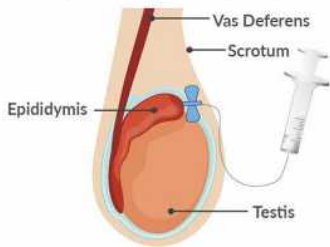


# Sperm retrieval

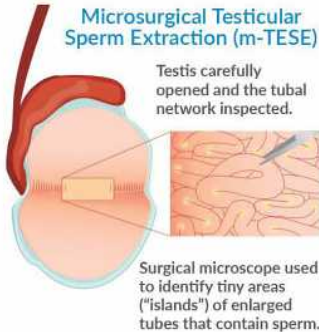
- ✓ In severe cases of male infertility, sperm retrieval procedures are performed.
- ✓ These are day surgery procedures.
- ✓ The retrieved sperm are frozen and used at a later time for assisted reproduction (ART) to achieve pregnancy.

## Sperm retrieval procedures include:

### Percutaneous Epididymal Sperm Aspiration (PESA)



### Microsurgical Testicular Sperm Extraction (m-TESE)



### Normal Spermatogenesis



All tubules have sperm

### Non-Obstructive Azoospermia



One in 20 tubules have sperm

### Non-Obstructive Azoospermia



One in 100 tubules have sperm

### Non-Obstructive Azoospermia



Complete absence of sperm in tubules

## National University Hospital

### Urology Centre

NUH Medical Centre, Zone B  
Level 16, 16c & 16d

Appointment Line: (65) 6908 2222

Clinic Line: (65) 6772 5087

Email: urology\_centre@nuhs.edu.sg

### Opening Hours:

Monday to Friday: 8:30am - 5:30pm

Closed on Sat, Sun & Public Holidays



Nearest MRT Station: Kent Ridge (Circle Line)

## National University Hospital

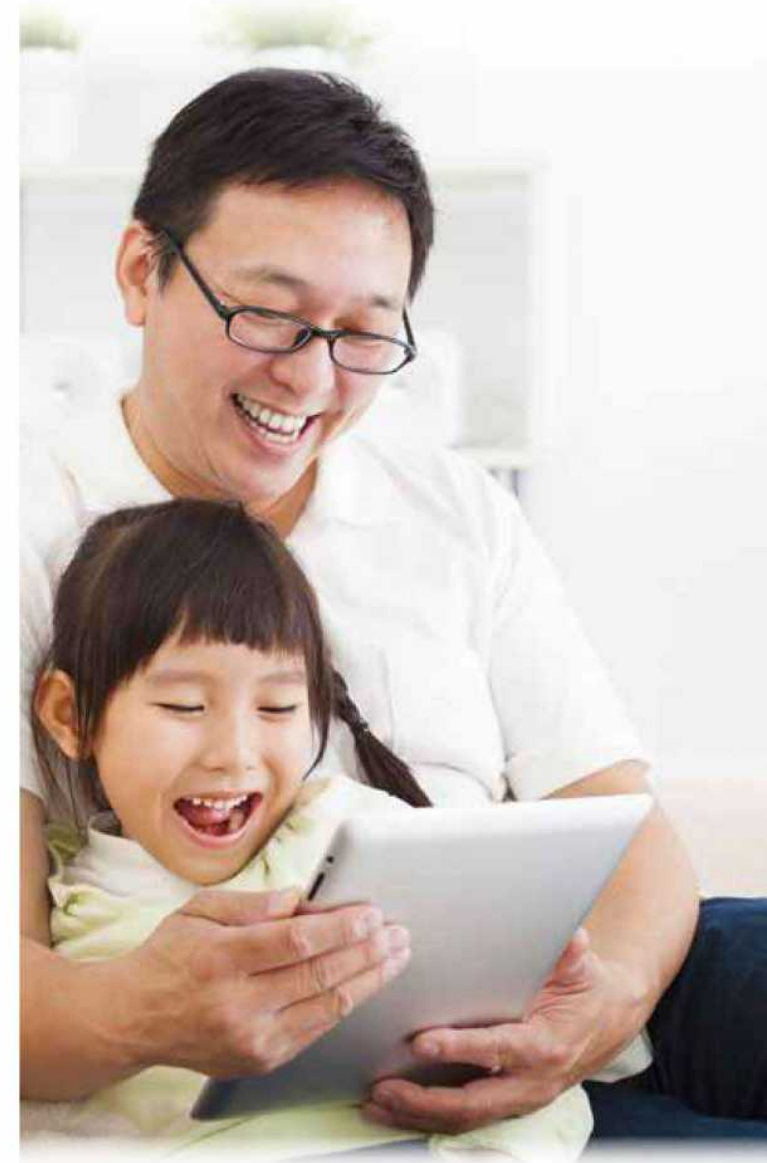
5 Lower Kent Ridge Road, Singapore 119074

