

## 4. Clinical management of gonorrhoea and partner notifications

The symptoms, complications, investigations, treatment and partner notification advice for cases of gonorrhoea in men and women and of gonococcal conjunctivitis in neonates is outlined in Table 6. In primary care, testing is advised for those who are symptomatic, contacts of cases and those at high risk (e.g. MSM, sex workers, sexual contact abroad or sex with someone from abroad, those who change partners frequently). It is recommended that, in all cases for whom treatment is being prescribed, specimens for culture are taken prior to treatment. The management of gonococcal conjunctivitis in adults and in neonates is outlined in more detail in Appendix 6.

### 4.1 Uncomplicated anogenital and pharyngeal gonorrhoea

Single-dose therapy is the recommended treatment for gonococcal infections, to ensure compliance. Treatment of uncomplicated anogenital and pharyngeal gonorrhoea in adults including in those with cephalosporin allergy is outlined in Table 7.

Patient follow-up after treatment with the recommended therapeutic regimen is also recommended as it is essential to confirm resolution of symptoms, to exclude the possibility of reinfection and to pursue partner notification (PN) (see Section 4.3). Test of Cure (ToC) is the retesting for gonorrhoea from the site of initial infection to determine whether the patient has been cured following treatment. All patients should have a ToC taken from the site of initial gonococcus positive after completion of antibiotics.

If asymptomatic, NAAT should be taken two weeks after completion of therapy, followed by culture if NAAT is positive.

For those with persistent symptoms or signs, testing using culture should be performed at least 72 hours after therapy. Additional testing with NAAT for increased sensitivity can be considered one week after ToC, if culture is negative.

Table 6 Symptoms, complications, investigations, treatment and partner notification advice for cases of gonorrhoea

	Symptoms	Specimen collection	Complications	Partner notification	Treatment	Further investigation
<b>Men</b>	<b>Urethral infection</b>	Urethral discharge and/or dysuria, starting within 2-5 days of exposure	Epididymo-orchitis (uncommon)	Symptomatic urethral infection: all partners in past two weeks or last partner, if longer	Uncomplicated anogenital/pharyngeal infection in adults*:  Indications: 1. Empirical treatment of those with symptoms/signs highly suggestive of gonococcal infection (have tests at same time) 2. Positive diagnostic test 3. Recent sexual partner with confirmed infection (individual assessment)	Where feasible take culture and NAAT from all patients presenting with symptoms/signs of gonorrhoea before treating empirically
		First pass urine preferred sample for NAAT  Urethral swab for microscopy and culture where feasible				
	<b>Rectal and pharyngeal infection</b>	Rectal and pharyngeal swabs for NAAT as determined by sexual history/symptoms	Prostatitis (uncommon)	Infections at other sites: all partners in past three months	1. Empirical treatment of those with symptoms/signs highly suggestive of gonococcal infection (have tests at same time) 2. Positive diagnostic test 3. Recent sexual partner with confirmed infection (individual assessment)	Where feasible, culture all NAAT positive cases before treatment
		Often asymptomatic	Disseminated gonococcal infection (uncommon)	Asymptomatic infections: all partners in past three months		
<b>Women</b>	<b>Conjunctival infection</b>	Red eye, swelling and exudate	Rupture of the globe and blindness (uncommon)  Disseminated gonococcal infection (uncommon)	Test mother for chlamydia and gonorrhoea	Ceftriaxone 500mg IM, single dose  PLUS  Azithromycin 1g orally, single dose	All treated cases should have a test of cure (ToC).  If asymptomatic, NAAT from site initial positive result two weeks after treatment.
		Swab from lower eyelid after removal of excess exudates for NAAT and culture (where feasible)				
	<b>Endocervical infection</b>	Often asymptomatic (up to 50%), may present as abnormal vaginal discharge	Pelvic inflammatory disease (PID) (may occur in 10-20% of women with endocervical gonorrhoea and may be asymptomatic)	All partners in past three months	See Appendix 6 for treatment of adult gonococcal conjunctivitis	If symptoms or signs persisting, culture, at least 72 hours after completion of treatment. Supplementary NAAT for increased sensitivity can be considered after one week if culture is negative.
		Rarely, intermenstrual bleeding or postcoital bleeding				
<b>Rectal and pharyngeal infection</b>	Endocervical swab for culture	Disseminated gonococcal infection (uncommon)	See Table 7 for alternative regimens	See Appendix 6 for treatment of adult gonococcal conjunctivitis	Full STI screen including hepatitis B (and A and C where indicated), syphilis and HIV	
	Urine <b>NOT</b> optimal specimen type for women					
<b>Neonates</b>	<b>Conjunctival infection (as per men above)</b>	Rectal and pharyngeal swabs for NAAT as determined by sexual history/symptoms	Rupture of the globe and blindness (uncommon)  Disseminated gonococcal infection (uncommon)	Test mother for chlamydia and gonorrhoea	See Appendix 6	Vaccination of MSM against hepatitis A and B
		Often asymptomatic				
		Where symptomatic or a contact take culture at same time				

