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## Andrology

An-drol'-uh-jee

The study of the functions and diseases specific to males, especially of the reproductive organs

## >> FROM THE DIRECTOR

Vasectomy is a common form of contraception for men. Statistics show that more than 30,000 men undergo vasectomy in Australia each year with about one in four of all Australian men undergoing the procedure.

Although vasectomy is considered a permanent form of contraception, there are some men who will look into having more children by having the procedure reversed or by using assisted reproductive treatments.

Often a return of fertility is sought due to changes of circumstance. It is important for men to understand both the benefits of having a vasectomy, such as its safety and effectiveness as a form of contraception, but also the difficulties associated with wanting more children in the future.

Vasectomy reversal surgery is not always successful and when it is, there are a number of other factors that can inhibit a natural pregnancy from occurring.

This issue of the Healthy Male encourages men, particularly young men without children, to think carefully before having a vasectomy.

  
Professor David de Kretser



Vasectomy is a very safe and effective type of contraception. Although the procedure is considered permanent, there are men that have a change of heart or circumstance that consider vasectomy reversal or assisted reproductive treatment for a second chance at having more children.

However, restoring fertility is not always that simple. Recent research<sup>1</sup> in Australia has shown the length of time between a vasectomy and a vasectomy reversal plays an important part in fertility levels.

The recent study has shown that after a vasectomy, less sperm are produced and there is an increase in fibrosis (scar tissue) around the sperm producing tubules. Both these problems appear to develop in parallel and become greater with an increasing length of time after vasectomy.

Fertility is not automatically restored by vasectomy reversal surgery due to a range of factors. These include difficulty in repairing the cut ends of the vas, the presence of sperm antibodies that reduce sperm function and now we must add a reduction in the number of sperm produced. All of these factors contribute to fertility being restored in only half of couples. Fertility rates following a vasectomy reversal are reported to be at 75% if the reversal is performed within five years from the vasectomy, 55% between five and ten years after the reversal, and 40% if greater than ten years since the vasectomy.<sup>2</sup>

The notion that vasectomy should be considered irreversible is supported by this research. Men need to understand that sperm output will decrease slowly over time after a vasectomy. This strengthens the importance of being fully informed of the future outcomes before making any decisions.

### Reference:

1. Raleigh D, O'Donnell L, Southwick G, de Kretser D, McLachlan R (2004). *Stereological analysis of the human testis after vasectomy: impairment of spermatogenic efficiency with increasing obstructive interval*. Fertility and Sterility 81(6): 1595-1603
2. Wagenknecht LV. Vasovasotomy. In: Colpi GM, Balerna M, eds. *Treating Male Infertility: New Possibilities (Progress in Reproductive Biology and Medicine)*. Vol 16. Basel: Karger, 1994:165-186

## City of Whitehorse seminar

The City of Whitehorse in Melbourne held a 'What Every Man Needs to Know' seminar on October 7 to educate the local community on men's health.

More than 70 people listened to guest speakers Simon Madden (Essendon Football Club Legend), Professor David de Kretser (Andrology Australia Director) and Dr Bernie Crimmins (a local GP) speak on important issues such as nutrition, exercise, erectile dysfunction and prostate disease.

Mayor of Whitehorse, Cr Robert Chong welcomed everyone to the event and said he was proud that the Council was leading the way in men's health education in the area.

"Whitehorse is committed to improve the health and wellbeing of the community, particularly those identified as being at risk," said City of Whitehorse Mayor, Cr

Chong. "Men's health issues are often not talked about in the community as much as other health issues".

Encouraging feedback was obtained from an evaluation of the evening with about 70% of men indicating that the information presented was 'extremely' useful, and 60% of men indicating that they were 'very likely' to visit a GP after the session. For many men attending, this was the first education seminar they had participated in and more than 90% of them expressed interest in attending another session. The feedback will be used in planning future events.

Andrology Australia would like to thank Darielle Crawford from the City of Whitehorse for her assistance in organising such a successful event, along with Jan de Kretser from the Lifespring Centre for her help promoting the seminar.



*Above: Guest speakers (left to right) Dr Bernie Crimmins, Simon Madden, Professor David de Kretser*

*Below: Guest speakers captured the attention of the audience*



## >> RESEARCH ROUNDUP

### Slow decline in testosterone levels in Australian men



It has been reported that testosterone levels in men start decreasing from around the age of 40; however, until now there has been little data on the prevalence of testosterone (androgen) deficiency in Australian men.