Website: [www.nuh.com.sg](http://www.nuh.com.sg)

Company Registration No. 198500843R

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# Evaluation & Treatment of Infertility in Men

# What is infertility?

According to the World Health Organization, infertility is defined as the inability to achieve pregnancy after 12 months of regular unprotected sexual intercourse.

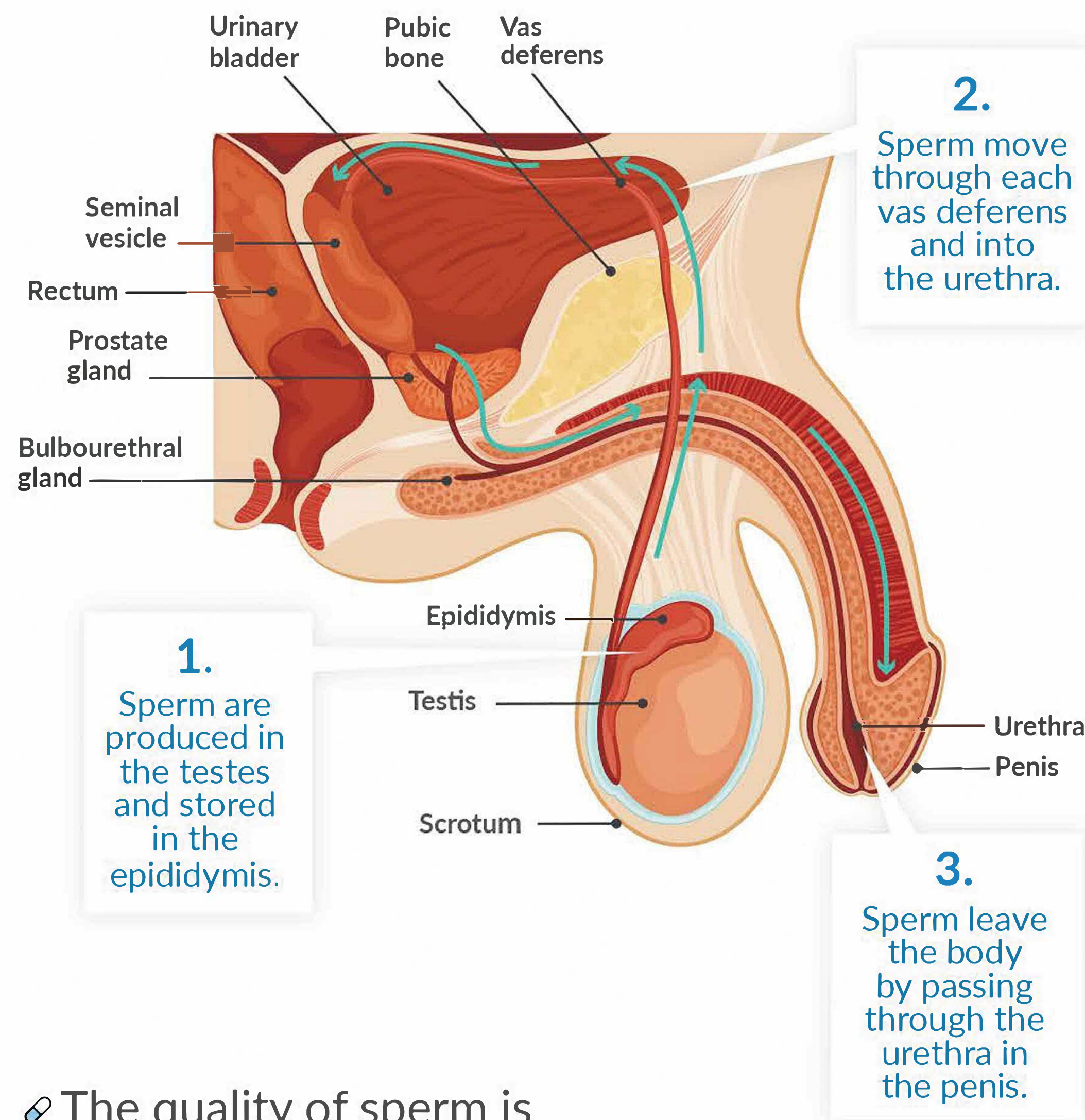
**50%** of infertility is attributed to male factors such as abnormal sperm production.

