West of Scotland Guideline ***Approved March 2025***

What's New:

Ciprofloxacin use now restricted due to MHRA guidance – discuss with a senior clinician prior to prescribing.

Genotypic ciprofloxacin resistance testing is available in some boards to help antibiotic choice but ciprofloxacin should only be used when other antibiotics are inappropriate and after full discussion with the patient about potential disabling, irreversible side effects (refer to local guidance.

Gonorrhoea (GC)

Gonorrhoea is the clinical disease resulting from infection with the Gram negative diplococcus *Neisseria gonorrhoeae.* Primary sites of infection are the mucous membranes of urethra, endocervix, rectum, pharynx and conjunctiva.

50% of females with endocervical infection and 10% of males with urethral infection will be asymptomatic.

The majority of pharyngeal infections in both sexes are asymptomatic. Rectal infections may cause symptoms but are generally asymptomatic. In females, rectal infection can be due to transmucosal spread rather than anal intercourse.

Clinical Features

Signs and Symptoms in Men:

- Mucopurulent/purulent urethral discharge
- Dysuria
- Anal discharge
- Perianal/anal pain or discomfort
- Epididymal tenderness/swelling
- Balanitis

Signs and Symptoms in Women:

- Often no signs or symptoms are present
- Increased/altered vaginal discharge
- Pelvic/lower abdominal tenderness/pain
- Dysuria
- Mucopurulent endocervical discharge
- Easily induced endocervical bleeding
- Intermenstrual bleeding/ menorrhagia (rarely)

Complications:

- Epididymitis
- Prostatitis
- Endometritis
- Pelvic Inflammatory Disease (PID)
- Haematogenous dissemination leading to skin lesions, arthralgia, arthritis and tenosynovitis

Diagnosis

1. Microscopy

Gram negative intracellular diplococci

(*NB Microscopy provides a **provisional diagnosis** – always make this clear. Final diagnosis is the result of the PCR and/or culture)*

If microscopy not available on site, dry the slide on a hotplate/airdry and transport as per guideline for gram-stain and microscopy at local lab.

2. NAAT

Nucleic acid amplification testing (NAAT) is a new technique which facilitates less invasive testing and examination.

NAAT testing is emerging as the primary method of excluding gonorrhoea from ano-genital and pharyngeal sites. (although not yet licensed for use in rectum and pharynx).

A **positive** result from a GC NAAT should always, with patient consent, have a **culture swab** by repeat sampling prior to treatment and sending the specimen to the appropriate bacteriology lab for direct plating. This allows antibiotic susceptibility testing and resistant strains can be identified.

There is a small risk of false positives with NAAT testing so counselling/ partner notification should take this into account, especially if the clinical likelihood is low.

The test sensitivity in female urine is significantly lower therefore urine is not the optimal specimen in women.

3. Culture

When doing a culture for GC, a NAAT test (if available in your health board) should be performed at the same time.

Culture is **used for**:

- Clinical locations where NAAT testing is unavailable
- Any genital or rectal discharge
- Suspected PID / cervicitis
- Contacts of gonorrhoea – prior to epidemiological treatment
- Pharyngeal specimens (*pending further validation*)
- Rectal samples in men who have sex with men (MSM)
- Any NAAT-positive case with no previous culture performed (state on request that NAAT positive)

The following table shows which tests should be taken:
Please note that NAAT testing on rectal and pharyngeal swabs has not been validated.
Microscopy if available should be done at symptomatic sites (cervix, urethra and rectal).

