

Scrotal sonography overview

Marcus John Julius, M.D.

Scrotal sonography

- Objectives

- To present the imaging technique for performance of scrotal sonography
- To display the imaging findings of a normal scrotal sonogram
- To generate a list of clinical indications for performance of a scrotal sonogram
- To formulate a differential diagnosis with respect to both *scrotal mass* and *scrotal pain*
- To become familiar with the hallmark sonographic features of a multitude of pathologic processes affecting the scrotum

Scrotal sonography

- Technique
 - High-frequency transducer (up to 15 MHz)
 - Patient position: supine
 - Scrotum elevated by a towel
 - Imaging of each testicle in both short axis and long axis
 - Including simultaneous imaging of bilateral testicles
 - 'side-by-side' or 'buddy' image
 - Imaging of bilateral epididymi
 - Color flow and spectral Doppler images are obtained

Scrotal sonography

- Findings
 - Testis
 - Mildly-coarse, homogeneous echotexture
 - Average diameter (adult): 3-5cm
 - *Tunica albuginea*: echogenic peripheral margin of testis (which may extend internally to form the *mediastinum testes*)
 - Spectral Doppler: low resistance waveform
 - Epididymis
 - Comprised of head, body, and tail
 - Spectral Doppler: low resistance waveform
 - Scrotal skin
 - Normal thickness up to 8mm

Normal testicular sonogram



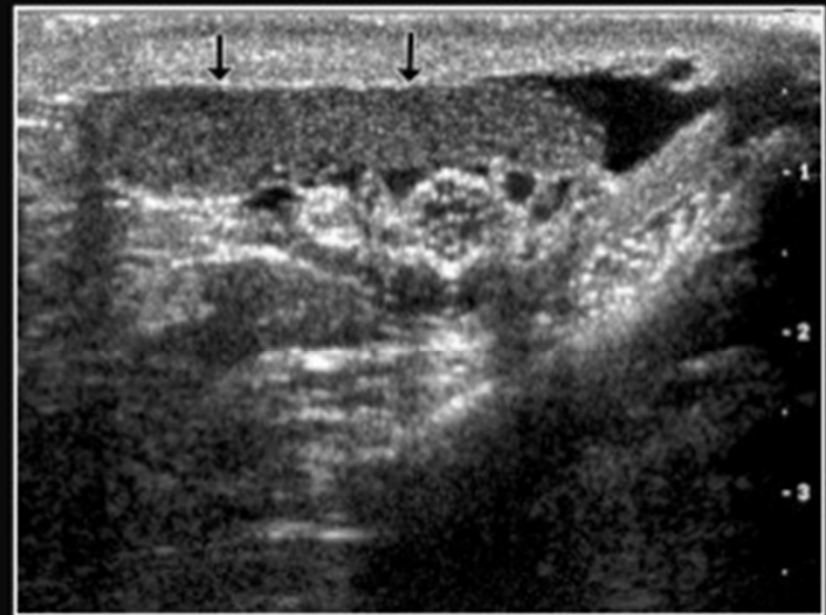
Normal epididymis

Sagittal US image



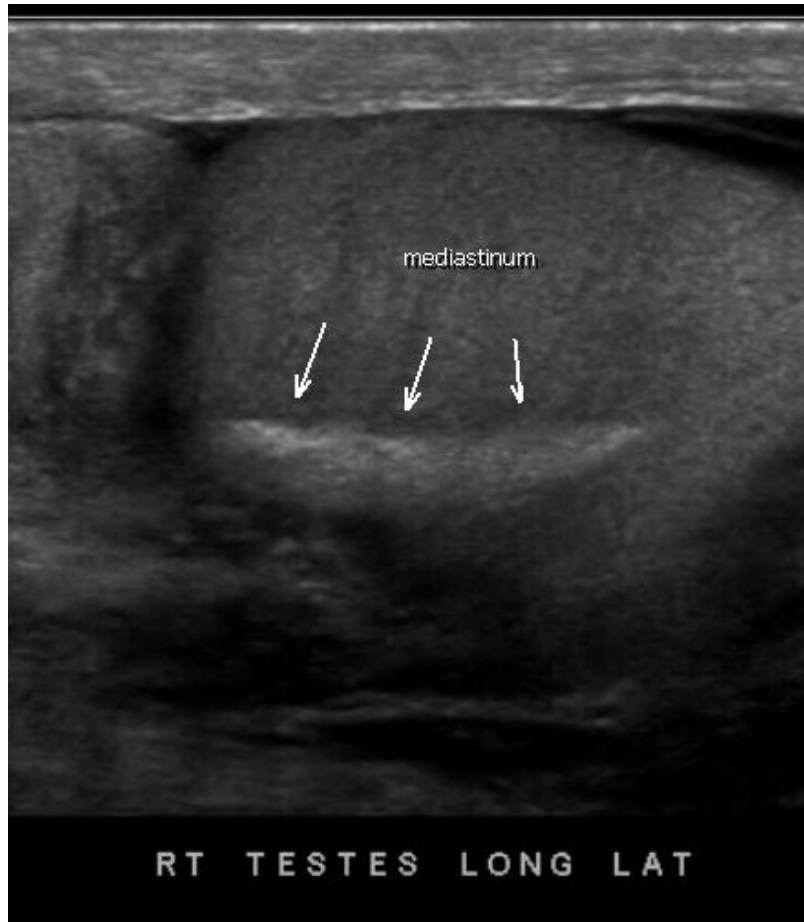
Normal epididymal head
Isoechoic to testis

Coronal US image



Normal epididymal body & tail
Hypoechoic to testis

Testicular mediastinum



Scrotal sonography

- Indications
 - Scrotal mass
 - Testicular pain
 - Scrotal trauma (which may present as mass and/or pain)
 - Male infertility (i.e. potential varicocele)
 - Undescended testis (in infant)

Scrotal sonography

- D/D of **scrotal mass**
 - *'Extra-testicular'*
 - Hydrocele
 - Varicocele
 - Hernia
 - Spermatocele
 - Hematocele
 - Epididymitis
 - Epididymal cyst

Scrotal sonography

- D/D of **scrotal mass**
 - *Intra-testicular*
 - Neoplasia
 - Orchitis
 - Hematoma
 - Torsion

Scrotal sonography

- D/D of **scrotal pain**
 - Testicular torsion
 - Epididymitis and/or orchitis
 - Testicular rupture
 - (Testicular neoplasia)

Scrotal sonography

- Summary
 - Please correlate this scrotal sonography overview with your other medicine, pathology, and pharmacology lectures on scrotal health and disease
 - Please review this lecture in preparation for your Reproductive PI session