

# IRISH ASSOCIATION FOR EMERGENCY MEDICINE



IAEM Clinical Guideline

## Management of Patients with Acute Epididymo-orchitis in the Emergency Department

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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.

## Revision History

Date	Version	Section	Summary of changes	Author
April 2021	V1.0	All	Final version	PC/RF/A-RP/ AMcC
August 2024	V1.1	All Front cover Contents	Updated formatting Added guideline referencing information Added table of contents	C. Briant C. Briant C. Briant

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## GLOSSARY OF TERMS

CRP	C-Reactive Protein
ED	Emergency Department
FBC	Full Blood Count
FPU	First Pass Urine
MSU	Midstream Urine
NAAT	Nucleic Acid Amplification Test
STI	Sexual Transmitted Infection
UTI	Urinary Tract Infection
U&E	Urea & Creatinine

# Management of Patients with Acute Epididymo-orchitis in the Emergency Department

## INTRODUCTION

Acute epididymo-orchitis is a clinical syndrome, characterised by pain, swelling and inflammation of the epididymis, testes and scrotal skin. This may result from infectious and non-infectious pathologies. The most common route of infection is local extension and is mainly due to infections spreading from the urethra (sexually transmitted pathogens) or the bladder (urinary pathogens).

## PARAMETERS

**Target audience** These guidelines have been developed for clinicians managing patients with acute epididymo-orchitis in the Emergency Department.

**Patient population** The target patient population is patients with acute epididymo-orchitis in the Emergency Department.

## AIM

To provide an updated and evidence-based guideline in the management of acute epididymo-orchitis, ensuring that appropriate testing is performed, and that antimicrobial prescribing is rationalised.

## COMMON PATHOGENS

The most common cause is due to pathogens spreading from the urethra or the bladder predominantly involving the pathogens *Chlamydia trachomatis*, Enterobacteriaceae (typically *Escherichia coli*) and *Neisseria gonorrhoeae*. Enteric organisms are associated with bacteriuria secondary to structural abnormalities of the urinary tract and with men who have insertive anal intercourse.

Rarer causes include *Mycoplasma genitalium*, mumps (prodromal viral illness, salivary gland enlargement), tuberculosis (endemic countries, immunodeficiency), *Brucella* and *Candida* species.

## ASSESSMENT

### Clinical features

Patients typically present with pain, swelling and inflammation of the epididymis +/- testes and scrotal skin. They may have associated symptoms suggestive of urethritis\* or urinary tract infection\*\*.

\*urethral discharge, dysuria, penile irritation

\*\* dysuria, frequency, urgency

Complications include reactive hydrocoele, abscess and stricture formation, infertility, testicular atrophy and infarction.

## History taking

- Onset
  - Insidious is suggestive of infection
  - Acute is suspicious of testicular torsion
- Pain
  - Usually unilateral scrotal pain
- Swelling
- Recent trauma
- Presence of urinary symptoms
- Sexual history (see table 1)
- Recent viral illness
  - May suggest mumps orchitis
- Thorough history and risk assessment is important in guiding antimicrobial choice based on most likely pathogen



Table 1. Guide to taking a sexual health history

History domain	History item
Symptoms	<ul style="list-style-type: none"> <li>• Symptoms review</li> <li>• Duration of symptoms</li> </ul>
Sexual history	<ul style="list-style-type: none"> <li>• Time since last sexual contact (LSC)</li> <li>• Time since previous sexual contact (PSC) (if within the last three months)</li> <li>• Number of sexual partners in last 3 months</li> <li>• The gender of partner(s)</li> <li>• The partnership type and whether the partner can be contacted</li> <li>• The type of sexual contact/sites of exposure</li> <li>• Condom use/barrier use</li> <li>• Any symptoms or any risk factors for blood-borne viruses in the partner</li> </ul>
Other components	<ul style="list-style-type: none"> <li>• The diagnosis of previous STIs and the approximate date of diagnosis</li> <li>• Past medical and surgical history, including urological history e.g. recurrent UTIs</li> <li>• Family history</li> <li>• Drug history and history and nature of allergies</li> <li>• Alcohol and recreational drug history</li> <li>• Smoking history</li> <li>• Identification of unmet need with regard to difficulties with sexual performance and satisfaction</li> <li>• Recognition of gender-based violence (GBV) or intimate partner violence (IPV)</li> </ul>

