
Guidelines for
Performance
of the

SCROTAL
ULTRASOUND
EXAMINATION

AMERICAN INSTITUTE OF ULTRASOUND IN MEDICINE



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The A.I.U.M. Executive Office is located at 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906.

FOREWORD

The American Institute of Ultrasound in Medicine is an educational, literary, and scientific society concerned with the advancement of the art and science of ultrasound in medicine and research. To promote these goals, AIUM is pleased to publish *Standards for Performance of the Scrotal Ultrasound Examination*. This clinical standard has been developed by the many dedicated individuals associated with the AIUM Education Committee, the Section on General and Abdominal Ultrasound, and the Commission on Ultrasound of the American College of Radiology. I am indebted to the many volunteers who contributed their time, knowledge, and energy bringing this important document to completion.

With almost 11,000 members representing the entire range of clinical and basic science interests in medical diagnostic ultrasound and with over 200 volunteers actively participating, the AIUM has promoted the safe and effective use of ultrasound in clinical medicine for over 40 years. This document, and others like it, will continue to contribute to this record.

—*Barbara S. Hertzberg, M.D.*
Chairperson, AIUM Education Committee

STANDARDS FOR PERFORMANCE OF THE SCROTAL ULTRASOUND EXAMINATION

The following are recommended standards for ultrasound evaluation of the scrotum. The document consists of two parts:

Part I: Equipment and Documentation Standards

Part II: Standards for the Scrotal Examination

These standards have been developed to provide assistance to practitioners performing ultrasound studies of the scrotum. In some cases, additional and/or specialized examinations may be necessary. While it is not possible to detect every abnormality, adherence to the following standards will maximize the probability of detecting most of the abnormalities that occur in the scrotum.

Part I

STANDARDS FOR EQUIPMENT AND DOCUMENTATION

EQUIPMENT

Scrotal studies should be conducted with a real-time scanner, preferably using a linear or a curved linear transducer. The transducer or scanner should be adjusted to operate at the highest clinically appropriate frequency, realizing that there is a trade-off between resolution and beam penetration. With modern equipment, these frequencies usually are 5 MHz or greater. For pediatric applications, 7–10 MHz is preferable. Doppler frequencies used should be the highest possible to optimize resolution and flow detection. With modern equipment, Doppler frequencies range from 3.5–7 MHz. Stand-off pads can be used, if necessary, to improve imaging.

COMMENT: Resolution should be of sufficient quality to routinely differentiate small cystic from solid lesions.

DOCUMENTATION

Adequate documentation is essential for high-quality patient care. There should be a permanent record of the ultrasound examination and its interpretation. Images of all appropriate areas, both normal and abnormal, should be recorded in any image format. Variations from normal size should be accompanied by measurements. Images are to be labeled with the examination date, patient identification, and image orientation. A report of the ultrasound findings should be included in the patient's medical record, regardless of where the study is performed. Retention of the ultrasound examination should be consistent both with clinical need and with relevant legal and local health care facility requirements.

Part II

STANDARDS FOR THE SCROTAL EXAMINATION

The testes should be studied in at least two projections, long axis and transverse. Views of each testicle should include the superior, mid, and inferior portions, as well as its medial and lateral borders. The adjacent epididymis should be evaluated. The size and echogenicity of each testicle and epididymis should be compared to its opposite side, when possible. Scrotal skin thickness should be evaluated.

Blood flow in the testis and surrounding scrotal contents should be evaluated using color Doppler and pulsed Doppler where there is a question of torsion versus epididymitis in the clinical setting of the “acute scrotum.” The flow in the symptomatic scrotum should be compared with the nonsymptomatic side and variations from normal should be noted. Low flow detection settings should be used when needed to document testicular blood flow. Flow in intratesticular arteries cannot always be established with certainty by color Doppler sonography. If flow cannot be demonstrated in the asymptomatic testis, testicular scintigraphy should be considered to corroborate the presence or absence of testicular perfusion.

The contents of the scrotal sac should be examined for the detection of extratesticular masses, fluid collections, or other abnormalities. Measurements should be obtained when appropriate. Additional techniques such as the valsalva maneuver or upright positioning can be used as needed.

The following Standards also are available from the American Institute of Ultrasound in Medicine:

Standards for the Performance of the
Antepartum Obstetrical Ultrasound Examination
Ultrasound Examination of the Breast
Ultrasound Examination of the Female Pelvis
Ultrasound Examination of the Infant Brain
Ultrasound Examination of the Prostate (and Surrounding Structures)
Thyroid and Parathyroid Ultrasound Examination
Vascular/Doppler Ultrasound Examination

These Standards can be ordered by contacting the AIUM Publications Department, 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906. Phone: 301-498-4100. Fax: 301-498-4450.



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