Title: BASHH National Guideline for the Management of Gonorrhoea	
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BASHH British Association for Sexual Health and HIV

CLINICAL GUIDELINE

British Association for Sexual Health and HIV National Guideline for the Management of Infection with *Neisseria gonorrhoeae*

Authors and affiliations:

Helen Fifer[1], Muhammad Azam Ismail[2], Suneeta Soni[3], Uzochi Nwaosu[4], S. Tariq Sadiq[5], Alice Milligan[1, 6], John Saunders[1] and Nicholas Medland[7]

[1] Blood Safety, Hepatitis, STIs and HIV Division, UK Health Security Agency

[2] Sheffield Teaching Hospitals NHS Trust

[3] University Hospitals Sussex NHS Foundation Trust

[4] Chelsea & Westminster Hospital NHS Foundation Trust

[5] St George's School of Health and Medical Sciences, City St George's, University of London

[6] Moorfields Eye Hospital NHS Foundation Trust

[7] Kirby Institute, University of New South Wales, Sydney Australia

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2. CONTENTS

3. ABSTRACT

This guideline offers recommendations on the diagnosis, treatment and health promotion principles needed for the effective management of gonorrhoea. It is an update of the 2018 guideline.

Keywords: *Neisseria gonorrhoeae*, gonorrhoea, antimicrobial resistance, diagnosis, treatment

4. ABBREVIATIONS

AMR	Antimicrobial Resistance
BASHH	British Association for Sexual Health and HIV
CEG	Clinical Effectiveness Group
DGI	Disseminated Gonococcal Infection
DoxyPEP	Doxycycline Post-exposure Prophylaxis
GBMSM	Gay, Bisexual and Other Men Who Have Sex with Men
GRADE	Grading of Recommendations, Assessment, Development, and Evaluations
GRASP	Gonococcal Resistance to Antimicrobials Surveillance Programme
HIV	Human Immunodeficiency Virus
IM	Intramuscular
IV	Intravenous
MDR	Multi-drug Resistant
MHRA	Medicines and Healthcare products Regulatory Agency
MIC	Minimum Inhibitory Concentration
NAAT	Nucleic Acid Amplification Test
PID	Pelvic Inflammatory Disease
RCT	Randomised Clinical Trial
STI	Sexually Transmitted Infection
STIRL	Sexually Transmitted Infections Reference Laboratory
TOC	Test of Cure
UK	United Kingdom
UKHSA	UK Health Security Agency
QDS	Four Times Daily
VVS	Vulvovaginal Swab

5. WHAT IS NEW IN THE 2024 GUIDELINE?

- Recommendations for pharyngeal testing in all people with urogenital gonorrhoea, and for all contacts.
- Recommendations for diagnosing disseminated gonococcal infection.
- Recommendations for the management of ocular infection.
- Ciprofloxacin is no longer recommended as first line therapy, given safety concerns, but may be used when judged clinically appropriate.
- The dose of cefixime has been increased from 400 mg to 800 mg, due to increasing antimicrobial resistance.
- When antimicrobial susceptibility is known, routine test of cure is no longer recommended for patients with anogenital infection who have received ceftriaxone 1 g.

6. INTRODUCTION AND METHODOLOGY

6.1. Objectives

This guideline provides evidence-based recommendations for the diagnosis, treatment regimens and health promotion principles needed for the effective management of gonorrhoea. The guideline is aimed primarily at patients aged 16 years or older presenting to healthcare professionals working in departments offering specialist level 3 care in sexually transmitted infections (STIs) management within the United Kingdom (UK). However, the principles of the recommendations are applicable across levels of STI care providers, and non-specialist services may need to develop, where appropriate, local referral pathways.

6.2. Search Strategy

This guideline was produced according to specifications set out in the British Association for Sexual Health and HIV (BASHH) Clinical Effectiveness Group (CEG) document 'framework for guideline development and assessment' (2015, updated 2019) accessed at https://www.bashhguidelines.org/media/1229/2015-guidelines-framework-amended-dec-2019.pdf and has been updated by reviewing the previous gonorrhoea guideline (2018) and the medical literature since its publication. The Grading of Recommendations, Assessment, Development, and Evaluations (GRADE) system was used to assess the evidence and make recommendations as detailed in the guidance (Appendix 1).