**Table 7 Treatment of uncomplicated anogenital and pharyngeal gonorrhoea in adults, including those with cephalosporin allergy**

Uncomplicated anogenital and pharyngeal gonorrhoea in adults  (1st line for cervical, pharyngeal, rectal and urethral gonorrhoea)	Uncomplicated anogenital gonorrhoea in adults with cephalosporin allergy*  OR  Previous immediate and/or severe hypersensitivity to penicillin or other $\beta$ -lactam*	Pharyngeal gonorrhoea <sup>†</sup> in adults with cephalosporin allergy*  OR  Previous immediate and/or severe hypersensitivity to penicillin or other $\beta$ -lactam*
Ceftriaxone 500mg IM stat <b>and</b>  Azithromycin 1g PO stat	Ciprofloxacin 500mg PO stat (when known to be sensitive to quinolones)  OR  Spectinomycin 2g deep IM stat  OR  Azithromycin 2g PO stat (when known to be susceptible to azithromycin).	Ciprofloxacin 500mg PO stat <sup>‡</sup> (when known to be sensitive to quinolones)  OR  Azithromycin 2g PO stat (when known to be susceptible to azithromycin)

\*This should be administered in a specialist setting and, if not feasible, only following specialist advice, especially where the sensitivity of the isolate is not known and a symptomatic person is being treated empirically.

<sup>†</sup> Single dose treatment with Spectinomycin has poor efficacy in treatment of gonococcal infection of the pharynx

<sup>‡</sup> In practice additional doses of Ciprofloxacin are generally given in this situation because of poor penetration of Ciprofloxacin into the pharynx

## 4.2 Cephalosporin treatment failure

Cases who present with:

- persistent genital discharge following treatment with a recommended cephalosporin regimen OR
- who are asymptomatic with a positive test-of-cure (Gram stain, culture or NAATs) following treatment with a recommended cephalosporin regimen

