

ANATOMY OF TESTES

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The testis, alternatively referred to as the testicle or gonad, is a pair of solid and movable organ situated within the scrotum (1). It serves as a vital component of the male reproductive system, playing a crucial role in the production of sperm and testosterone. The dimensions of each testis are roughly 4 cm in length, 2.5 cm in width, and 3 cm in thickness, with an estimated weight ranging from 10 to 15 grams (2, 3). In terms of its structure, each testis exhibits two surfaces, namely the lateral and medial surfaces, as well as two borders, referred to as the anterior and posterior borders. Additionally, the testis possesses two ends, known as the superior and inferior poles (4). The epididymis, which spreads laterally from the testis, covers the posterior border (2). The left testis is normally situated slightly lower than the right testis (1-5).

The testis and epididymis penetrate the tunica vaginalis posteriorly which is a continuation of the peritoneal processus vaginalis. Hence, the visceral lamina of the tunica envelops the testis and epididymis in all regions except the posterior border and the posterior area of their contact. The tunica vaginalis lines the sinus epididymidis, a deep groove that separates the testis from the epididymis in the anterior region. The tunica vaginalis additionally envelops the anterior surface of the spermatic cord, extending to varying lengths above the testis (1-4).

Each testis is also encased by a tough fibrous capsule, referred to as the tunica albuginea. This capsule serves as a protective barrier surrounding the testes. A series of fibrous septa extend from the inner surface of the capsule, dividing the

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a conduit for drainage into the inferior vena cava on the right side and the renal vein on the left side. Valves are present in both the right and left testicular veins (1, 2, 6).

LYMPHATICS

The process of lymphatic drainage in the testes exhibits a regular retroperitoneal pattern, with the majority of lymphatic flow directed towards the inter-aorto-caval nodes and paracaval nodes on the right side, and the left para-aortic on the left side (2).

INNERVATION

The testes receive afferent nerve impulses from nerve fibers that originate in the T10-T11 spinal segments. Those fibers traverse the renal and aortic plexuses in conjunction with the testicular arteries. Moreover, nerve fibers originating from the pelvic plexus closely accompany the vas deferens (2).

REFERENCES

1. L. E. Wineski, Ed., *Snell's clinical Anatomy By regions*, 10th Editi. Wolters Kluwer, 2019.
2. S. Standring, *Gray's Anatomy E-Book: The Anatomical Basis of Clinical Practice*. in Gray's Anatomy. Elsevier Health Sciences, 2015. [Online]. Available: <https://books.google.com.tr/books?id=b7FVCgAAQBAJ>
3. R. Koshi, *Cunningham's Manual of Practical Anatomy*, 16th ed., vol. Vol 2. Oxford: Oxford Medical Publications, 2017.
4. Prof. Dr. Yasin Arifoğlu, *Her Yönüyle Anatomi*, 3rd ed. İstanbul: İstanbul Tıp Kitabevleri, 2021.
5. H. Ozan, *Ozan Anatomi*, 3. Baskı. Ankara: Klinisyen Tıp Kitabevleri, 2014.
6. A. M. Agur, A. Dalley, and K. L. Moore, *Clinically Oriented Anatomy*, 8th Editio. Canada: Wolters Kluwer, 2018.