

# IRISH ASSOCIATION FOR EMERGENCY MEDICINE



IAEM Clinical Guideline

## Testicular Torsion

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### DISCLAIMER

IAEM recognises that patients, their situations, Emergency Departments and staff all vary. These guidelines cannot cover all clinical scenarios. The ultimate responsibility for the interpretation and application of these guidelines, the use of current information and a patient's overall care and wellbeing resides with the treating clinician.

## GLOSSARY OF TERMS

ED	Emergency Department
UTI	Urinary Tract Infection
STI	Sexually Transmitted Infection
MSU	Mid-Stream Urine

# Testicular Torsion

## INTRODUCTION

Testicular Torsion is a serious event that occurs when a testicle rotates, twisting the spermatic cord that brings blood to the scrotum, causing ischaemia and potentially tissue necrosis and loss of viability.

Testicular Torsion can be difficult to diagnose, with a clear history and clinical examination essential, and requires acute and prompt management as it is a time-critical diagnosis.

## PARAMETERS

Target audience: This guideline is intended for use by clinicians involved in the assessment and management of patients presenting with a suspected testicular torsion.

Patient population: The target patient population is male patients presenting to adult and paediatric EDs with unilateral testicular pain which may represent a testicular torsion.

## AIMS

To provide an evidence-based guideline for the assessment and management of male patients presenting to the ED with unilateral testicular pain which may represent a testicular torsion.

## EPIDEMIOLOGY

Testicular pain is a common presenting complaint to the ED. Torsion occurs in 1/4000 under 25-year-olds.<sup>1</sup> It becomes less frequent at older ages, with very few cases above 40 years old. In the paediatric population, incidence peaks in the first year of life and in early adolescence.<sup>2</sup> Intervention for torsion is time-sensitive, with a 97% salvage rate in the first 6 hours, decreasing to 61.3% beyond 12 hours.<sup>3</sup>

## CLINICAL FEATURES

The classic signs and symptoms include:

- Acute unilateral testicular pain, often radiating to groin / abdomen / flank
- Scrotal erythema, oedema and swelling
- Absent cremasteric reflex
- Position: high, horizontal lie
- Nausea and vomiting

Generally, the presentation is that of acute onset pain in the testis in a young male, which is often quite severe, and the clinical history or exam is not convincing of infection. However, some awareness of an unusual presentation is required as there are patients who will present with **only some, or rarely none**, of these classic symptoms or signs. Some may have more gradual onset pain, intermittent pain or no pain. Swelling is a not a specific sign. The presence of the cremasteric reflex does not rule out torsion, as studies report sensitivities as low as 60%.<sup>4</sup> In the young male patient, new unilateral testicular pain in the absence of UTI, STI or trauma, should be considered a testicular torsion until proven otherwise.

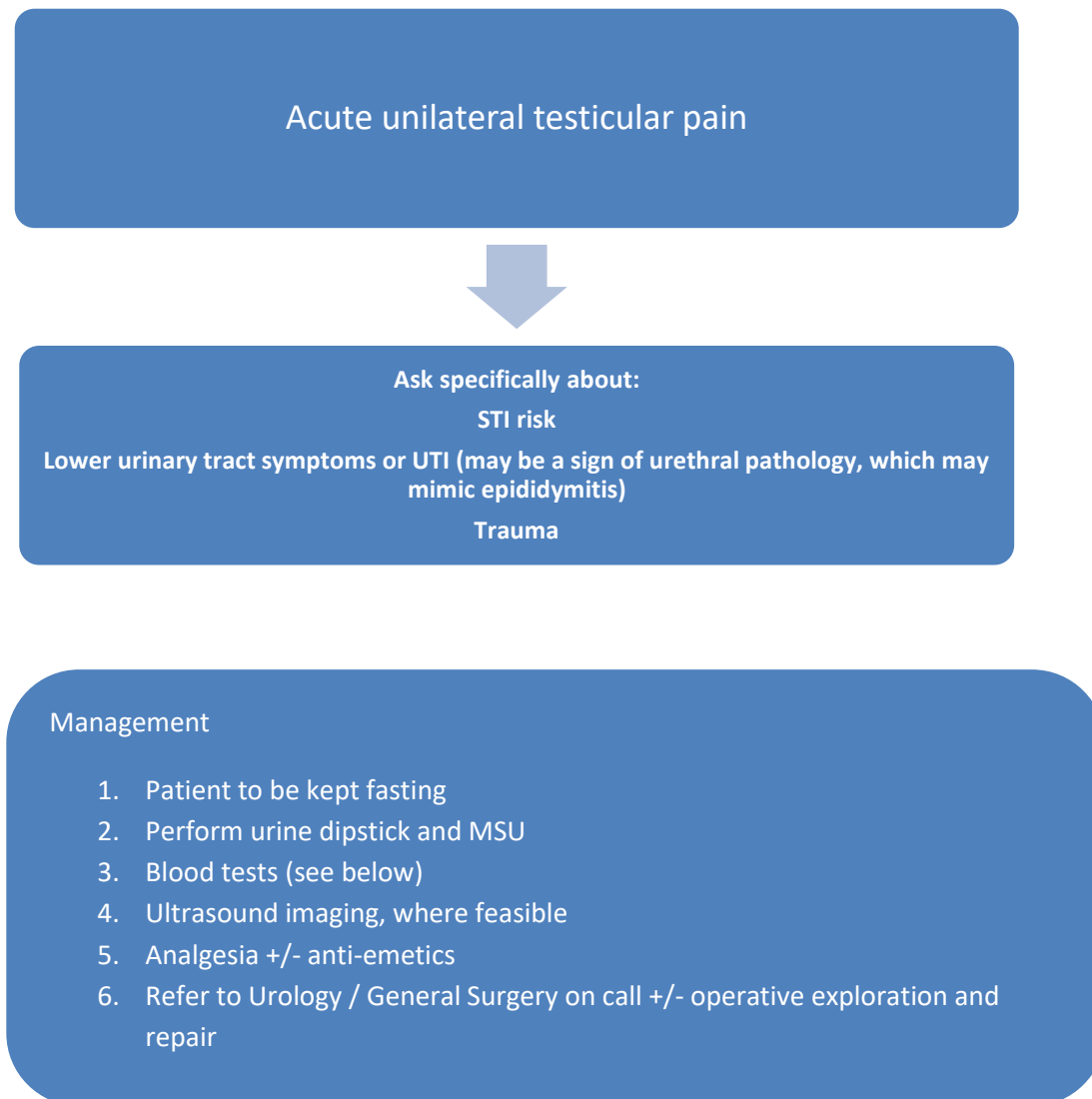
In the paediatric population, incidence peaks in the first year of life and in early adolescence.<sup>2</sup> Up to 20% of patients with testicular torsion can present with isolated lower abdominal pain, this is more common in paediatric cases.<sup>5</sup>

