

Scrotal Ultrasound Protocol

Specific staff groups to whom this policy directly applies	Likely frequency of use	Other staff who may need to be familiar with policy
Sonographers	Daily	Health Care Assistants

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Purpose	To ensure the imaging and reporting of scrotal contents are optimally undertaken by ultrasound practitioners, with clear guidance for the referrer where needed.

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1.Referral Pathway:

- Referrals for testes ultrasound are accepted from GPs and Consultant referrals.
- Prior to the US examination, the ultrasound practitioner should consider the clinical referral. A clinical question should be provided.
- An appreciation of the clinical history is very important in reaching a diagnosis,

2: General examination:

- The sonographer should confirm the patient's identity in accordance with the Korus patient identification policy.
- A full explanation of the procedure must be given to the patient before scanning commences, and verbal consent obtained and documented within the ultrasound report.

3: Best practice:

- For intimate scans a chaperone should be available and present. It is best practice to include chaperone name in the report.
- The patient has read and understood the information on the US testes letter and verbally consented to proceed with the examination.
- Ensure adequate privacy to allow the woman to undress and lie on the examination couch. A paper sheet should be provided.

4. Guidelines for the examination:

- **Testes**
Both testes should be assessed for size and for echogenicity by comparing both testes on the same image. The testes should be assessed for the presence of a testicular lesion/ microlithiasis/orchitis. Colour Doppler of both testes performed, assessing presence and symmetry of blood flow within the testes.
- **Epididymides**
Both epididymal head, body and tail should be assessed for thickening, presence of lesions, cysts etc. There will be normal presence of normal mild epididymal thickening after vasectomy and the appearances of sperm granulomas.
- **Scrotal space**
The scrotal wall should be assessed for oedema or thickening and the space examined for the presence of hydrocoele.

Please note regarding testicular torsion:

Ultrasound lacks sensitivity and specificity for torsion. If colour Doppler flow is absent, this is strongly indicative of torsion. Torsion can be intermittent and/or incomplete. A normal ultrasound would not exclude torsion. It is a surgical emergency – refer to urgent protocol.

5. Reporting guidance

- Reporting guidelines for common pathology

Pathology	Ultrasound Appearance	Seek Advice	Reporting suggestions
Epididymitis/ epididymo-orchitis	Bulky and heterogeneous epididymis, +/- involvement of the rete teste	No	In cases of complex epididymitis / epididymo-orchitis a follow-up scan in 6 weeks is suggested to avoid small underlying lesions being missed.
Hydrocoeles			
Primary	Clear, anechoic Ensure to differentiate from a large epididymal cyst.	No	No follow up required.
Secondary	Cloudy, stranding, loculation, due to trauma or infection Assess for abscess formation if previous epididymo-orchitis or surgery	For 2 nd opinion from senior sonographer or for Consultant review	If trauma - consider haematocoele If infection - consider pyocoele Follow up scans is recommended – Gps to request
Extra-testicular pathology			
Epididymal cyst/	Well defined, anechoic, avascular Does not surround the testis	No	
Spermatocele	Echogenic content. Well defined Hyperechoic mobile foci	No	Hyperechoic rounded lesion measuring mm within the right/left epididymis.

			Suggestive of a spermatocele
Sperm granuloma	Well defined Hypoechoic Within epididymis <1cm If not typical in appearance, consider adenomatoid tumours.	No	Hypoechoic rounded lesion measuring mm within the right/left epididymis. Appearances are consistent with a sperm granuloma”
Varicocele	Multiple veins measuring > 3mms diameter, at rest and with Valsalva manouvere (ASRM 2014) Valsava shows reflux	No	There is a mild/moderate/large left sided varicocele. Kidneys appeared normal
Scrotolith	Mobile, hyperechoic extratesticular focal area . If large the pearl has posterior acoustic shadowing. May be free floating if there is an accompanying hydrocoele.	No	Describe as seen
Tunica cyst	Small cyst within the tunica layers No solid components but may have some debris	No	Describe as seen
Intra-testicular Pathology	Small (<2mm)		
Microlithiasis	Calcifications throughout the testicular parenchyma Defined as > 5 echogenic foci Mild-moderate microlithiasis	No	“Testicular microlithiasis is present without intratesticular mass seen. If the patient has risk factors for