Research into the change in testosterone levels with ageing has recently been completed as part of the Busselton Population Survey, Western Australia. The study presented at the 2004 Annual Scientific meeting of the Endocrine Society of Australia found that testosterone levels

decrease in Australian men but at a lower rate than shown in other population studies.

This research provides insight into the extent of the problem of testosterone deficiency in ageing males in the Busselton population. The study suggests that contrary to other overseas studies and media promotion, testosterone deficiency may only affect about 5% of middle-aged and older men and therefore may not be the major public health problem suggested by some authors.

The association between testosterone levels and the development of cardiovascular disease, prostate cancer or fracture was also investigated. No consistent link between androgen levels and development of these diseases, nor with androgen levels and death from any cause, was found.

The study used samples collected as part of the cross-sectional Busselton Population Survey conducted in 1981 with follow up data from a further survey conducted in the same population in 1994/5. Although the research focused on a specific population area, it is considered to be representative of the rest of the Australian male population.

Conducted by Dr Jonathon Beilin (Royal Perth Hospital, WA) and supported by Andrology Australia, this is the first large scale population based study examining the prevalence of testosterone deficiency in adult Australian males.

# Focus on VASECTOMY

## What is a vasectomy?

Vasectomy is a surgical operation performed to make a man unable to father children. It is a very effective, safe and permanent form of contraception with no known associated health risks.

## Where are sperm made?

The male reproductive tract is made up of the testes, a system of ducts (tubes) and other glands opening into the ducts. Sperm are produced in the testes and at the start of ejaculation, waves of muscular contractions transport the sperm through to the vas deferens.

Each vas deferens runs through an ejaculatory duct, which passes through the prostate gland to join the urethra below the bladder. Only a small amount of fluid, which also contains all the sperm, comes from the testes. About 90% of semen actually comes from other glands of the male reproductive tract (seminal vesicles and prostate gland).

## How common is the vasectomy?

Statistics show that more than 30,000 men undergo vasectomy in Australia each year. In total, about one in four men have had a vasectomy.

## Who performs a vasectomy?

Vasectomy can be performed under local or general anaesthesia by a specialist; either an urologist, general surgeon or sometimes a gynaecologist, in a hospital or private rooms. A referral to a specialist can be given by a local doctor or family planning clinic. Local doctors and family planning general practitioners often also perform a vasectomy.

## What happens with a vasectomy?

During a vasectomy, the scrotum is cut on both sides and the vas deferens drawn out. The exact surgical procedure can vary slightly but usually involves the vas deferens being cut and a small piece removed, with the ends being tied.

## Does ejaculation still happen?

After a vasectomy, sperm are still produced and leave the testes, but are stopped in the epididymis (the collecting tube that lies along the back of the testes) where they are reabsorbed into the body. The man can still reach orgasm, and his semen volume does not noticeably reduce, but it will no longer contain sperm.

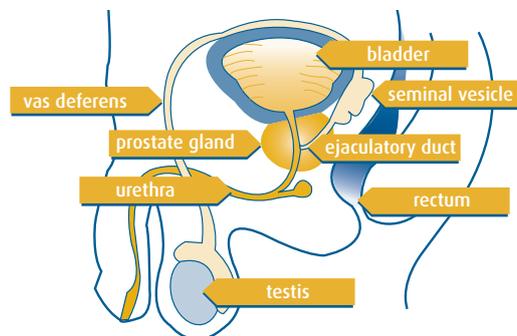
## Does having a vasectomy affect sex drive?

There is no evidence that vasectomy alters a man's sex drive or blood testosterone (male sex hormone) level.

## Are there any side effects?

After the operation, which takes around 15 minutes, men should not do any heavy lifting or have sex for a few days. There may be some discomfort and bruising and in a small percentage of men,

## Diagram of the Male Reproductive System



repeat surgery to drain a blood clot in the tissue (haematoma) may be necessary. As with any operation, a small number of men may experience pain and/or infection.

There is no real evidence that a vasectomy increases the chance of health problems (including prostate cancer).