## EXAMINATION

- Enlarged, erythematous scrotum
- Tenderness of testis and epididymis
- Phren's sign positive – elevation of testicle relieves pain
- Epididymis may be thickened and enlarged in early stages
- Oedematous hemi-scrotum in late presentation

## INVESTIGATIONS

- **Urine dipstick test** – presence of leukocyte-esterase in FPU is suggestive of urethritis and lower UTI. Presence of nitrites and leukocyte-esterase is suggestive of UTI in men with urinary symptoms. These findings are not diagnostic but may guide decision making in antimicrobial choice.
- **Midstream urine** for microscopy and culture – for identification of urinary pathogens
- **First pass urine** or urethral swab for Nucleic Acid Amplification Test (NAAT) for *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. Ideally specimen should be taken after a 2 hour period of not passing urine. APTIMA collection kit should be used for this sample (See Appendix Two).
- **Urethral swab** if discharge present for culture if discharge is present – to identify *Neisseria gonorrhoeae* (blue top bacterial culture swab).
- **Serum blood sampling** for FBC, U&E, CRP
- **Ultrasonography** should be considered if the diagnosis is unclear or to exclude complications. **Urology on-call should be consulted** in conjunction with arranging an ultrasound scan.

## MANAGEMENT

### General measures

Patients should be educated on the diagnosis of acute epididymo-orchitis, its possible aetiology and the potential long-term complications.

Patients at risk of sexually-acquired epididymo-orchitis should be advised on sexual abstinence until antimicrobial treatment is completed. Partner notification should be strongly encouraged, particularly if *Chlamydia trachomatis* or *Neisseria gonorrhoeae* are confirmed.

Bed rest, scrotal support and analgesia with non-steroidal anti-inflammatories (if no contraindications) are recommended.

Urology should be consulted if there is:

- Scrotal abscess
- Systemic inflammatory response syndrome/ sepsis
- Scrotal cellulitis/ necrotising fasciitis (Fournier's gangrene)
- Failure to respond to oral antibiotics

Where mumps is suspected, patient should be managed with airborne precautions.

### Antimicrobial therapy

Patients with epididymo-orchitis should be treated with an empirical antimicrobial regimen based on results of immediate investigations, age, history and mostly likely underlying pathogenesis i.e. sexually-acquired or enteric organisms (refer to local antimicrobial guidance and/or HSE antibiotic prescribing guidelines for management of acute epididymo-orchitis)

<https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/conditions-and-treatments/genital/acute-epididymo-orchitis/acute-epididymo-orchitis.html>)

Previous urine culture results should be reviewed upon commencing antimicrobials in patients with history of UTI.

All patients should be referred back to local Genito-urinary medicine clinic or their GP to organise a comprehensive STI screen, including for blood borne viruses.

Sexually-acquired epididymo-orchitis should be considered more likely in patients:

- < 35 years
- > 1 sexual contact in 12 months or recent new partners
- Urethral discharge
- Men who have sex with men (MSM)
- Leucocytes only on urine dipstick

Uropathogen-associated epididymo-orchitis should be considered more likely in patient:

- > 35 years
- Low risk sexual history
- Previous instrumentation
  - e.g. catheterisation, recent vasectomy or history of UTI
- Leucocytes and nitrites on urine dipstick
- Symptoms of UTI
  - dysuria, frequency, urgency

