

Step-by-Step Male Genital Examination



HEALTHY MALE
Generations of healthy Australian men

Testicular volume

Testicular volume is assessed using an orchidometer; a sequential series of beads ranging in size from 1 mL to 35 mL (see Image 1).

Conduct the examination in a warm environment, with the patient lying on their back.

1. Gently isolate the testis and distinguish it from the epididymis. Then stretch the scrotal skin, without compressing the testis.
2. Use your orchidometer to make a manual side-by-side comparison between the testis and beads (see Image 2).
3. Identify the bead most similar in size to the testis, while making allowance not to include the scrotal skin.

Normal testicular volume ranges

Childhood	Puberty	Adulthood
< 3 mL	4-14 mL	15-35 mL

Clinical notes

- Asymmetry between testes is common (e.g. 15 mL versus 20 mL) and not medically significant.
- Asymmetry is sometimes more marked following unilateral testicular damage.
- Testes are roughly proportional to body size.
- Low testicular volume suggests impaired spermatogenesis¹.
- Small testes (< 4 mL) from mid puberty are a consistent feature of Klinefelter syndrome².

Examination of secondary sexual characteristics

Gynecomastia

- Gynecomastia is the excessive and persistent development of benign glandular tissue evenly distributed in a sub-areolar position of one or both breasts (see Image 3)³.
- Can cause soreness and considerable embarrassment.
- Common during puberty, usually resolves in later adolescence³.
- Causes include increased estrogen, low testosterone, various medications, marijuana, androgen abuse and abnormal liver function^{3, 4, 5}.
- Distinguish glandular tissue from sub-areolar fat in obese subjects.
- Rare secondary causes include hypothalamic/pituitary and adrenal/testis tumours (oestrogen excess)⁴.
- Rapidly developing gynecomastia may indicate testicular tumour⁵.
- In contrast to gynecomastia, breast cancer can be located anywhere within the breast tissue and feels firm or hard.³

Onset of puberty

- Average onset is 12-13 years.

Virilisation

- Facial and body hair development.
- Muscle development.
- Penile growth.



Image 1 – Orchidometer

Why use an orchidometer?

Testicular volume is important in the diagnosis of androgen deficiency, infertility and Klinefelter syndrome.

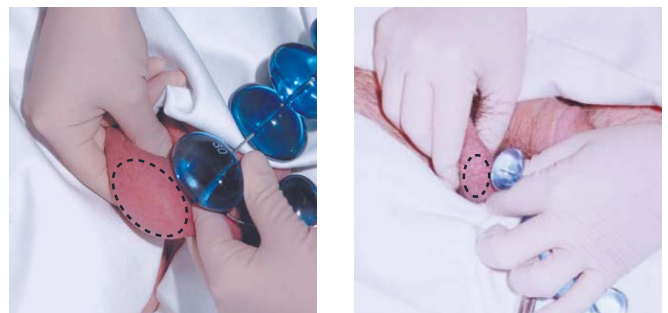


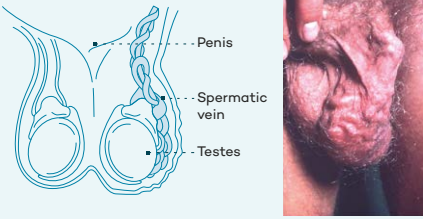
Image 2 – Example of 30 mL and 4 mL adult testis



Image 3 – Gynecomastia

(Photo courtesy of Mr G Southwick,
Melbourne Institute of Plastic Surgery)

Examination of testis and scrotal contents

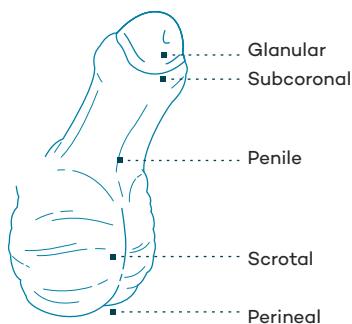
Testis	<p>Gently palpate the testis between your thumb and first two fingers.</p> <p>Note: Atrophic testes are often more tender to palpation than normal testes.</p>	<p>If a testis cannot be felt, gently palpate the inguinal canal to see if testis can be 'milked' down.</p> <p>Note: Testis retraction can be caused by cold room temperature, anxiety and cremasteric reflex.</p>	<p>Examine the testis surface for irregularities. It should be smooth, with a firm, soft rubbery consistency.</p> <p>Note: A tumour may be indicated by deep or surface irregularity, or differences in consistency between testes.</p>
Epididymis	<p>Locate the epididymis, which lies along the posterior wall of the testis. It should be soft, slightly irregular and non-tender to touch.</p>	<p>Tenderness, enlargement or hardening can occur as a result of obstruction (vasectomy) or infection. This can be associated with obstructive infertility.</p> <p>Cysts in the epididymis are quite common. These are something mistaken for a testicular tumour.</p>	
Vas deferens	<p>Locate the vas deferens, a firm rubbery tube approximately 2-3 mm in diameter.</p>	<p>Nodules/thickening around the vas deferens ends may be apparent after vasectomy.</p>	
Varicocele	<p>Perform examination with the man standing.</p> <p>A Valsalva manoeuvre or coughing helps delineate smaller varicoceles.</p>	<p>Indicators include:</p> <ul style="list-style-type: none"> • Palpable swelling of the spermatic veins above testis • Swelling is usually easy to feel and can be compressed without discomfort • Nearly always on left side • Associated with infertility. 	 <p>The diagram shows the spermatic vein and testis. The photo shows a clinical view of a varicocele.</p> <p>(Photo courtesy of Prof D de Kretser)</p>

Examination of penile abnormalities

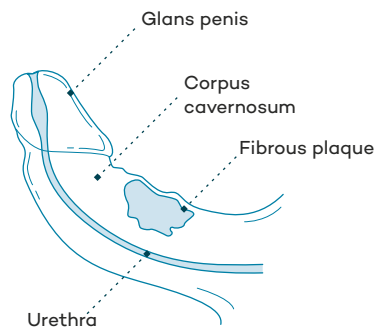
Hypospadias	Peyronie's disease	Micropenis	Phimosis	Urethral stricture
<p>Abnormal position of meatus on the underside of the penile shaft. May be associated with a notched penile head.</p>	<p>Fibrous tissue, causing pain and curvature of the erect penis.</p> <p>Check for tenderness or thickening.</p>	<p>May indicate androgen deficiency prior to puberty.</p>	<p>The foreskin cannot be pulled back behind the glans penis. Can be normal in boys up to 5-6 years.</p>	<p>Abnormal urethral narrowing, which alters urination. Can be caused by scar tissue, disease or injury.</p>

Hypospadias

Position of urethral opening



Peyronie's disease



(Photo courtesy of Dr M Lowy, Sydney Centre for Men's Health)

References

1. Takihara et al., 1987. Significance of Testicular Size Measurement in Andrology: II. Correlation of Testicular Size with Testicular Function. *The journal of urology*
2. Groth, 2013. Klinefelter Syndrome – A Clinical Update. *Clinical Endocrinology and Metabolism*
3. Deepinder & Braunstein, 2011. Gynecomastia: incidence, causes and treatment. *Expert Review of Endocrinology & Metabolism*
4. Johnson & Murad, 2009. Gynecomastia: Pathophysiology, Evaluation, and Management. *Mayo Clinic Proceedings*
5. Narula & Carlson, 2014. Gynaecomastia—pathophysiology, diagnosis and treatment. *Nature Reviews Endocrinology*

