

## SCOPE OF PRACTICE

### TARGET POPULATION

- Male clients presenting with urethral and or urinary symptoms
- Male clients who present as asymptomatic with subsequent discovery of urethral signs on clinical examination

### EXCLUSION CRITERIA

- Clients with ongoing urological issues
- Clients presenting with persistent symptoms post treatment

## GUIDELINE OBJECTIVES AND ANTICIPATED OUTCOMES

- Determine cause of symptoms and identify probable aetiology, diagnosis and differential diagnoses
- Provide treatment for clients with a confirmed diagnosed infection or presumptive treatment for symptomatic clients
- Identification of individual STI risk and provision of appropriate screening
- Identify public health risks to control infections by:
  - Provision of STI education and information
  - Identification and exploration of sexual risk taking behaviours
  - Partner notification and treatment
  - Test of reinfection/test of cure where appropriate
  - Monitoring antimicrobial resistance

## BACKGROUND

### CONDITION DESCRIPTION

Urethritis is one of the most common STI symptoms seen in men.<sup>1</sup> Urethritis is described as an inflammatory response in the male urethra to an infective agent which may be bacterial or viral.<sup>2,3</sup> Urethritis is usually described as gonococcal urethritis (NG) or non-gonococcal urethritis (NGU) or non specific urethritis (NSU)<sup>2,4</sup>

Urethritis is defined as a cluster of symptoms that can include one or more of the following,<sup>1,2,3</sup>

- Urethral discharge (non physiological clear, white, yellow or green exudate)
- Dysuria (pain when urinating)
- Urethral irritation or burning

Symptoms may also be described in terms of duration;<sup>4</sup>

- Acute < 2 week duration
- Persistent > 2 weeks after treatment with antibiotics
- Recurrent - symptoms occurs less than one month after treatment

Common STI Causes	Uncommon STI Causes
<ul style="list-style-type: none"> <li>• Neisseria gonorrhoeae (GC)</li> <li>• Chlamydia trachomatis (CT)</li> <li>• Mycoplasma genitalium (MG)</li> </ul>	<ul style="list-style-type: none"> <li>• Herpes Simplex Virus 1 and 2</li> <li>• Trichomonas vaginalis</li> <li>• Adenovirus</li> <li>• Ureaplasma urealyticum</li> <li>• Streptococcus</li> <li>• Haemophilus vaginalis</li> </ul>
Non STI Causes	
<ul style="list-style-type: none"> <li>• Neisseria meningitis</li> <li>• Chemical irritation</li> <li>• Urinary tract infection</li> <li>• No identifiable organism</li> <li>• Ureaplasma parvum</li> </ul>	

Table M1.1: Causes of urethritis in men <sup>3,4,5</sup>

### EPIDEMIOLOGY

- The incidence of urethral Chlamydia infection is high in both heterosexually and homosexually active men
- Gonococcal urethral infection is seen mostly in men who; <sup>2,3,4,5</sup>
  - report sexual encounters in an high risk country
  - have sex with other men
  - have sex with unregulated sex workers
- Co infection of more than one STI is common in urethritis <sup>5</sup>

### GONOCOCCAL URETHRITIS

Urethral gram stain enables detection of intracellular and extracellular Gram-negative diplococci which is indicative of gonococcal infection

### NON-GONOCOCCAL URETHRITIS

Chlamydia trachomatis is the most common cause of urethritis followed by Mycoplasma genitalium.<sup>1</sup> Herpes Simplex Virus (1 and 2), Trichomonas vaginalis and adenoviruses are uncommon causes of urethritis.<sup>4</sup>

### SEQUELAE

The majority of cases resolve with antibiotic treatment. Clients who do not receive treatment generally experience spontaneous resolution of infection.<sup>2</sup> Epididymitis can occur in up to 2% of cases and conjunctivitis occasionally occurs.<sup>5</sup> Antibiotic use has reduced the sequelae of untreated urethritis which may include;<sup>1,2,4</sup>