## How quickly does vasectomy work and can it ever fail?

In the first few months after a vasectomy, sperm are still clearing out of the ducts which could appear in the semen. Using another method of contraception for this period of time is important to avoid pregnancy. Men are required to have a semen analysis 12 weeks after vasectomy to check sperm no longer appear in the semen.

Vasectomy does not protect against sexually transmitted diseases but is extremely effective as a method of contraception. However, no contraceptive method is 100 per cent reliable. Even after an initial negative sperm count, in about one in 500 men, sperm may re-appear months or even years later. This does not mean that the original vasectomy was not performed properly. It seems that in some men, new passages for sperm to 'bypass' the vasectomy site develop, a process called recanalisation.

## Why should sperm storage be considered before vasectomy?

Men planning a vasectomy might consider storing sperm before having a vasectomy. This may remove the possible need for vasectomy reversal or assisted reproductive technology treatment at a later stage. It must be remembered that regaining fertility after vasectomy is neither easy nor cheap. In about half of cases, vasectomy reversal surgery does not enable couples to become pregnant naturally.

## What other issues should be thought about?

Vasectomy should be considered a permanent form of contraception (sterilisation). Speak with a specialist before treatment as it is important to understand the benefits of the procedure and the difficulties associated with wanting more children in the future.

# Focus on VASECTOMY

## VASECTOMY REVERSAL

### Can a vasectomy be reversed?

Vasectomy should be considered an irreversible procedure. Anyone with significant doubts about this should not have it done. However, some men consider having a reversal if they wish to have more children, for example, due to a new relationship forming or death of a child.

Vasectomy reversal involves rejoining the cut ends of the vas deferens using microsurgery. The operation is much more complex than the original vasectomy and is usually done under general anaesthetic by a specialist using an operating microscope.

### What is the success rate of a vasectomy reversal?

How and when the original vasectomy was performed can affect the chances of a vasectomy reversal being successful. There is less chance of success if:

- > heat (diathermy) was used to close either end of the vas deferens;
- > a larger amount of vas deferens was removed;
- > the time between the vasectomy and reversal is lengthy.

If ten years or more has passed since the vasectomy, the chance of having a normal sperm output in the semen after a reversal is greatly reduced.

The development of other blockages in the epididymis can also reduce the chance of success. The epididymis can burst (epididymal 'blow-outs') due to pressure from sperm build-up. As the blow-out heals, scarring can create an extra blockage and may cause fertility problems.

There are other reasons pregnancy may not occur after reversal surgery. First, while sperm are still produced in the testes, their number decreases slowly over time so that sperm counts may not return to normal even though the vasectomy reversal procedure (i.e. rejoining the two cut ends of the vas deferens) is successful. Finally, sperm normally mature in the epididymis prior to ejaculation, but this process may not occur normally if the epididymis has been extensively damaged.

Since 1996 in Australia, there is no rebate from Medicare for vasectomy reversals.

### What are sperm antibodies?

After vasectomy, four in five men start to produce antibodies to sperm. Antibodies attack anything in the body that is foreign (i.e. what is not part of the body). Sperm antibodies can interfere with the ability of sperm to swim and to attach to eggs thereby preventing conception even if the vas deferens is successfully rejoined.

### What if vasectomy reversal is not successful?

Many men who have had a vasectomy or who have already undergone an unsuccessful vasectomy reversal, seek assisted reproductive technology (ART), as a possible way to achieve pregnancy.