AND

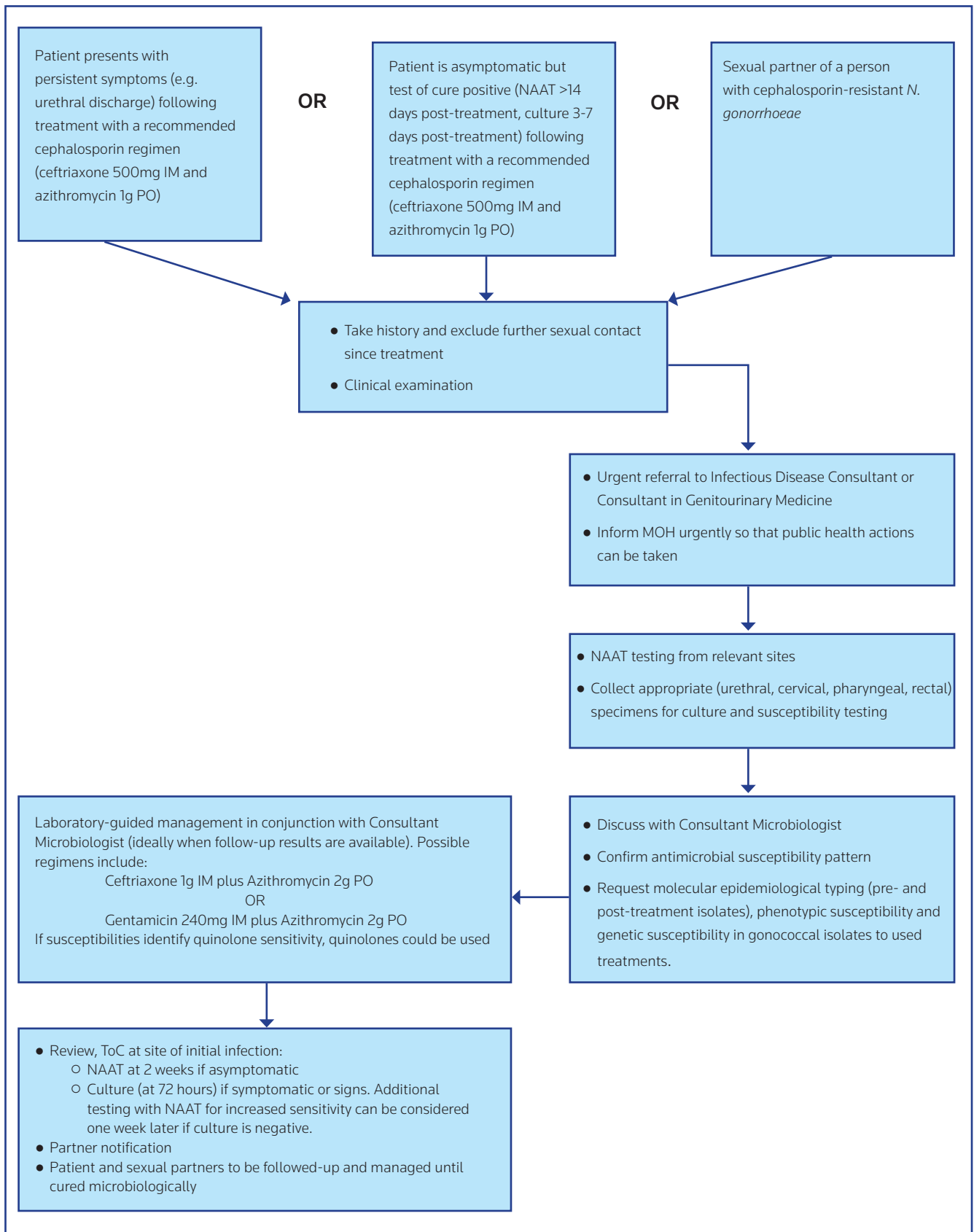
- have had sexual contact since treatment outruled.

should be referred urgently to an Infectious Diseases Consultant or Consultant in Genitourinary Medicine for management (Figure 5). The case should also be notified by phone to the MOH. Liaise with Consultant Microbiologist about specimens required for further appropriate analysis. Further treatment options will be guided by available susceptibility data on the isolate. Possible treatment regimens include higher dose ceftriaxone, e.g. 1g IM and azithromycin 2g PO, or gentamicin 240mg IM and azithromycin 2g PO. Quinolones, e.g. ciprofloxacin 500 mg PO may be appropriate, depending on sensitivity testing results.

For cases of treatment failure, effective partner notification, treatment and ToC for all identified partners are key priorities. All sexual partners of those with cephalosporin treatment failure should be referred to an Infectious Disease Consultant or Consultant in Genitourinary Medicine.