- Invasive infection
- Urethral strictures
- Epididymitis
- Disseminated gonococcal infection
- Infertility in men
- Reiter's syndrome in predisposed individuals

	<b>GONORRHOEA</b>	<b>CHLAMYDIA</b>	<b>MYCOPLASMA GENITALIUM</b>	<b>ADENOVIRUS</b>	<b>HSV 1 AND 2</b>
<b>Aetiological agent</b>	Neisseria gonorrhoeae	C.trachomatis	Mycoplasma Genitalium	Adenovirus	Herpes Simplex Virus Type 1 or 2
<b>Incubation period</b>	2-5 days	1-21 days	1-21 days	unknown	5-10 days
<b>Symptoms</b>	Purulent discharge and dysuria	Mucoid watery or mucopurulent discharge dysuria Often asymptomatic	Mucoid watery or mucopurulent discharge dysuria	Severe discharge dysuria with conjunctivitis	Ulcer, severe discharge and dysuria
<b>Investigations</b>	Th/An/Ur Culture	FPU NAAT	FPU PCR	Ur swab PCR	Ur swab PCR
<b>Treatment</b>	Ceftriaxone 250mg	Azithromycin 1mg	Azithromycin 1mg or 400mg of Moxifloxacin for 10 days	No effective treatment	Antiviral medication Famciclovir 125mg bd 5/7
<b>Review</b>	Review if symptomatic	No TOC required Review if symptomatic	TOC 1 month post treatment Review if symptomatic	Symptoms usually resolve within 2-3 weeks Review if symptomatic	Refer to GP for ongoing management
<b>Follow up</b>	TOC only if sensitivities show resistance to treatment drug	3 month test of re-infection	If symptoms persist and re-infection is not likely consider treatment failure MO review	Nil follow up required	Refer to GP for ongoing management
<b>Referral</b>	Persistent symptoms or resistance to treatment MO review	Persistent symptoms >3 weeks post treatment MO review	Persistent symptoms MO review	Persistent symptoms despite treatment MO review	Persistent symptoms despite treatment MO review
<b>Contact tracing</b>	All contacts should be traced and treated 4-8 weeks pre onset of symptoms	All contacts should be traced and treated 4-8 weeks pre onset of symptoms	All contacts should be traced and treated 4-8 weeks pre onset of symptoms	Nil contact tracing required	Nil contact tracing required

Table M1.2: Common causes of urethritis in men <sup>1,2,3,4,5,</sup>

## INVESTIGATIONS AND DIAGNOSIS

Laboratory testing is required to confirm the diagnosis and to identify the infecting organism. Men presenting with urethritis require; <sup>7,8,9,10</sup>

- Urethral gram stain
- Gonococcal culture
- NAAT for Chlamydia and MG
- MSU if required (FVU and MCS)

### URETHRAL GRAM STAIN

A smear of secretion or discharge is prepared and Gram stained. A typical positive gram-stained smear of urethral discharge usually shows a large number of characteristic kidney shaped Gram-negative diplococci (GNDC). This enables presumptive diagnosis at point of presentation. <sup>9,10</sup>

- Gram stain urethral smears from symptomatic men sensitivity 83%-96% and specificity from 95% to 99%. <sup>2,6</sup>
- Gram stain cervical smears sensitivity ranges from 23% to 65% sensitivity and 88%-100% specificity. <sup>2,6</sup>
- PCR is available for specific circumstances (e.g. Recent antibiotic use)
- Culture for *N. gonorrhoeae*

### PCR URINE TEST

- Strand Displacement Amplification (SDA) and Polymerase Chain Reaction (PCR) can be used for urethral and urine samples. (SDA; sensitivity>90%, specificity 99%). <sup>9,10</sup>
- First void urine; samples should be taken 5-7 days post potential time of acquirement of infection. <sup>3,4,9</sup>
- Patients should refrain from voiding for 1 hour before sampling
- Male urethral exudate >5 PMN's/oif in the absence of GNDC may have predictive value <sup>10</sup>