Pathologies that may mimic testicular torsion include testicular appendages, epididymo-orchitis, mumps orchitis, incarcerated strangulated hernia, hydrocele, acute appendicitis and many more.<sup>6</sup> As it is a time sensitive diagnosis that may present with non-specific clinical signs and multiple mimics, this can make it a clinically difficult diagnosis to make and prompt involvement of specialist care is required.

## MANAGEMENT

The suggested flow chart for management of Testicular Torsion is depicted in Figure 1.

*Figure 1: Management flow chart for Testicular torsion*



## Laboratory Testing

In patients presenting with unilateral testicular pain to the ED, the following blood tests may be beneficial for differential diagnosis and complications.

Laboratory tests	To detect sign of:
White blood cell count	Infection, inflammation
Platelets	Ensure at safe level pre-operatively
Creatinine	Renal outflow tract obstruction (referred pain)
C-reactive protein	Inflammatory response
Coagulation Studies	Only in anticoagulated patients or those with suspected bleeding conditions

Urine dipstick and MSU should also be performed to investigate for infection. Bloods are helpful for differential but *should not delay assessment* and definitive treatment by urology or general surgery.

## Imaging

**In patients where there is a high index of suspicion, urgent urological / general surgery consultation should not be delayed by diagnostic imaging.**

Ultrasound is more helpful in confirming an alternative diagnosis (e.g. epididymitis), where torsion is unlikely from history and examination. Ultrasound findings (in testicular torsion) include:

- an enlarged hyperaemic testicle,
- increased echogenicity,
- whirlpool sign (spiral like pattern of the spermatic cord)
- decreased doppler flow compared to contralateral side.

## Treatment

**Urgent referral to local Urology or General Surgery service for all suspected cases for potential operative exploration and repair is paramount.**

The procedure involves a small midline scrotal incision and intra-operative de-torsion and fixation of the testes. The procedure is considered both diagnostic and therapeutic. When there is a torsion, both sides are fixed, as 40% of patients who tort on one side will have some sort of anatomical predisposition to tort on the other side in the future (orchidopexy). Even if the diagnosis has been delayed, the scrotum should still be explored. If the testis is ischaemic and unsalvageable an orchidectomy may be performed. Whilst awaiting surgery, it is important to manage symptoms with analgesia and antiemetics.

## KEY POINTS

- Up to 20% of patient with testicular torsion can present with isolated lower abdominal pain, this is more common in paediatric cases.
- Amongst paediatric patients, testicular torsion is more common in the neonatal period than in the peri adolescent period
- Ultrasound sensitivity has been quoted at 88-100% with a specificity of 90%.
- Durations of symptoms should not guide urgency of management.
- In the young male patient, new and severe unilateral testicular pain in the absence of UTI, STI or trauma, should be considered a testicular torsion until proven otherwise.
- Failure to recognise and treat testicular torsion in a timely manner will lead to testicular loss.



## COMPANION DOCUMENTS

- [References](#)