## Evaluation of infertility in men include:

- History and physical examination
- Semen analysis
- Hormonal blood tests
- Ultrasound and other special tests

- The quality of sperm is critical for male fertility.
- In normal men, sperm is produced in the testes and expelled through the opening of the penis.

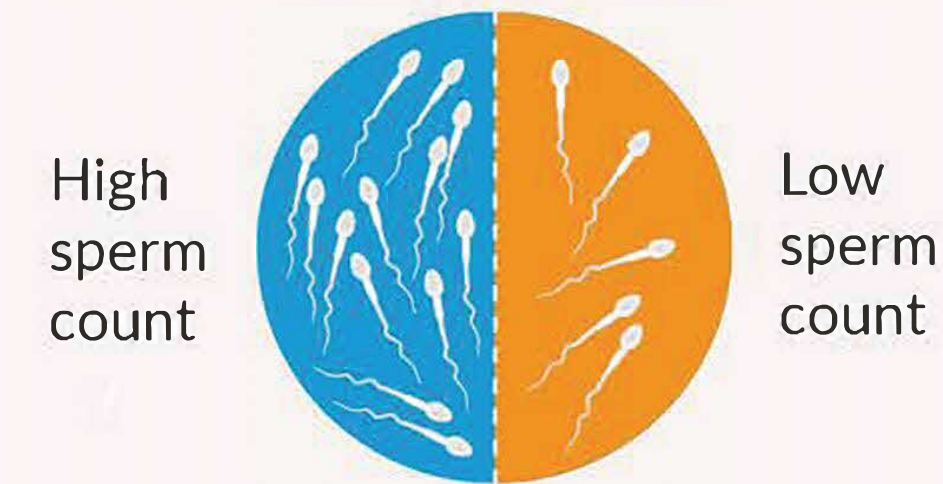
- Infertile men usually have problems with either sperm production, sperm delivery or both.



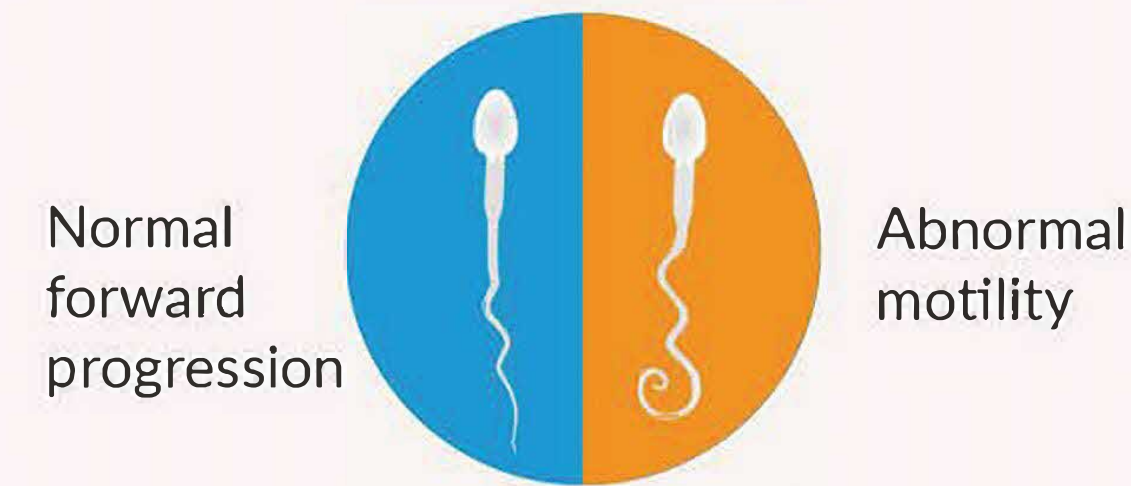
# What is semen analysis?