Anatomical Site Being Tested	Type of Specimen	Heterosexual Male	Men who have sex with men	Female
Throat / Pharynx	Throat swab for GC/Chlamydia NAAT	*	√ (if sexual history dictates or symptomatic at this site)	*
	Throat swab for GC culture	*	*	*
Urethra	First Void Urine for GC/Chlamydia NAAT	√	√	*
	Charcoal Urethral swab for GC culture	*	*	*
Female Genital Tract	Self Obtained Low Vaginal Swab for GC/Chlamydia NAAT	N/A	N/A	√ (if asymptomatic and not being examined)
	Endocervical charcoal swab for GC culture	N/A	N/A	*
	Endocervical Swab for GC/Chlamydia NAAT	N/A	N/A	√If symptomatic at this site or being examined eg smear
Rectum **Perform proctoscopy if symptomatic**	Rectal Swab for GC/Chlamydia NAAT	*	√ (if sexual history dictates or symptomatic at this site	*
	Charcoal Rectal Swab for GC culture	*	*	*

*Take test if client:

- symptomatic from this site or
- GC NAAT positive at this site or
- Gonorrhoea contact at this site or
- Post sexual assault and penetration has occurred in these sites

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Instructions for specimen collection

Urine:	10mls first void urine (NB – technique should be carefully explained to patient, to ensure that the correct sample is obtained) in a plain universal container. The patient must not have urinated for at least one hour (or 2 hrs for some kits) *NB: Do not insert urinalysis dipsticks in the sample, as it may introduce contamination and adversely affect the amplification process.*
Cervix:	Remove visible mucopus first, then firmly rotate in cervical os and over squamo-columnar junction. Try and avoid bleeding which can reduce sensitivity.
Vulvovaginal swab:	This may be self taken by patient (self obtained vulvo-vaginal swab (SOLVS)) or by the clinician. Insert the dry swab approx 5 cm into the vagina and gently rotate the swab for 10 to 30 seconds according to local manufacturers instructions. Bleeding may reduce sensitivity.
Pharyngeal swab:	Rub the swab over the posterior pharynx and tonsillar crypts
Rectal swab:	Proctoscopy: The swab should be rubbed against the rectal wall. Blind: The swab should be inserted 3cm into the anus and rotated for 10-30 seconds. There have been incidences of the swab which comes with the kit breaking in the rectum. Clinicians may prefer, therefore, to use a separate swab with no breaking point on it. In certain circumstances a self collected rectal swab is acceptable.

Gonoccocal Treatment

- If in doubt speak to a senior GUM colleague.
- The increasing recognition and development of multidrug resistant *N. gonorrhoeae* has been the driving force for the recommendation of extended spectrum cephalosporins as the preferred treatment of gonorrhoea.

Indications for Treatment

- Identification of intracellular Gram-negative diplococci on microscopy of a smear from the genital tract
- A positive culture for *N gonorrhoeae* from any site
- A positive NAAT for *N gonorrhoea* from any site. Supplementary testing is recommended if the PPV (positive protective value) of the test at that site is <90% (discuss with your own Lab)
- Recent sexual partner(s) of confirmed cases of gonococcal infection
- Consider offering on epidemiological grounds following sexual assault

Recommended treatment

1. **Uncomplicated gonorrhoea infection at any site in adults**:

Ceftriaxone 1g IM single dose (can be used in pregnancy)

(With or without susceptibility testing)

(if known to have an antibiotic allergy please see section below)

Alternative if patient refuses IM injection or IM injection contraindicated

Cefixime 400mg orally single dose with Azithromycin 2g orally single dose (can use in pregnancy)

If β-lactam allergy:

Third generation cephalosporins such as cefixime and ceftriaxone show negligible cross-allergy with penicillins. Contraindications to the administration of ceftriaxone are hypersensitivity to any cephalosporin or previous immediate and /or severe hypersensitivity reaction to a penicillin or other beta-lactam drug. Recommended treatments for patients giving a history of such hypersensitivity:

First choice: Gentamicin* 240mg IM with azithromycin 2g orally as a single dose

Or

Second choice: Spectinomycin 2g IM with Azithromycin 2g orally as a single dose (does not cover oropharynx, difficult to source)

Or (only if IM injection refused)

Third choice: Azithromycin 2g orally single dose

*Stat doses of gentamicin are not associated with toxicity. Please discuss with a senior colleague if patient has history of nephrotoxicity or ototoxicity or mitochondrial mutation. Please see prescribing guidance in BNF for patients <50kg.