### What is assisted reproductive technology?

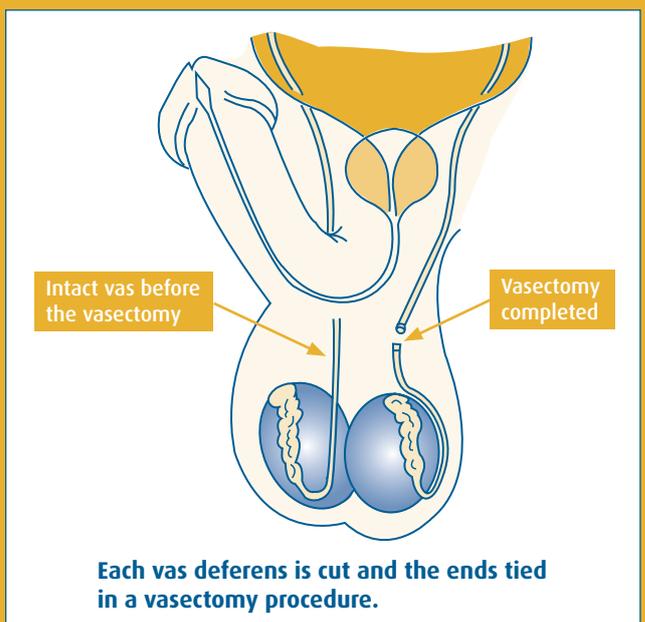
Sperm can be easily collected from the epididymis or testis using a fine needle under local anaesthesia. These sperm can then be injected one by one into eggs collected from the female partner in a process called intracytoplasmic sperm injection (ICSI). This treatment is done under the care of an infertility specialist and such centres are widely spread across the country. The success of the ICSI procedure largely depends upon the age and health of the female partner. The relative success rate, cost and risks of this treatment, as compared to vasectomy reversal, varies with the couple and should be discussed with the specialist.

#### NOTE:

The fact sheet on vasectomy is available to download online from the Andrology Australia website, [www.andrologyaustralia.org](http://www.andrologyaustralia.org), or to order a hard copy please call 1300 303 878

## What happens with a vasectomy?

A vasectomy can be performed under local anaesthetic. During a vasectomy, the scrotum is cut on both sides and the vas deferens drawn out. The exact surgical procedure varies slightly but usually involves the vas deferens being cut and a small piece removed, with the ends being tied.



## Positive results for Indigenous GP Workshop



*Indigenous GP's and specialist presenters at the workshop.*

Indigenous GPs from around Australia attended a workshop in May 2004 on men's reproductive health to provide them with up to date information on management of a range of male health disorders.

An evaluation of the workshop was conducted and showed that the quality of the sessions and session objectives were met at a high level. The written feedback regarding the impact on the doctor's clinical practice showed an increase in awareness and the ability to discuss each of the issues more confidently, especially erectile dysfunction. It was also anticipated that GPs attending the workshop would be able to conduct educational sessions with Aboriginal Health workers and other health professionals working in their local community.

Co-ordinated by the Department of General Practice, Monash University, the workshop was modelled on the Train-the-Trainer GP education program recently run through the Divisions of General Practice. The workshop was supported by the Australian Indigenous Doctors' Association (AIDA), and funded by the Federal Department of Health and Ageing, Andrology Australia and Pfizer Australia.

An opportunity to build the relationship between AIDA and Andrology Australia was also raised as part of the workshop, with both organisations agreeing to work together and support prospects for Indigenous doctors to enhance their awareness of issues affecting Indigenous Australian men.

>> RECENT EVENTS

## Photographic Competition Winner!

A photographic competition recently held by Andrology Australia to find an image best representing 'The Healthy Male' was won by Monash University photography student Nicolai Omre.

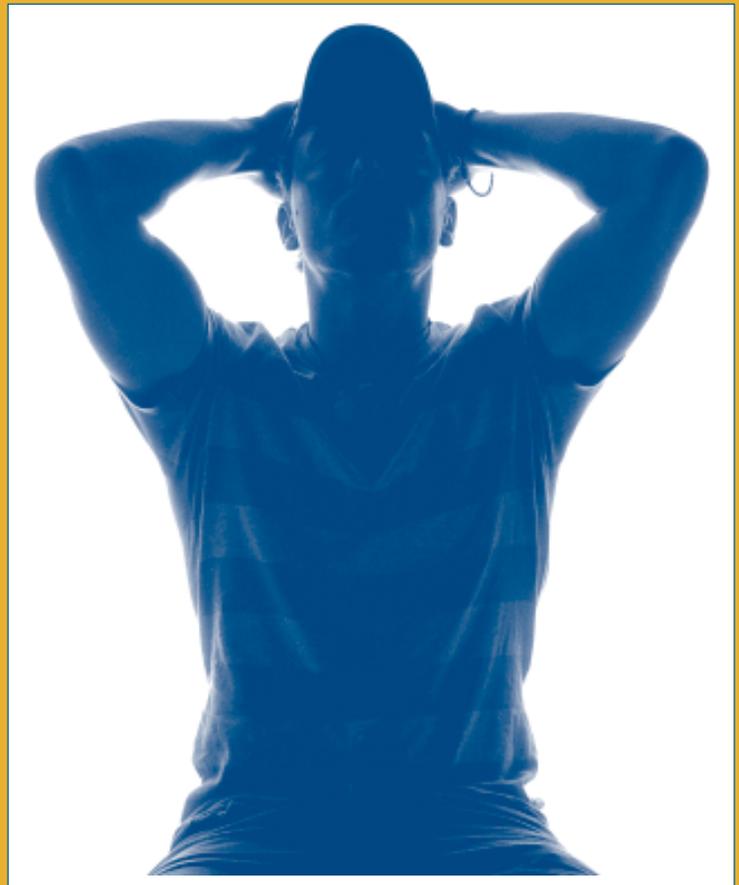
Nicolai received a \$400 gift certificate for photographic supplies, kindly sponsored by Edward Schreiber from Schreiber Photographics and Andrology Australia.

