

008: Testicular volume measured by ultrasound

The volume of the testicle can be estimated by palpating it and comparing it to ellipsoids of known sizes (an orchidometer) or using an ultrasound image to obtain the three measurements of the x, y, and z axes (length L, depth D and width W). These measurements can then be used to calculate the volume, using the formula for the volume of an ellipsoid: $\frac{4}{3} \pi \times (L/2) \times (W/2) \times (D/2) = 0.699 \times L \times W \times D$



As the testicles are not perfect ellipsoids the following formula can be:

$$V \text{ (mL)} = 0.71 \times L \times W \times D$$

Where L, W, D in cm.



The US image shows on the left a testicle in a longitudinal and sectional plane allowing the determinations of L, W, and D. These images were taken at the FABER Foundation.

A comparison between the orchidometer, US and water displacement methods, showed that the equation above is closest to the real volume (1).

- (1) Sakamoto H, Saito K, Ogawa Y, Yoshida H. Testicular volume measurements using Prader orchidometer versus ultrasonography in patients with infertility. *Urology*. 2007 Jan; 69(1):158-62.

From <https://en.wikipedia.org/wiki/testicle>, https://en.wikipedia.org/wiki/Scrotal_ultrasound

Document available in FR, DE, IT, EN

End of document