Antibiotic allergy and decline/unavailable for injection

MHRA strengthened restrictions in January 2024 stating that fluoroquinolones should only be used when other recommended antibiotics are inappropriate. As at Feb 2024 this applies even to single-dose treatments. Until further information and reassurance is provided following these warnings we are restricting use of fluoro-quinolones even for stat doses.

For treatment of gonorrhoea with ciprofloxacin, a typical scenario would include

- history of cephalosporin or beta-lactam immediate hypersensitivity excluding cefixime use AND
- contraindication to or decline of gentamicin AND
- susceptibility predicted by NAAT SpeeDx test (if available) or culture

Contraindications include risk of pregnancy; previous fluoroquinolone side effects, aged under 16 or over 60 years, on corticosteroids, known renal impairment, previous organ transplantation, previous convulsions.

Ciprofloxacin 500mg oral stat monotherapy (if culture sensitive)

If after discussion of the possibility of disabling and irreversible side-effects this remains the best antibiotic please send the patient the following patient information leaflet by SMS.

https://assets.publishing.service.gov.uk/media/65aa9125c69eea0010883840/FQ_Patient_Information_Sheet_-_TO_PUBLISH.pdf

2. Treatment of Complicated Gonococcal infections:

Discuss with senior staff first.

- **Gonococcal PID**

Ceftriaxone 1g IM single dose **plus Metronidazole 400 mg twice daily orally for 14 days** **PLUS** **Doxycycline 100mg twice daily orally for 14 days** **(see PID guidelines www.bashh.org)**

- **Gonococcal Epididymo-orchitis**

Ceftriaxone 1g IM single dose **Plus Doxycycline 100mg twice daily orally for 10-14 days**

- **Gonococcal conjunctivitis**

  Treatment as per uncomplicated GC and the eye should be irrigated with saline/water

- **Disseminated GC** –

  clients must be admitted

  (see Management of Gonorrhoea Guideline 2018 www.bashh.org)

OTHER MANAGEMENT ISSUES OF GC INFECTION

- ### Partner Notification

  All patients diagnosed with gonorrhoea should see a clinician trained in partner notification at diagnosis and at each follow up visit, until partner notification is documented as complete.

  For males with urethral symptoms look back period should be two weeks after the development of the symptoms.

  In all other cases look back period is three months.

  In order to reduce the unnecessary use of antibiotics, we recommend the following as a pragmatic approach:

  - For those presenting after 14 days of exposure, we recommend treatment only following a positive test for gonorrhoea
  - For those presenting within 14 days of exposure we recommend considering epidemiological treatment based on a clinical risk assessment and following a discussion with the patient. In asymptomatic individuals, it may be appropriate to not give epidemiological treatment, and to repeat testing 2 weeks after exposure.

- ### Follow-up

  All patients with gonorrhoea should be advised to return for TOC, with extra emphasis given to patients:

  - With persistent symptoms or signs
  - With pharyngeal infection
  - Treated with anything other than first line recommended regimen when antimicrobial susceptibility unknown
  - Who acquired infection in the Asia-Pacific region when antimicrobial susceptibility unknown

  Advise no sexual intercourse until a negative result of test of cure is available.

  Current evidence on the method and timing of TOC is scanty but expert opinion and pragmatic considerations suggest:

  - If asymptomatic – test with NAAT 2 weeks after completion of antibiotic therapy, followed by culture if NAAT positive
  - Persisting symptoms or signs – test with culture, performed at least 72 hours after completion of therapy. Consider retreating even if culture negative, NAATs less than two weeks after completion of antibiotic therapy should be considered with caution.

At follow up confirm adherence to treatment and avoidance of sex.

