# Epididymo-Orchitis

# BASHH 2020 guidance

**1  Scope & Audience**

* Management of epididymo-orchitis (EO) in people ≥ 16 y presenting to UK level-3 STI services; principles are widely transferable.
* Developed with AGREE II framework, MEDLINE/Cochrane review (2009-2017) and public consultation; next update due ≤ 2025.

**2  What’s NEW in the 2020 guideline**

* Empirical therapy: ceftriaxone 1 g IM + doxycycline becomes first-line for presumed sexually-acquired EO (higher ceftriaxone dose mirrors 2018 gonorrhoea guideline).
* Enteric-risk regimens clarified: fluoroquinolone or amoxicillin/clavulanate options.
* BCG-related TB EO added; brucella serology advised for endemic-area cases.
* Imaging: colour duplex US cannot reliably exclude torsion; if clinical doubt → urgent exploration.
* Patient leaflet & a simplified clinical care pathway introduced.

**3  Aetiology & Risk Stratification**

| **Group** | **Likely pathogens** | **Notable risk factors** | **Key points** |
| --- | --- | --- | --- |
| < 35 y | C. trachomatis, N. gonorrhoeae | new/ multiple partners, MSM | treat as STI-related. |
| ≥ 35 y | Gram-negatives (e.g. coliforms) | UTI, catheter/instrumentation, prostate biopsy | investigate urinary tract. |
| Insertive anal sex (any age) | STI-associated enteric organisms | – | cover both STI & enteric. |
| Special causes | TB (incl. post-BCG), brucella, M. genitalium, Ureaplasma, mumps, Behçet, H-S purpura, amiodarone, vasculitides, schistosomiasis, PVL-S. aureus. | Travel, immunodef., drug history. | think widely if atypical / poor response. |

**4  Clinical Presentation**

* Symptoms: acute unilateral scrotal pain, swelling, erythema ± UTI/urethritis features.
* Torsion is the must-exclude emergency (sudden severe pain, high-riding testis, N+V).
* Disease-specific clues:

TB – subacute painless mass ± sinus; mumps – parotitis 7-10 d earlier; brucellosis – fever, night sweats.

* Complications: reactive hydrocoele, abscess, testicular infarction, infertility (esp. bilateral mumps).
* Abnormal urinary tracts (e.g. anorectal malformations) and neurogenic bladder dramatically raise risk of Gram-negative EO – always arrange urological imaging.

**5  Investigations (FRCPath favourite!)**

Bedside / clinic

* Urethral Gram stain: ≥ 5 PMNL/HPF = urethritis; intracellular GN diplococci = gonorrhoea.
* FPU dipstick: leucocyte esterase ± nitrite supports UTI/urethritis.

Laboratory

* FPU/urethral NAAT for C. trachomatis & N. gonorrhoeae; consider M. genitalium.
* MSU culture for uropathogens. Full STI screen incl. BBVs.
* Brucella serology (IgM/IgG) if from endemic region; consider AAFB culture/acid-fast bacilli tests, mumps serology/PCR when clinically indicated.

Imaging / further tests

* Colour duplex US when diagnosis unclear or to assess complications, not to rule out torsion in acute setting.
* Urgent surgical exploration if torsion cannot be excluded clinically.
* Urology evaluation (renal US/CT, cystoscopy) in confirmed UTI-related EO.
* Brucella serology, TB work-up as indicated.

**6  Management**

General measures

* Advise analgesia (NSAID), rest, scrotal support; abstain from sex until completion of therapy & partner management.
* Provide patient information leaflet.

Empirical antibiotic regimens

| **Scenario (start treatment at first visit)** | **Regimen & duration** | **Grade** |
| --- | --- | --- |
| Presumed STI-related | Ceftriaxone 1 g IM single + doxycycline 100 mg PO bd 10-14 d | 1A |
| Confirmed chlamydia / non-GC (gonorrhoea ruled out) | Doxy 100 mg bd 10-14 d or ofloxacin 200 mg bd 14 d | 1A |
| Likely enteric / urinary cause | Ofloxacin 200 mg bd 14 d or levofloxacin 500 mg od 10 d | 1A / 2C |
| Mixed STI + enteric risk (insertive anal sex) | Ceftriaxone 1 g IM single + ofloxacin 200 mg bd 10 d | 1A |
| Quinolone-contraindicated | Amoxicillin/clavulanate 625 mg tds 10 d | 1A |
| Severe / septic | Admit; IV cefuroxime 1.5 g tds ± gentamicin 3-5 d then oral step-down | – |
| Cephalosporin / tetracycline allergy | Ofloxacin 200 mg bd 14 d or ciprofloxacin 500 mg bd 7-10 d once | 1A |
| M. genitalium positive | Add moxifloxacin 400 mg od 14 d | 1D |

* Discuss EMA warnings: tendonitis / neurotoxicity with quinolones; stop drug at first sign.
* Steroids have no proven benefit in acute EO.

Partner notification & treatment

* Look-back: ≥ 4 w for chlamydia; ≥ 2 w (or last partner) for gonorrhoea.
* Partners: full STI testing and empiric cover for GC/CT if index positive.

Follow-up

* Review culture/NAAT results at 48-72 h; adjust therapy.
* Clinical review at 2 w (telephone ok if improving).
* No improvement by day 3 → reassess diagnosis, image for abscess/infarction.
* Swelling usually resolves > 80 % by 3 mo; persistent cases need ultrasound or surgical opinion; UTI-linked EO warrants urology referral.
* Test-of-cure for gonorrhoea: culture ≥ 72 h post-therapy or NAAT 1-2 w after.

**7  Exam-Focused Pearls**

* Always exclude torsion clinically before imaging; write “urgent scrotal exploration if doubt”.
* High-dose ceftriaxone (1 g) aligns with rising MICs in GC.
* Recognise non-infective mimics (Behçet, H-S purpura, amiodarone) – histology questions may appear.
* BCG-induced TB EO & brucella are classical viva differentials (think travel, intravesical therapy).
* Document auditable outcomes: correct investigations ≥ 90 %, guideline antibiotic ≥ 97 %.
* Infertility risk is mainly with bilateral mumps orchitis (testicular atrophy 30-50 %, subfertility 13 %).

Use this checklist in OSPE/viva:

1. Assess acute scrotum → rule out torsion → start empiric antibiotics immediately.
2. Send FPU NAAT ± MSU culture; full STI screen.
3. Risk-stratify (STI vs enteric vs mixed); choose correct regimen + safety-net on quinolone risks.
4. Advise analgesia, scrotal support, abstinence, partner testing.
5. Arrange 48-72 h review; TOR for GC; urology referral if uropathogen or poor response.

Good luck with your revision!