- Semen analysis is a test done to examine sperm numbers (count), sperm activity (motility) and sperm shape (morphology).
- Patients need to abstain from intercourse for at least 3 days before giving the sample.
- The test is done at the NUH Andrology Lab.

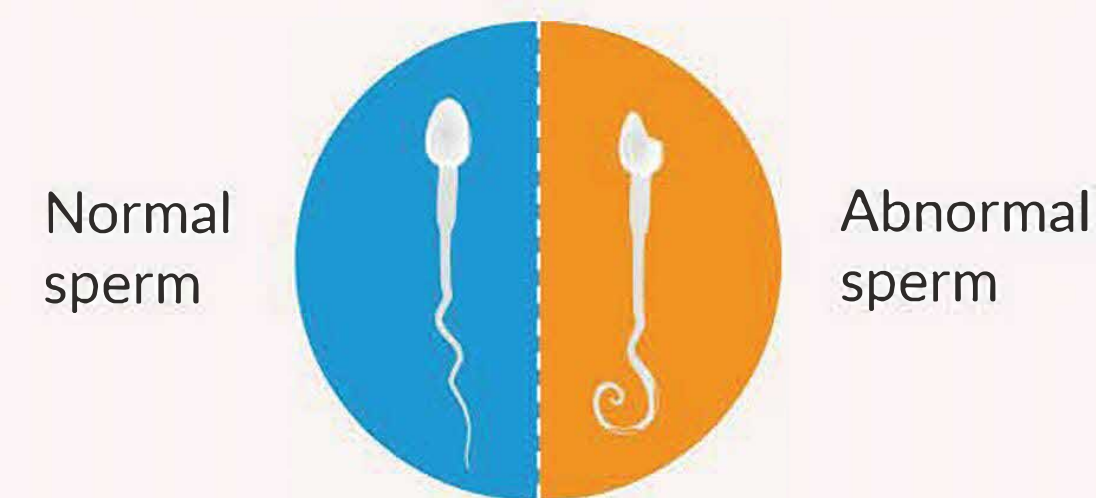
## Sperm count



## Sperm motility



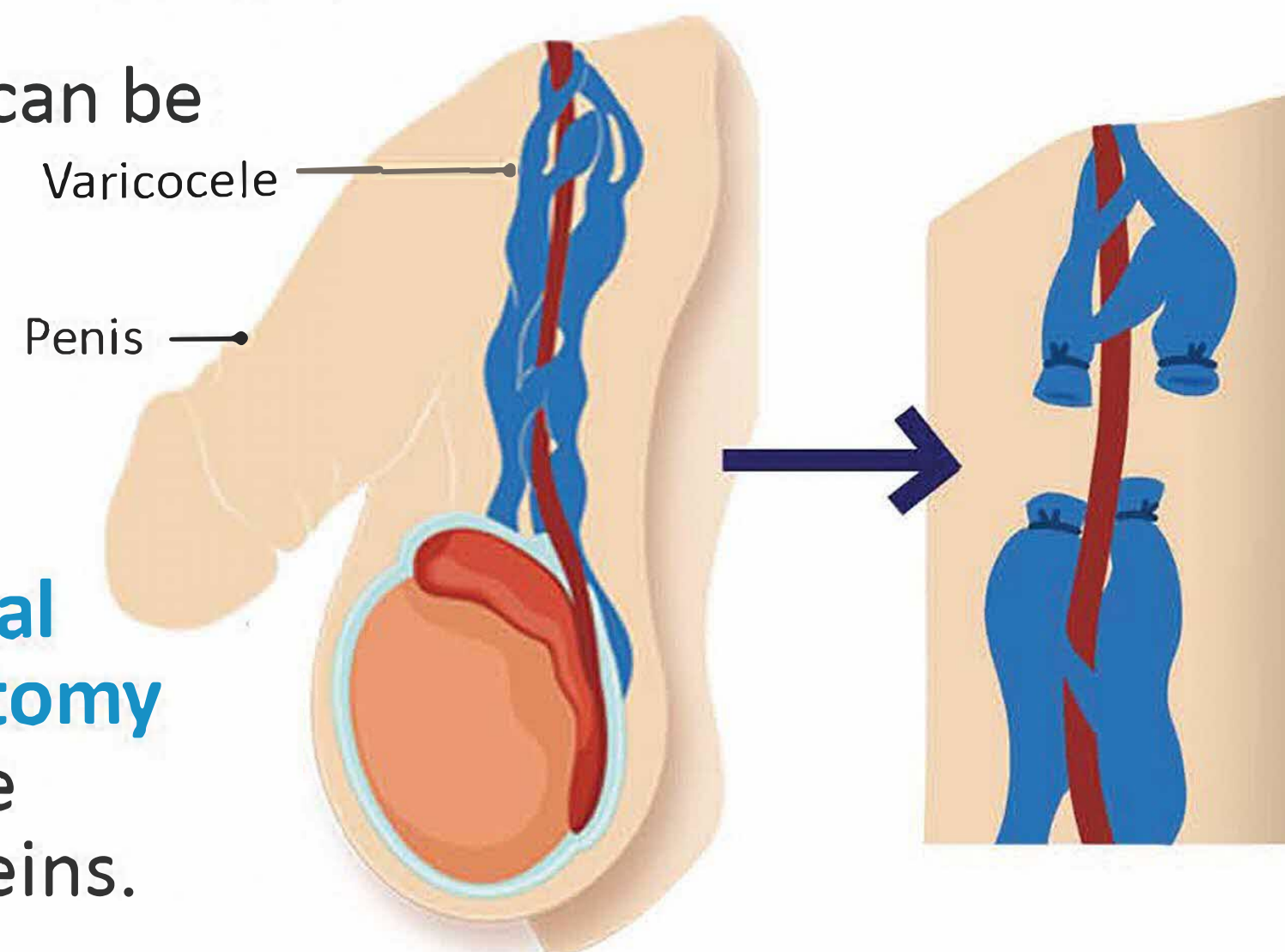
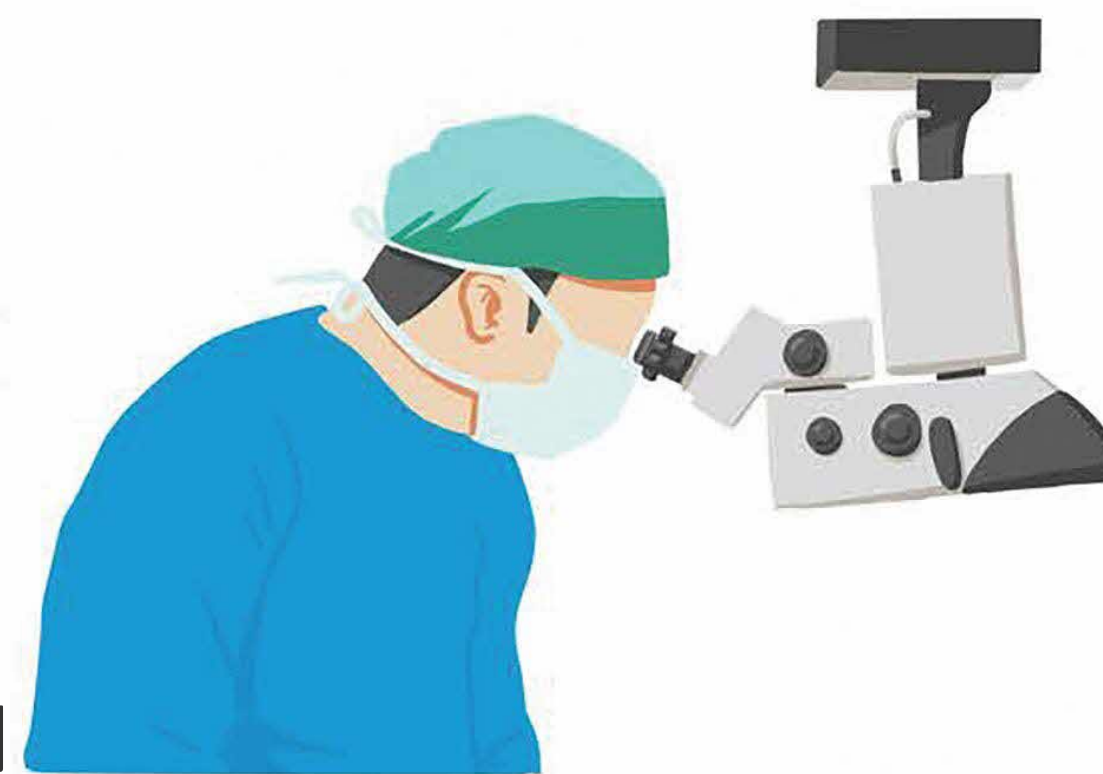
## Sperm morphology