A search of published articles from January 2018 to October 2023 was conducted in Medline, Embase and the Cochrane Library using the subject headings 'gonorrhoea' OR 'gonorrhea' OR '*Neisseria gonorrhoeae*' AND 'prevalence' OR 'transmission' OR 'sequelae' OR 'diagnosis' OR 'incubation' OR 'therapy' OR 'treatment' OR 'resistance' OR 'antibiotic' OR 'failure' OR 'partner notification'. Articles were limited to those in the English language, humans, randomised controlled trials, systematic reviews, or observational studies.

6.3. Methods

Article titles and abstracts were reviewed and if relevant the full text article was obtained. Abstracts from meetings in the relevant period were hand-searched and considered. Priority was given to randomised controlled trials and systematic review evidence, and recommendations were made and graded based on best available evidence.

6.4. Equality Impact Assessment

An assessment of the guideline and its recommendations was undertaken to ensure the principles of equality and diversity were adhered to and is available in Appendix 3.

BASHH has adopted an anatomical approach without assuming gender in the majority of guidelines and uses gender terminology in line with BASHH 'sexual health standards for trans, including non-binary, people'.

6.5. Stakeholder Involvement, Piloting and Feedback

The first draft was produced by the writing group and then circulated to the CEG for review using the Appraisal of Guidelines, Research and Evaluation tool (Appendix 2). The second draft of the guideline was posted on the BASHH website for wider consultation (2 months) and any comments received during the consultation period were reviewed by the authors and acted on appropriately. The document was also reviewed by a patient representative, target users and the public panel of BASHH, and their feedback was considered by the authors and used to inform the guideline. The final draft was presented to the CEG for review and piloting in sexual health clinics.

Once the guideline is published, the CEG will keep it under review should critical new evidence become available that affects the current recommendations. The guideline will be formally reviewed and updated, if necessary, every five years.

7. AETIOLOGY

Gonorrhoea is an infection caused by the gram-negative diplococcus *Neisseria gonorrhoeae*. It is the second most common bacterial sexually transmitted infection in the UK, and disproportionally affects gay, bisexual and other men who have sex with men (GBMSM), young people aged 15-24 years, people of Black Caribbean ethnicity, and people living in deprived areas.[1] Clinical features are determined by the specificity of the organism for certain anatomical sites: the columnar epithelium of the mucous membranes of the urethra, endocervix, rectum, pharynx, and conjunctiva.

Transmission occurs with direct contact between a susceptible mucous membrane and an inoculum containing viable organism, predominantly through penile-vaginal, penile-anal and penile-oral sex.[2] Two studies in GBMSM in Australia found a significant association between self-reported kissing and pharyngeal gonorrhoea, after controlling for other types of sexual behaviour, although there were limitations of these studies.[3] Transmission between extragenital sites may possibly occur by oral-anal sex (rimming) or using saliva or other body fluids as sexual lubricants[4]. Secondary infection to other anatomical sites, through systemic or transluminal spread, can also occur.

Antimicrobial resistance

Antimicrobial resistance (AMR) in *N. gonorrhoeae* is an urgent global concern and varies widely between countries.[5, 6] *N. gonorrhoeae* has developed resistance to all drugs used to treat it including ceftriaxone, the most widely recommended first line empiric treatment globally. AMR surveillance is crucial to ensuring that guidelines are appropriate to the local setting and relies on samples for culture and antibiotic susceptibility testing. The prevalence of ceftriaxone resistance is very low in England and Wales, with no cases detected in the sentinel gonococcal resistance to antimicrobials surveillance programme (GRASP).[7] However, ceftriaxone resistant strains are prevalent in the Asia Pacific region and ceftriaxone resistance has been reported in the UK and globally, usually associated with travel to or from this region.[8-10]

8. CLINICAL FEATURES

8.1. Symptoms and Signs

Symptoms and signs depend, in part, on the site of infection. Co-infections (e.g. *Chlamydia trachomatis*, *Trichomonas vaginalis*, *Mycoplasma genitalium*, *Candida albicans* and bacterial vaginosis) are not uncommon and should be considered as a cause of symptoms.[11-13]

8.1.1. Penile Urethral Infection

Symptoms of discharge and/or dysuria occur in over 90% of individuals appearing two to five days following exposure, with mucopurulent urethral discharge present on examination. Rarely, individuals may complain of testicular and epididymal pain with tenderness and swelling present on examination.