	(< 25)		testicular cancer. Yearly surveillance until 55yrs.
	Severe microlithiasis (> 25 per testicle).	No	Referral to a urologist is recommended. Yearly surveillance until 55yrs.
	Typical microlithiasis with a testicular mass	For 2 nd opinion from Senior Sonographer or for Consultant review	Describe as seen. Urgent referral to urology.
Testicular mass	Rounded, hypoechoic lesion of ≤ 5mm.	For 2 nd opinion from Senior Sonographer or for Consultant review	If simple cyst – no follow up as benign. If hypoechoic suggest follow up scans in 6/12. This could be a benign lesion, such as a Testicular adrenal rest tumour (TART).
	Indeterminate medium sized lesion.	For 2 nd opinion from Senior Sonographer or for Consultant review	>10mm lesion Largely cystic ? abscess (recent history of infection) Unusual shape non-rounded lesion (possible epidermoid – has an onion ring appearance) If suspicious of tumour – for urgent MDT/urology
	Well rounded, heterogenous, largely hypoechoic lesion,vascular on colour Doppler.	For 2 nd opinion from Senior Sonographer or for Consultant review	For urgent urology referral

Infertility Azoospermia, low sperm count rates	Access for atrophy or scarring of the testes, presence of varicocoele abnormalities of the epididymis.	No	Describe as seen
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Please note:

If a varicocoele is present image both kidneys. On rare occasions the cause of a varicocoele may be testicular vein involvement in tumour circulation.

6. References

Ammar, T. Sidhu, P. and Wilkins, C. (2012). Male infertility: the role of imaging in diagnosis and management. *The British Journal of Radiology*, 85 Spec No 1 (Spec Iss 1): S59-68.

BMUS Guidelines for Professional Ultrasound practice; December 2022
SoR_and_BMUS_guidelines_2022_7th_Edv2.0.pdf

Mittal, P. et al. (2017) Role of imaging in the evaluation of male infertility. *Radiographics*. 37 (3).
<https://pubs.rsna.org/doi/10.1148/rg.2017160125>

NICE Clinical Skills Summary: Varicoceles (updated January 2023) <https://cks.nice.org.uk/varicocele>

NICE Scrotal pain and swelling , (2021) (revised 2022), Assessment | Diagnosis | Scrotal pain and swelling | CKS | NICE

Practice Committee for the American Society of Reproductive Medicine and the Society for Male reproduction and urology; Report of Varicocele and Infertility: A committee opinion (2014) *Fertility and Sterility*, vol. 102, no 6 pp1556 – 1560

Richenberg J. et al. 2015, Testicular microlithiasis imaging and follow-up: guidelines of the ESUR scrotal imaging subcommittee, *European Radiology* 25, pp 323 – 330

Rocher L. et al. 2016, Incidentally detected non-palpable testicular tumours in adults at scrotal ultrasound: impact of radiological findings on management Radiologic review and recommendations of the ESUR scrotal imaging subcommittee, *European Radiology* 26, pp 2268 – 2278

Statement on patient information and informed consent, Policies, Statements and Guidelines, The British Medical Ultrasound Society,
<https://www.bmus.org/static/uploads/resources>

Tan, M. & Eng, C. (2011) Testicular microlithiasis: Recent advances in understanding and management. *Nature reviews. Urology*. 8: 153-63. 10.1038/nrurol.2011.1.

Winter T.C. et al. 2016 Testicular Microlithiasis: What Should You Recommend?, *American Journal of Roentgenology*. 206, pp1164-116