Review **antibiotic sensitivities** when available. Check carefully the date of **specimen collection** on all reports – several laboratory reports may be sent on a single isolate. Be careful with results as sensitivities may relate to more than one organism if multiple pathogens identified.

Follow up may be needed for repeat syphilis ± HIV test due to different window periods.

REFERENCES:

UK National Guideline for the Management of Gonorrhoea in Adults, 2018. www.bashh.org (accessed online May 2022)
Management of Gonorrhoea, Sandyford Protocols. (accessed May 2024)

APPENDIX 1: PREPARATION OF PARENTERAL ANTIBIOTICS

Preparation and Administration of Ceftriaxone lg deep intramuscular Injection

To reduce the pain experienced by patients receiving intramuscular ceftriaxone the drug is administered with 1% lidocaine (lignocaine)

1, Take I gram vial of ceftriaxone powder

2. Draw up 3.5mls lidocaine 1% into a syringe.
3. Reconstitute the 1 gm vial of ceftriaxone with 3.5mls of lidocaine 1%.
4. Draw up the reconstituted ceftriaxone solution from the vial into one syringe. This makes a total of 4.1 mls.
5. Administer the 4.1mls solution of ceftriaxone lgm by deep intramuscular injection. Well developed muscles e.g. ventrogluteal, vastus lateralis and dorsogluteal can take up to 5 mls volume.

NOTE: Lidocaine must be prescribed on NaSH.

Preparation and Administration of Spectinomycin 2g Intramuscular Injection

Spectinomycin 2g reconstituted with 3.2ml bacteriostatic water (supplied) and to shake vigorously. Once dissolved to be drawn up as 5ml.

The solution should be administered by a single deep intramuscular injection.

Preparation and Administration of Gentamicin 240mg Intramuscular Injection

Due to volume this dose requires to be split

Open up 3 vials of 80mgs/2mls gentamicin, totalling 6mls (=240mg).

Take two 5ml syringes and draw 3mls solution into each syringe.

Give by deep intramuscular injection, 3 mls per side.

Appendix 2

GENITAL INFECTION DUE TO NEISSERIA MENINGITIDIS

Introduction

Neisseria meningitidis (known as the meningococcus) is an obligate human commensal bacterium which frequently colonises the upper respiratory tract. Invasive variants are responsible for mengingococcal sepsis and meningococcal meningitidis, outbreaks of which been well described in MSM in the last 20 years. Variants of this lineage are now known to have acquired some determinants of genital infection from Nesseria gonorrhoeae leading to increased incidence of genital meningococcal infection. As it is clinically and microscopically indistinguishable from Neisseria gonorrhoeae, patients have often been treated for gonorrhoea presumptively before the culture results reveal the true cause. The likely route of infection is oro-genital sex from asymptomatic pharyngeal carriage.

Symptoms

Symptomatic cases can present with:

- Vaginal discharge
- Acute cervicitis
- Salpingitis
- Purulent urethral discharge at the penis
- Dysuria at the penile urethra

Diagnosis

Neisseria meningitidis is diagnosed by a series of speciation tests from colonies grown on agar cultures intended for gonococcal isolation. It is deliberately not detected on the GC NAAT tests. You do not need to do any additional tests to look for meningococcal infection: the lab do this if the culture shows Neisseria species.

Management

Discuss all cases with a senior clinician

It is not clear whether asymptomatic cases need treatment, this decision should be based on individual patient factors and the reason a culture swab was taken.

For symptomatic cases, treatment should be offered. Antibiotic susceptibility should have been reported along with the culture result. Oral ciprofloxacin is effective, although many patients will already have been treated presumptively with ceftriaxone which is also effective,

There is no need for any general public health action such as notification and chemoprophylaxis for household contacts as genital tract infection is not thought to predispose to invasive disease. However treating current sexual contacts may reduce the chance of symptomatic reinfection.