### TARGETED TESTING

Targeted testing for urethral infections <sup>7</sup>

- Trichomoniasis culture
- Adenoviruses PCR (swab)
- Herpes simplex PCR (swab)

## TREATMENT AND MANAGEMENT

### TREATMENT INDICATORS

- Clinical diagnosis based on sexual history and examination findings
- Laboratory confirmed diagnosis (Chlamydia/gonorrhoea/MG)
- Contacts of infection

### TREATMENT: GONOCOCCAL URETHRITIS <sup>9</sup>

- **Ceftriaxone 250mg IM**

For Gonococcal urethritis refer to Clinical management of uncomplicated Gonococcal infection (CPG C2)

### TREATMENT: NON-GONOCOCCAL URETHRITIS <sup>7,10</sup>

- **Azithromycin 1gm single dose**

For Chlamydia urethritis refer to Clinical management of uncomplicated Chlamydia infection (CPG C1)

For Trichomonas urethritis refer to Clinical management of uncomplicated Trichomonas infection (CPG C3)

For Mycoplasma genitalium refer to Clinical management of uncomplicated Mycoplasma genitalium infection (CPG C6)

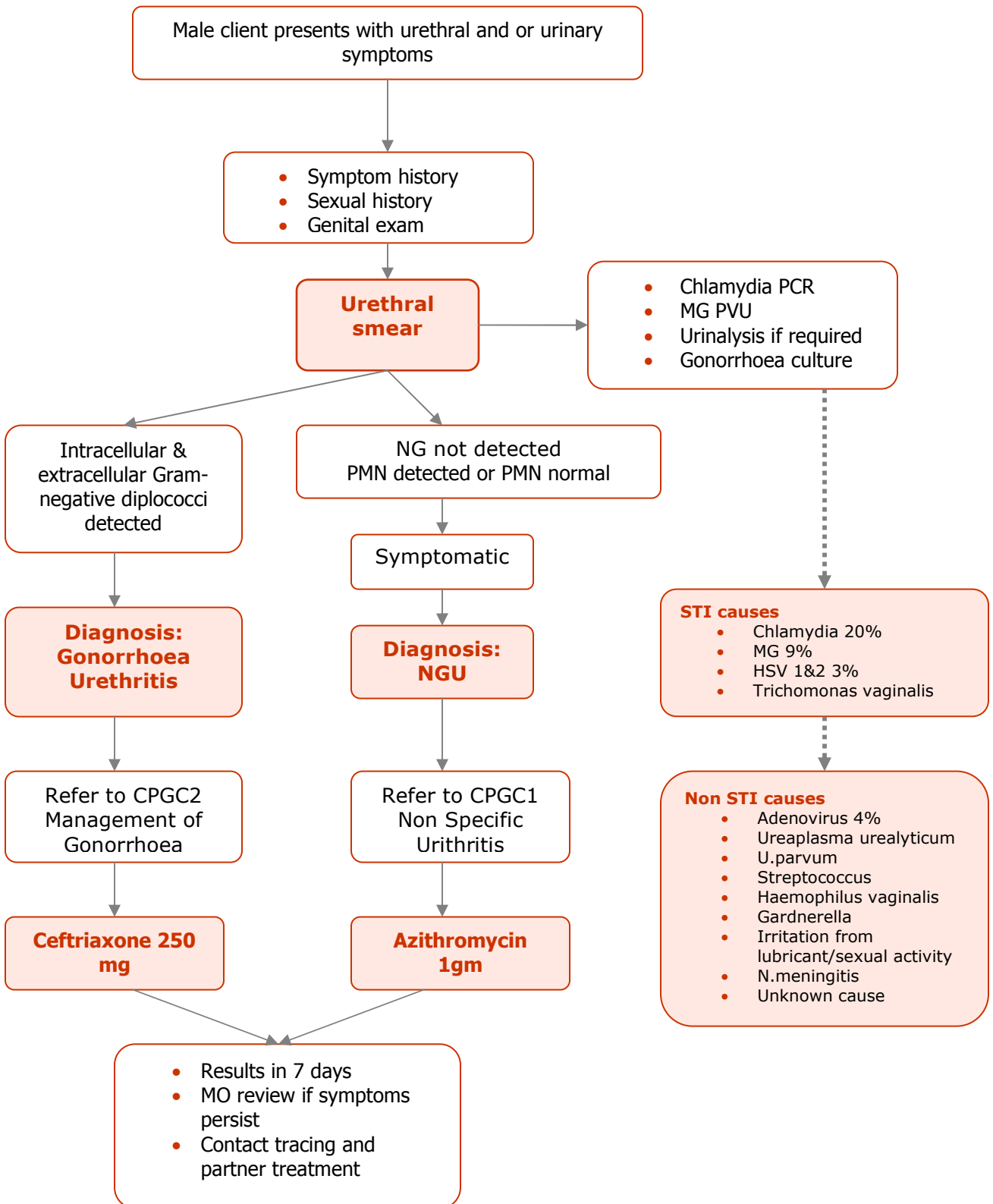
**MANAGEMENT** <sup>7,8,9,10</sup>

- Refer to individual CPGs for management of Chlamydia, MG, Gonorrhoea
- MO review if symptoms persist post treatment
- Protected sex is recommended for a minimum of seven days following treatment and until all sexual contacts are treated.

**PUBLIC HEALTH CONSIDERATIONS-FOLLOW UP AND REVIEW**

- Clients are advised to contact trace all sexual contacts for past 6 months.
- Reinfection of Chlamydia is common and a test of re-infection is advised at three months
- A test of cure is required if the organisms were resistant to the prescribed antibiotic
- All clients with positive results will undergo follow up according to MSHC follow up procedures including recall for treatment and results, serological monitoring, test of re-infection, test of cure, Department of Human Services (DHS) notification and surveillance forms, partner notification and assistance in contact tracing.