## Possible causes of infertility in men

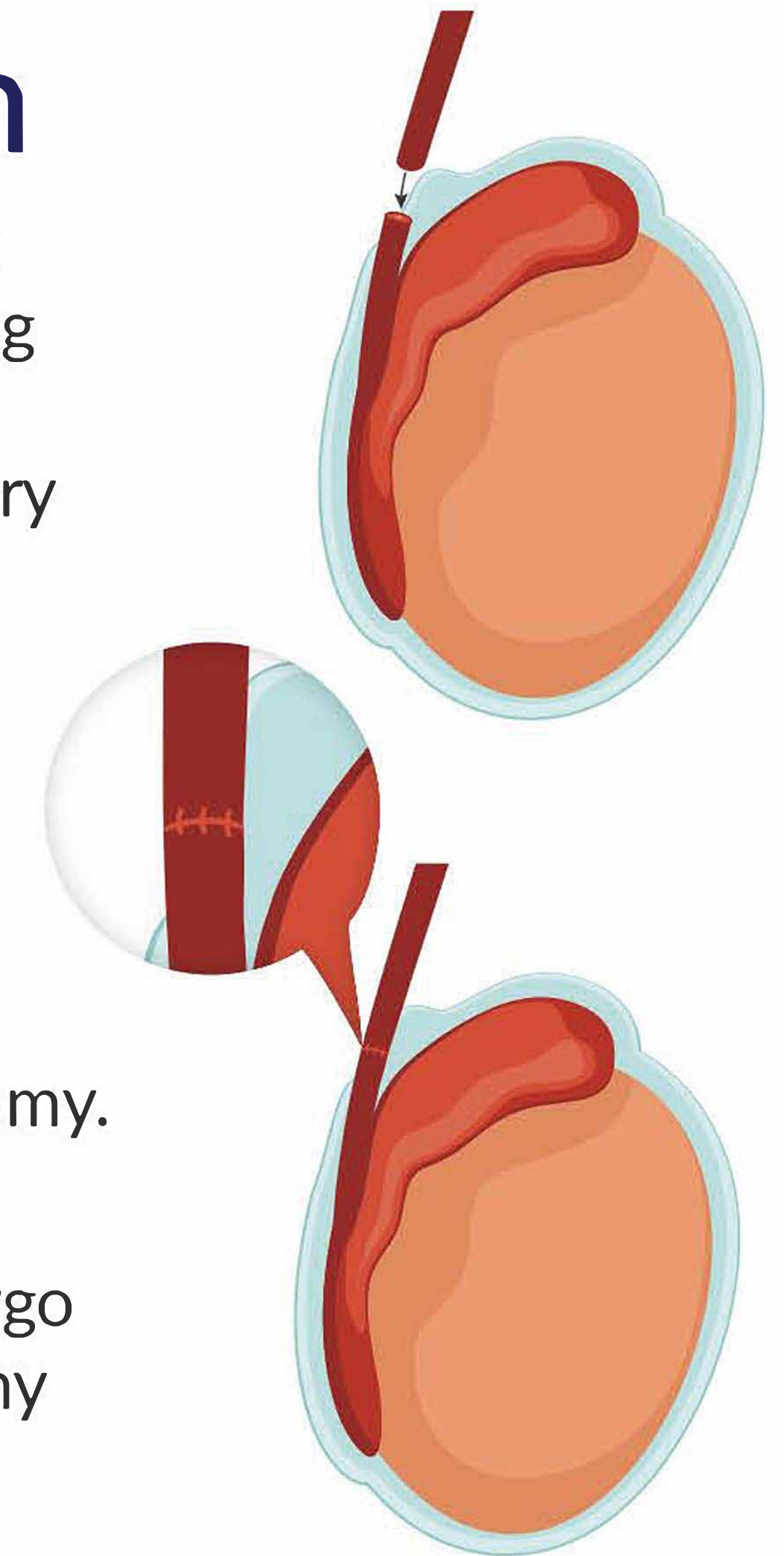
### Varicoceles

- These are abnormally enlarged veins around the testes that can affect sperm quality due to the build up of toxins and increased temperature.
- Varicoceles can be treated with a day surgery procedure called **microsurgical varicocelectomy** to tie off the abnormal veins.