8.1.2. Female Urethral Infection

Urethral infection may present with dysuria without urinary frequency.

8.1.3. Endocervical Infection

The most common symptom, occurring in about 50% of individuals, is an increased or altered vaginal discharge. In about a quarter of individuals, lower abdominal pain is reported. However, pelvic and lower abdominal tenderness is an uncommon examination finding in the absence of coinfection with *C. trachomatis*. Gonorrhoea rarely causes intermenstrual bleeding and menorrhagia. On examination, a mucopurulent endocervical discharge may be seen and easily induced endocervical bleeding may be present.

8.1.4. Rectal Infection

Most cases are asymptomatic, but symptoms may include anal discharge and perianal/anal pain or discomfort. Rectal infection in cis-gender women is present in up to a third of cases of urogenital infection, and individuals may not report a history of anal sex. Limited evidence suggests that rectal infection in the absence of urogenital infection is uncommon.[14]

8.1.5. Pharyngeal Infection

This is predominantly asymptomatic, but some individuals may report a sore throat at presentation.[15]

8.2. Complications

Transluminal spread of *N. gonorrhoeae* from the urethra or endocervix may occur and cause epididymo-orchitis, prostatitis or pelvic inflammatory disease (PID). In a study involving nearly 4,000 cis-gender women attending a sexual health clinic in the UK, PID was reported in approximately 14% of those with gonorrhoea.[16] Although gonococcal PID presents in a similar way to non-gonococcal PID, those with gonococcal PID are more often febrile and unwell.

8.2.1. Disseminated Gonococcal Infection

Haematogenous dissemination may occur from infected mucous membranes. Historically, this was estimated to occur in between 0.5% and 3% of people with gonorrhoea, with cis-gender women and those who are pregnant being at higher risk. Individuals with terminal complement deficiency or taking eculizumab (inhibits terminal complement activation) may also be at higher risk than the general population.[17-20] Disseminated gonococcal infection (DGI) may result in severe sepsis, morbidity, and death.[21-23]

Two distinct clinical syndromes are classically described in DGI: a triad of tenosynovitis, polyarthralgia and dermatitis, or purulent arthritis with or without additional symptoms.[17-20] However, a case series in Australia of 106 people with DGI observed the classic triad in only one individual, with arthritis the predominant feature (89%), followed by fever (62%).[22] Arthritis affected a single joint in 38% of cases, 2-4 joints in 27% and ≥5 joints in 22%. The knee was the most commonly affected joint (55%), followed by the wrist (35%), ankle (28%), and elbow (15%). Tenosynovitis (4%) and dermatitis (9%) were infrequent. Half of the patients with confirmed DGI had negative tests for gonorrhoea at mucosal sites.

Another series in California of 149 cases between July 2020 and July 2021 found no significant associations with age, gender, or ethnicity.[21] Urogenital, pharyngeal, or rectal symptoms were present in only 39% of cases. The most common manifestations were septic arthritis (53%), fever (38%), polyarthralgia (35%), bacteraemia (31%), and tenosynovitis (19%). Mucosal testing for gonorrhoea was limited, with urine samples being the most tested (76 samples), and 55% of these yielded positive results.

A number of other rare but serious clinical presentations of DGI have been reported including pericarditis[24], vasculitis[25], endocarditis[26] and meningitis[27].

Reporting diagnoses of DGI is critical for surveillance. Given the variety of clinical presentations, DGI is often diagnosed in non-genitourinary medicine settings. All clinicians in England should report cases to GRASP.enquiries@ukhsa.gov.uk and to local Public Health in Wales and Scotland.

