

HOSPITAL PHYSICIAN®

EMERGENCY MEDICINE BOARD REVIEW MANUAL

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The *Hospital Physician Emergency Medicine Board Review Manual* is a peer-reviewed study guide for residents and practicing physicians preparing for board examinations in emergency medicine. Each manual reviews a topic essential to the current practice of emergency medicine.

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Scrotal Pain

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Scrotal Pain

Traci Thoureen, MD

INTRODUCTION

Scrotal pain is a relatively uncommon cause of presentation to the emergency department (ED), accounting for just 0.5% of total visits each year.¹ However, scrotal pain may indicate a true emergency. Red flags need to be recognized in these patients, and critical diagnoses or life-threatening conditions (**Table 1**) should be considered early in the course of evaluation so that patients may be rapidly assessed and managed. In addition, thorough evaluation of immunocompromised, diabetic, elderly, and young pediatric patients is necessary as these patients often have minimal clinical signs and symptoms despite the presence of serious scrotal conditions. This manual reviews the common differential diagnoses seen in the ED in patients who present with scrotal pain and the appropriate work-up, treatment, and disposition for these conditions.

GENERAL APPROACH

HISTORY AND PHYSICAL EXAMINATION

History and physical examination, in conjunction with ultrasonography (US), are the most useful tools for determining the diagnosis of scrotal pain. Patients should be asked about the onset and duration of scrotal pain. As always, patients (or their parents) should be asked about underlying medical conditions, relevant family history, and any previous treatment of scrotal pathology as this information may guide the evaluation (*see* "Special Considerations").

During the physical examination, particular attention must be paid to tenderness with palpation of the scrotum and testicles, discrepancies in size of the testicles, loss of testicular landmarks, or discoloration of the scrotal skin.² The inguinal canals should be examined as well for signs of fullness. The normal scrotum is relatively symmetrical, with both testicles of equal mass and volume. The normal testis is found in the vertical axis with a slight forward tilt, and the epididymis is above the superior pole in the posterolateral position.

Eliciting the cremasteric reflex is an essential part of the scrotal examination and is done by stroking or pinching the inner thigh and observing an elevation of the ipsilateral testicle. Note that this reflex may be altered in certain conditions, such as cryptorchidism and myelomeningocele, and may not be consistently present in infants and teenagers.³ Reassessment, including repeat scrotal examination, is indicated after any change in the patient's status, any new or worsening condition, or any therapeutic intervention.

DIAGNOSTIC STUDIES

Judicious use of laboratory and especially imaging studies is requisite in patients with scrotal pain. Younger adult patients who are able to provide a complete history and have few comorbidities may require fewer laboratory and imaging studies, whereas immunocompromised, elderly, diabetic and young pediatric patients often require a more liberal diagnostic work-up.

Laboratory studies may include complete blood count (CBC), metabolic panel, and urinalysis, but urinalysis is the only critical study to obtain. Urine culture and occasionally blood cultures should be ordered if an infectious etiology is suspected. Patients who may require surgical intervention should have blood sent for coagulation studies and type and screen. Patients with evidence of blood loss, anemia, an abdominal aortic aneurysm (AAA), or hemodynamic instability should have blood sent for type and crossmatch.

An electrocardiogram (ECG) should be ordered for all patients with acute scrotal pain thought to be an emergent diagnosis of referred pain (eg, AAA) or that is associated with upper abdominal pain for which a cardiac origin is suspected due to patient age (> 50 years), presence of cardiac risk factors, or presence of symptoms suggestive of cardiac events (ie, radiation of pain, diaphoresis, shortness of breath, exertional symptoms).

Color Doppler US is the imaging modality of choice for scrotal pathology to detect or rule out surgical emergencies, such as testicular torsion.⁴ It is also useful for detecting intraperitoneal fluid and the cross-sectional diameter of an AAA. US can also detect hydronephrosis, which is an indirect indicator of an obstructing ureteral calculus that may cause referred pain