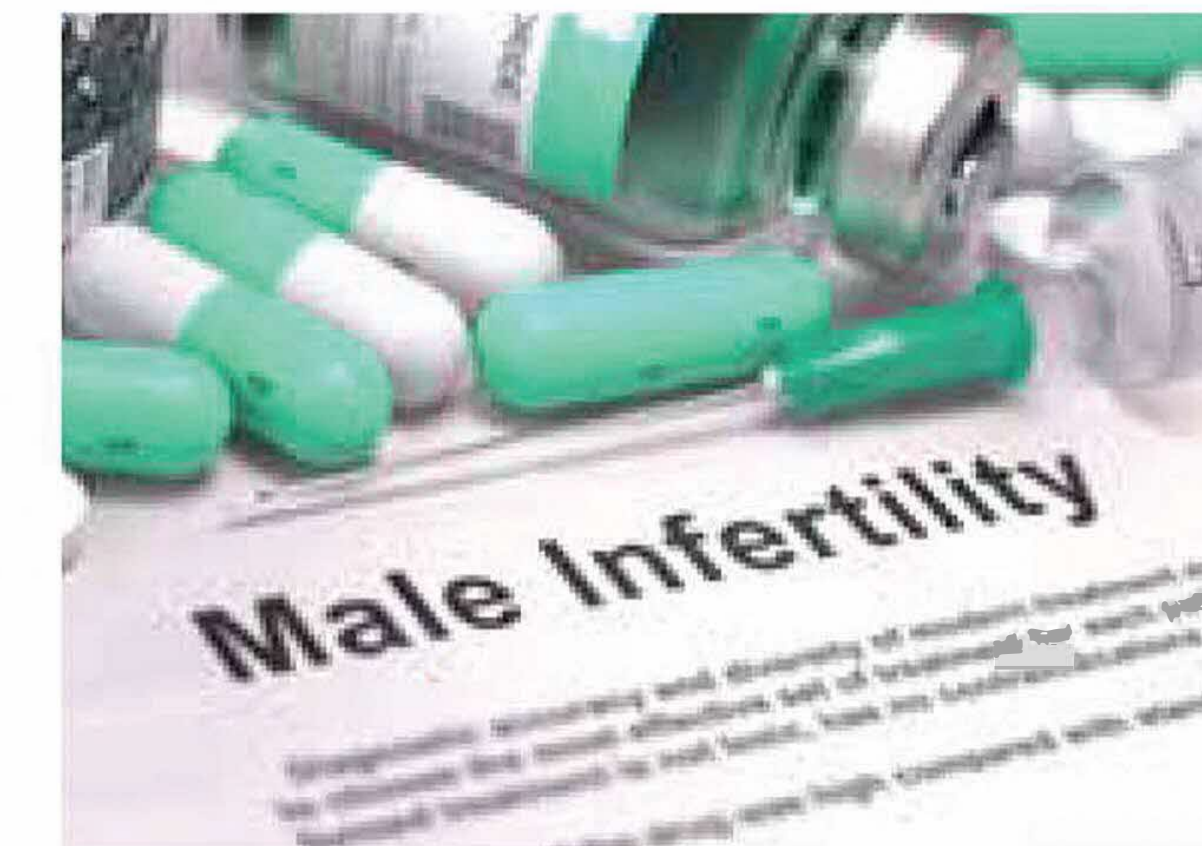


# Obstruction

- Blockages can occur at different areas including the testes, epididymis, vas deferens, ejaculatory ducts, prostate and urethra.
- The causes may be congenital or due to previous infections, injuries and surgery, which includes vasectomy.
- Patients with previous vasectomies can undergo microsurgical vasectomy reversal surgeries.



# Hormonal disorders



- Abnormalities in hormones such as testosterone, prolactin, follicle-stimulating hormone (FSH) and luteinising hormone (LH) can affect fertility.
- Oral tablets or injections are used to correct these disorders.

# Genetic disorders

- These are inborn and cannot be corrected.
- Blood tests are done to evaluate for genetic disorders when necessary.