8.2.2. Ocular Infection

Acute gonococcal conjunctivitis can occur following inoculation with infected secretions.[28] Gonococcal conjunctivitis usually presents as unilateral or bilateral red eye(s) with purulent, often hyper-purulent discharge.[29] *N. gonorrhoeae* can penetrate intact corneal epithelium: patients are at risk of rapidly progressive corneal ulceration and thinning leading to possible perforation.[30] Ocular infection can also be complicated by periocular inflammation and pain, severe lid oedema (pre-septal cellulitis), orbital cellulitis, uveitis, endophthalmitis, dacryoadenitis and symblepharon.[29]

8.2.3. Gonorrhoea Following Gender-affirming Surgery

A small number of cases of gonococcal infection of the neovagina following penile inversion and sigmoid vaginoplasty have been reported.[31, 32] Where clinical symptoms were present, these included discharge, pain, and bleeding.[33] No reports of gonococcal infection of the neopenis were identified.

9. DIAGNOSIS

This section should be read in conjunction with UK Health Security Agency's (UKHSA) 'Guidance for the detection of gonorrhoea in England' 2021.[34] The diagnosis of gonorrhoea is established by the detection of *N. gonorrhoeae* at an infected site, either by nucleic acid amplification tests (NAAT) or by culture. No test for gonorrhoea offers 100% sensitivity and specificity.[34-37] See Appendix 4 for a summary of the testing algorithm.

9.1. Diagnostic Tests

9.1.1. Microscopy

Microscopy of gram-stained genital specimens allows direct visualisation of *N. gonorrhoeae* as monomorphic gram-negative diplococci within polymorphonuclear leukocytes.

9.1.1.1. Penile Urethra

- Microscopy of urethral or meatal swab smears has good sensitivity (90-95%) in people with discharge from the penile urethra and is recommended to facilitate immediate presumptive diagnosis in these individuals (GRADE 1B).[13, 38, 39]
- Microscopy of penile urethral smears in those without symptoms is less sensitive (50-75%) therefore, it is not recommended in asymptomatic individuals (GRADE 1B). [13, 38, 39]

9.1.1.2. Female Urethra and Endocervix

- Microscopy has only 37-50% and 20% sensitivity compared with culture for detecting gonorrhoea from endocervical and female urethral smears, respectively.[11]
- The sensitivity of cervical microscopy compared to NAATs in a more recent study was only 16%.[40]
- Female urethral and cervical microscopy is therefore not routinely recommended (GRADE 1C).

9.1.1.3. Rectum and Pharynx

- Ano-rectal smears and microscopy can be considered if rectal symptoms are present (GRADE 1C).[41]
- The sensitivity of microscopy for detecting asymptomatic rectal infection is low and is not recommended (GRADE 1C).[42]
- Microscopy of pharyngeal specimens is not recommended due to low sensitivity and specificity (GRADE 1C).

9.1.2. Nucleic Acid Amplification Tests

NAATs are more sensitive than culture, particularly for oropharyngeal and rectal sites.[43-45] NAATs show high sensitivity (>95%) in both symptomatic and asymptomatic infection.[44, 46, 47] Most platforms show good sensitivity and specificity at detecting *N. gonorrhoea* in the urine and rectal sites.[48] Although not all NAATs are licensed for use at extra-genital sites, their use is recommended.[34] Commercially available NAATs differ in their cross-reactivity to commensal *Neisseria* species which may be present at significant levels, particularly in the pharynx.[49] It is recommended that laboratories confirm any reactive test with an alternative molecular target if the positive predictive value of the initial test for the population tested is less than 90% (GRADE 1B).[34, 37, 50] This is particularly important for extra-genital specimens.[48, 51]

9.1.2.1. Penile Urethra

- NAATs show equivalent sensitivity in urine and urethral swab specimens from cis-gender men although a first-pass urine is the preferred sample.[46, 52]

9.1.2.2. Female Urethra and Endocervix

- Self-collected or clinician-collected vulvovaginal swabs (VVS) perform better than endocervical swabs and significantly better than urine for cis-gender women.[34, 35, 37, 53-56] VVS are therefore recommended as the optimal specimen (GRADE 1A).

