

# Empiric management of Urethritis, Prostatitis and Epididymo-orchitis



Urethritis, prostatitis and epididymo-orchitis may be caused by sexually transmitted bacterial pathogens, *Enterobacterales* or rarely, by chronic bacterial (eg. Brucella, mycobacteria) or fungal organisms. Etiologies and treatment considerations are generally based on patient age and risk factors. If not appropriately treated, complications such as abscess formation and sepsis can occur.

## Clinical manifestation and recommended diagnostic workup

	Signs and symptoms	Common etiologies	Recommended Microbiological workup
<b>Urethritis</b>	Mucopurulent or purulent urethral discharge, urethral discomfort, Dysuria, erythema around the external urethral meatus	<i>C. trachomatis</i> (CT), <i>N. gonorrhoeae</i> (NG), <i>M. genitalium</i>	Urine for NG/CT by PCR +/- mycoplasma testing <sup>3</sup>
<b>Acute Prostatitis</b>	Onset of symptoms < 2 weeks: Pelvic or perineal pain, irritative UTI symptoms, retention, and systemic symptoms (Fever, chills) Prostate tenderness on examination (DRE)	Age < 35: <i>C. trachomatis</i> , <i>N. gonorrhoeae</i> , <i>M. genitalium</i>  Age > 35: <i>Enterobacterales</i> (50-80%), <i>Enterococcus spp</i> (5-10%), <i>Pseudomonas</i> (<5%)	Mid-stream urine culture Blood cultures x 2 If sexually active, add urine NG/CT PCR
<b>Chronic Prostatitis</b>	Recurrent UTI symptoms or pain (ejaculatory, perineum, scrotum, penis, inner leg) > 3 months <sup>1</sup> , Prostate exam may be “normal” (non-tender)	<i>Enterobacterales</i> (80%), <i>Enterococcus sp</i> (15%), <i>Pseudomonas sp.</i>	Urine for NG/CT PCR and for bacterial culture, consider testing for TB and <i>Mycoplasma genitalium</i> (post-prostate massage) EPS culture
<b>Epididymo-orchitis</b>	Progressive testicular pain (usually unilateral) <sup>2</sup> , urethral discharge, Erythema or swelling of the scrotum on the affected side, Hydrocele, Fever, testicular or epididymal tenderness.	Age < 35: <i>C. trachomatis</i> , <i>N. gonorrhoeae</i>  Age > 35: <i>Enterobacterales</i> ; (rarely Mumps, <i>M. tuberculosis</i> , fungal, <i>Burkholderia</i> , .. )	Urethral discharge swab and urine for NG/CT by PCR Blood culture x 2

<sup>1</sup> Recurrent UTI symptoms with the same pathogen may occur despite multiple courses of antibiotics.

<sup>2</sup> Consider testicular torsion, particularly in those under 20 years old, in case of acute pain. If untreated, pain can progress bilaterally.

<sup>3</sup> if negative GC/CT and suspicion of STI, evaluate for other etiologies including: *Mycoplasma genitalium*, *Trichomonas vaginalis*, Herpes simplex

## PHARMACOLOGICAL MANAGEMENT

<b>Urethritis*</b>	<p>Ceftriaxone<sup>1</sup> 500 mg IM/IV x1 dose <b>AND</b>                  Doxycycline 100 mg PO BID x 7 days</p> <p style="text-align: center;"><b>*Screen and treat the sexual partner (last 60 days) for the STI*</b></p> <p><b>Severe hypersensitivity reaction to <math>\beta</math>-lactam or specific allergy to ceftriaxone</b>                  Gentamicin 240 mg IM x1 AND Azithromycin 2 g PO x1</p>
<b>Acute Prostatitis</b>	<p><b>Age &lt;35 y:</b>                  Ceftriaxone<sup>1</sup> 500 mg IM/IV x1 dose + Doxycycline 100 mg BID x10 days</p> <p><b>Age &gt; 35:</b>                  TMP/SMX DS 1 co BID-x 10-14 days <sup>2</sup> to be adjusted with cultures and susceptibilities result - Do not treat with single dose antibiotic</p>
<b>Chronic Prostatitis</b>	<p>No empiric management – base therapy on etiologic agent identified</p>
<b>Epididymo-orchitis</b>	<p><b>Hemodynamically stable</b>                  Ceftriaxone<sup>3</sup> 2g IV q24h (total duration 10-14 days)</p> <p><b>Hemodynamically unstable</b>                  Piperacillin-tazobactam<sup>3</sup> 4.5g IV q8h (extended infusion over 4h)</p> <p><b>If Risk of STI: ADD doxycycline 100mg po BID x 10-14 days</b></p>

\*If a pathogen is identified, consult pathogen directed guidelines for more information.

<sup>1</sup>If weight > 150 kg, give ceftriaxone 1 g IM/IV x1

<sup>2</sup>May need longer treatment if persistent symptoms; reassess duration of antibiotics based on clinical improvement

<sup>3</sup>Consider a PO switch according to the etiology when patient hemodynamically stable and afebrile for more than 48 hrs

### Follow up

A test of cure is recommended for all patients with gonorrhoea 3 weeks after completion of treatment. If recurrent or persistent symptoms after 5 to 7 days of treatment, **consult ID.**

### REFERENCES

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