## Follow-up

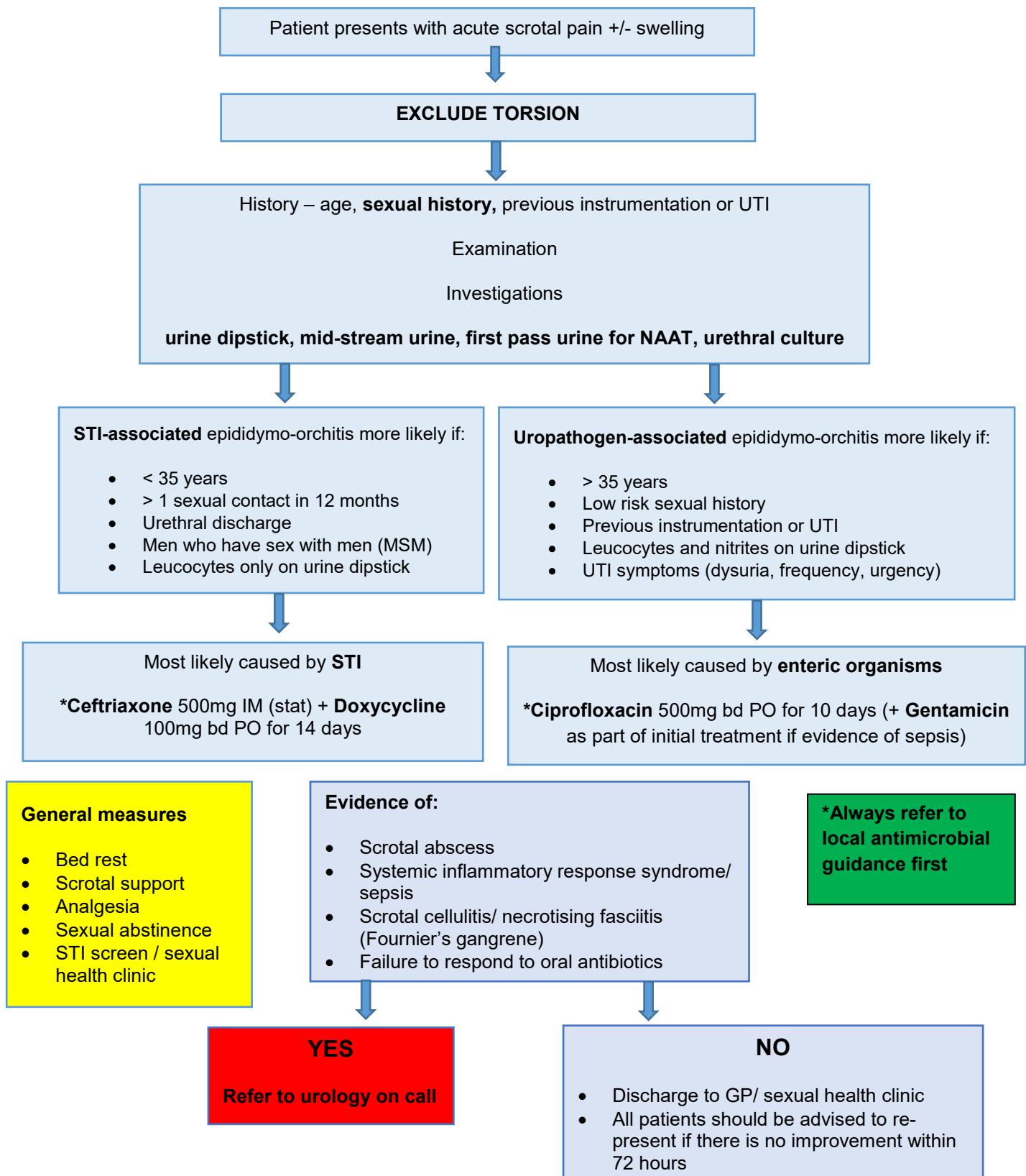
- Cultures should be reviewed at 48-72 hours to assess rationalisation of antimicrobial therapy and follow up with GP should be arranged within 3 days.
- Patients should be advised to re-present if there is no improvement within this timeframe to re-evaluate diagnosis, re-assess antimicrobial therapy and exclude other rarer causes such as infarction, malignancy, mumps, tuberculosis, *Brucella* and candida.
- All patients should follow up with their GP for urine culture results. Those with confirmed enteric organisms should be referred for further outpatient imaging to exclude lower urinary tract abnormalities.
- It is important to note that swelling and tenderness may persist after completion of antimicrobial therapy, taking up to 6-12 weeks to resolve.
- Where chlamydia or gonorrhoea have been diagnosed in patients with epididymo-orchitis, these infections should be notified. ([www.hpsc.ie/notifiablediseases/](http://www.hpsc.ie/notifiablediseases/))
- A test of cure should be arranged for all patients with confirmed *Chlamydia trachomatis* or *Neisseria gonorrhoeae*, facilitated by their GP or sexual health clinic.

## REFERENCES/BIBLIOGRAPHY

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## APPENDICES

### Appendix 1: Management of Epididymo-orchitis



## Appendix 2: APTIMA collection kit