## CLINICAL ALGORITHM



## REFERENCES

1. Bradford D. Urethral symptoms in males. In: Russell D, Bradford D, and Fairley C, editors. *Sexual health medicine*. Melbourne: IP Communications; 2005. p. 59-71.
2. Denham I, Bowden F. Genital and sexually transmitted infections. In: Yung A, McDonald M, Spelmen D, Street A, Johnson P, Sorrell T, McCormack J, editors. *Infectious diseases a clinical approach*. 2nd ed. Melbourne: IP Communications; 2005. p. 372-387.
3. McMillan A, Ballard R C. Non specific genital tract infection and chlamydia infection, including lymphogranuloma venereum. In: McMillan A, Young H, Ogilvie M M, Scott G R, editors. *Clinical practice in sexually transmissible infections*. London: Saunders; 2002. p. 281-312.
4. Martin DH, Bowie WR. Urethritis in males. In: Holmes K K, Sparling P F, Mardh P A, Lemon S M, Stamm W E, et al, editors. *Sexually transmitted diseases*. 3rd ed. New York: McGraw Hill; 1999. p. 833-845.
5. Venereology Society of Victoria. *National management guidelines for sexually transmissible infections*. Melbourne: Venereology Society of Victoria; 2002.
6. Marrazzo J, Ocbamichael N, Meegan A, Stamm WE, editors. *The practitioners handbook for the management of STD's*. 4th ed. Washington: University of Washington; 2007.
7. Melbourne Sexual Health Centre. *Treatment guidelines: urethritis in men*. Melbourne: Bayside Health; 2005.
8. Melbourne Sexual Health Centre. *Treatment guidelines: mycoplasma genitalium*. Melbourne: Bayside Health; 2005.
9. Melbourne Sexual Health Centre. *Treatment guidelines: gonococcal infections*. Melbourne: Bayside Health; 2005.
10. Melbourne Sexual Health Centre. *Treatment guidelines: chlamydia*. Melbourne: Bayside Health; 2005.
11. Queensland Health. *Queensland clinical practice guidelines for advanced sexual and reproductive health nursing officers*. Public Health Service Branch. Queensland Government. 2007.