## 4.3 HL-AziR gonorrhoea cases

At present, the management of known HL-AziR cases and their sexual contacts is not different from the management of uncomplicated cases. HL-AziR gonorrhoea will be subject to enhanced epidemiological surveillance. As of September 2016, enhanced epidemiological surveillance forms and mechanisms to gather and collate information to monitor HL-AziR gonorrhoea cases are in development. Cases of known HL-AziR gonorrhoea where cephalosporin treatment is not possible (either because of unavailability of resources to administer IM ceftriaxone or because of patient allergy to ceftriaxone) should be referred to an Infectious Diseases Consultant or a Consultant in Genitourinary Medicine.

**Figure 5 Flowchart for the management of cephalosporin treatment failure for urogenital and pharyngeal infections in symptomatic and asymptomatic patients.**

#### 4.4 Partner Notification (PN)

PN, previously known as contact tracing, plays an integral role in the reduction of transmission of gonorrhoea and prevention of reinfection [56]. PN facilitates provision of health care to sexual contacts who may be at risk from an index case and can provide valuable information in understanding the disease transmission patterns in a community and in identifying sexual networks.

PN should be undertaken in all partners with gonococcal infection. International guidelines recommend the following [57]:

- Male patients with symptomatic urethral infection should notify all sexual partners within the preceding two weeks or their last partner, if longer.
- Those with asymptomatic urethral infection or infections at other sites and females should notify all partners from within the preceding three months.

Sexual partners should be offered NAAT testing. An individual assessment may be made as to whether immediate (epidemiological) treatment should be offered or to await NAAT results. Assessment should include standard of English, level of understanding and likelihood of compliance with abstinence, retesting and return for treatment. If the last contact was less than 14 days the NAAT should be repeated 14 days after exposure [56].

PN should be undertaken, ideally, by health advisors with specific expertise. It may be patient or provider delivered. Patients often prefer to notify partners themselves [58, 59] while provider delivery has resource implications. The index case is reviewed by the health advisor and contacts are identified. A record of contacts and outcomes should be maintained. In some cases, contacts will be untraceable and this should be recorded. Follow-up is by telephone. An individual assessment should be made in each case where partners have not been notified as to what further action, if any, is required. Increasing numbers of gonorrhoea cases are managed in primary care or other non-specialist settings which may not have access to health advisors. The role of alternative PN methods such as electronic notification using secure and confidential systems need to be assessed, in conjunction with the provision of community based health advisors. Such electronic systems currently require further evaluation and validation [60].

## Recommendations

- All cases of gonorrhoea should be managed by suitably qualified clinicians according to current national guidelines.
- Where a clinician diagnosing a case of gonorrhoea does not have the required resources to manage the case appropriately the clinician should refer the case to a specialised STI service that is resourced to provide the required services, including partner notification.
- A process for quality assurance of STI services should be established.
- Resources should be in place to ensure that there is clinical capacity for timely STI testing for those who need it.
- In primary care, testing is advised for those who are symptomatic, those at high risk e.g. MSM, sex workers, sexual contact abroad, those who change partners frequently and contacts of cases.
- It is recommended that, when indicated and where feasible, culture is taken prior to treatment.
- Patient follow-up after treatment with the recommended therapeutic regimen is essential to confirm resolution of symptoms, to exclude the possibility of reinfection and to pursue partner notification.
- ToC at the site of initial infection is recommended for all cases of gonorrhoea to identify cases of treatment failure:
  - If asymptomatic, NAAT should be taken two weeks after completion of therapy, followed by culture if NAAT is positive.
  - If symptomatic or signs, ToC with culture method should be performed at least 72 hours (between three to seven days) after completion of therapy. Additional testing with NAAT for increased sensitivity can be considered one week after culture if it is negative.
- Enhanced epidemiological surveillance of cases of high-level azithromycin resistant cases of gonorrhoea should be undertaken.
- PN should be undertaken in all cases of gonococcal infection.
- Appropriate training should be provided for those carrying out PN.
- New approaches to PN, including web-based PN should be assessed.