)

Less than 15ml (4ml testicle is shown)

Normal testicle size range (grey)

15ml-35ml

SPORTING AND RECREATIONAL INJURY



Severe injury to the testicles can happen in many settings such as a blow from a blunt object, being stabbed with a sharp object, or being crushed in heavy machinery.

There is nothing funny about ‘a kick in the nuts’ – besides severe pain, a ruptured testicle may never be the same again and fertility may be lost!

Aside from wearing a cricket box 24 hours a day, think about wearing safety gear if you’re in a dangerous job or play high contact sport. So don’t jump barbed wire fences, think of an alternative to extreme mountain biking, wear a protector playing paintball, and try not to get kicked in the goolies!

STORING SPERM FOR LATER

Storing sperm for later use is something you should think about, especially if you have to have radiation or chemotherapy treatment for cancer.

Producing a semen sample for long-term storage can be confronting for many men. Facilities providing semen storage services are sensitive to the need for privacy and understand that many men are embarrassed and concerned about producing a semen sample.

Semen samples should be collected and frozen at a fertility clinic with liquid nitrogen storage facilities, before cancer or other medical treatment starts. Semen can be stored long-term and kept for later use in fertility treatments such as in vitro fertilisation (IVF).

Contact your local fertility clinic or talk to your doctor to find out more about long-term sperm storage.

FOR MORE INFO

Andrology Australia has a series of booklets and fact sheets on vasectomy, problems of the testicles, testicular cancer, undescended testicles and other men's health problems.

All information is provided at no cost and can be downloaded from the Andrology Australia website at www.andrologyaustralia.org or call 1300 303 878 to order hard copies.

ACKNOWLEDGEMENT

This booklet has been reviewed by a panel of experts in male reproductive health.

Andrology Australia gratefully acknowledges the reviewers and consumers who provided valuable assistance and input into the production of this guide.



The information in this guide is supported by the Fertility Society of Australia and ACCESS (Australia's National Fertility Network).

Andrology Australia is supported by a grant from the Australian Government Department of Health and Ageing.

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