Dr Carol Holden, Andrology Australia Project Manager, explained the competition aimed to find images that represented the 'healthy male' that could be used in future Andrology Australia publications to encourage men to take care of their health.

"Andrology Australia provides men's health information and education around Australia and the use of images is important in helping our message get across," said Carol. "Nicolai's image is quite striking and will be used in future material to reinforce the message of men looking after their health."

Nicolai, a student at Monash University Department of Multimedia and Digital Arts, entered the competition through photography lecturer Matthew Perkins, who suggested the competition to his students.

The winning photo and 11 others will feature in the Andrology Australia 2005 calendar.



*The winning photo by Nicolai Omre, 'Self portrait.'*



**Associate Professor  
Rob McLachlan**

Associate Professor Rob McLachlan specialises in the area of male reproductive endocrinology. He currently combines his academic career with clinical practice as a consultant, as well as serving on the Management Committee of Andrology Australia.

Rob graduated from University and completed advanced training in Internal Medicine and Endocrinology, before undertaking PhD studies in the area of reproductive physiology. He then continued work in the hormonal regulation of reproductive function as a visiting scientist at the University of Washington, Seattle, USA.

Since returning to Australia in 1990, Rob has attracted continuous funding as a Research Fellow of the National Health & Medical Research Council. He is now a co-principal investigator of a Program Grant at Prince Henry's Institute of Medical Research; he conducts basic and clinical research into male contraception and infertility, and the role of androgens.

The most prestigious annual research prize of the Royal Australasian College of Physicians, the Eric Susman Prize, was awarded to Rob in 2003 in recognition of his work in male infertility and male contraceptive development.

**National prostate tissue bank receives NH&MRC grant**

The Australian Prostate Collaboration (APCC) Bio-Resource initially supported by Andrology Australia has received a grant from the National Health and Medical Research Council Enabling Grant scheme.

The network of prostate tissue banks assist research into understanding how prostate cancer develops and progresses, and was developed with the combined support of Andrology Australia, Prostate Cancer Foundation of Australia (PCFA) and the Commonwealth Bank.

This grant is a positive result for men affected by prostate cancer and their families as the research conducted using the Bio-Resource will in turn improve prostate cancer management.

**Pharmacy fact cards**

Andrology Australia has sponsored fact cards on men's health, prostate problems and erectile dysfunction that will be available through selected pharmacies as part of the Pharmacy Self Care program.

Around 15,000 copies of each card will be printed each year and distributed to over 2000 pharmacies across Australia.



**Award for Excellence**



Dr Carol Holden, Project Manager at Andrology Australia, has received the Monash Faculty of Medicine Dean's Award for Excellence. The award recognises contributions to the Faculty of Medicine, Nursing and Health Sciences that exceed the normal requirements of the position.

**Congratulations Carol!**



**Newsletter of Andrology Australia**

Australian Centre of Excellence in Male Reproductive Health

**Andrology Australia**  
C/- Monash Institute of  
Reproduction and Development

**Postal Address:**  
Monash Medical Centre  
246 Clayton Road,  
Clayton Victoria 3168

**Street Address:**  
27-31 Wright Street,  
Clayton Victoria 3168

**Telephone:**  
1 300 303 878

**Facsimile:**  
+ 61 3 9594 7111

**Internet:**  
[www.andrologyaustralia.org](http://www.andrologyaustralia.org)

**Email:**  
[info@andrologyaustralia.org](mailto:info@andrologyaustralia.org)

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