- For people who have had a hysterectomy, there is no evidence on optimal sampling site. We suggest considering urine and VVS for NAAT with subsequent culture from that site if positive (GRADE 2D).

9.1.2.3. Rectum and Pharynx

- Infection can occur at multiple anatomical sites and an individual can be infected with more than one strain of *N. gonorrhoeae*.[57-59]
- Rectal and pharyngeal sampling should be routine in all sex workers and in GBMSM (GRADE 1A).
- Pharyngeal testing for women reporting oral sex would capture most pharyngeal gonorrhoea infections but given the low prevalence of oropharyngeal gonorrhoea in women in most settings, evidence suggests the most cost-effective testing strategy would be to test sex workers and contacts of gonorrhoea.[60]
- Among men who have sex with women who are contacts of gonorrhoea, if only urogenital testing were performed, an estimated 36% of infections would remain unidentified.[61]
- Pharyngeal sampling should therefore be routine in all sexual contacts of gonorrhoea.[60, 61] (GRADE 1B)
- Oropharyngeal infection is more difficult to treat.[62-65] The previous guideline recommended pharyngeal sampling in anyone with genital gonorrhoea who was at risk of ceftriaxone-resistant infection, based on travel history. In practice this is difficult to implement, and resistance is not confined to those with a travel history. Therefore, anyone with genital gonorrhoea (regardless of travel, gender or reported sexual behaviour) should have a pharyngeal NAAT taken prior to treatment. It is not necessary to routinely take an additional sample for pharyngeal culture. Most people are infected with a single strain of *N. gonorrhoeae*, and the genital site is more likely than the pharyngeal site to yield a positive culture. However, there may be an increased risk of acquiring multiple different strains of *N. gonorrhoeae* when history suggests recent sex

with multiple different partners. Therefore, pharyngeal culture can be considered in this case. (GRADE 1D)

- Extra-genital sampling should otherwise be performed based on an assessment of risk and symptoms in everyone else.[66-68]
- Although self-collected oropharyngeal swabs for NAATs have been shown to be acceptable to patients and show comparable results to clinician-collected swabs, there is a higher likelihood of invalid or equivocal results, and thus it is important to ensure patients understand step-by-step instructions on sample collection.[69-73]

9.1.3. Culture

- The primary role of culture is for antimicrobial susceptibility testing, which is of increasing importance as antimicrobial resistance in *N. gonorrhoeae* continues to evolve and spread.
- Specimens for culture (urethral, endocervical, neovaginal, anorectal and pharyngeal swabs) should be taken alongside NAATs from people suspected clinically of having gonorrhoea.[34]
- All individuals with gonorrhoea diagnosed by NAAT should have cultures taken for susceptibility testing prior to treatment (GRADE 1D).
- There is evidence of good concordance between clinician-collected and patient-collected samples for culture from the pharynx, endocervix (clinician-collected) and vagina (patient-collected), urethra (clinician-collected) and urine (patient-collected), and when culture swabs are transported in Amies charcoal media, however there is not yet similar evidence for such concordance when directly plating onto Thayer-Martin agar plates.[74]
- For culture, the sensitivity depends on several factors including time from sample collection to plating. Services should seek to minimise this time whether by direct plating in the clinic or use of transport media with prompt transfer for plating in the laboratory.[75] If there is a delay in plating of more than a few hours, then swabs in non-nutritive transportation medium (e.g. charcoal swabs) should be refrigerated.

9.1.4. Specimen Pooling

- Pooling of self-collected or clinician-collected rectal, pharyngeal and urine samples from the same individual could provide cost savings. There is a small evidence base with mixed results using different testing platforms, specimen collection and pooling methods.
- The largest study to date has shown that pooling of self-taken swabs has lower sensitivity for detection of *N. gonorrhoeae* from pharyngeal sites, when compared with single site testing.[76]
- A recent meta-analysis showed that pooled 3-anatomic site testing performed similarly to single anatomic site testing with positive percentage agreements of 93.8% and negative percentage agreements of 99.7%.[77] However, further studies have indicated mixed results. Therefore, we recommend that any service considering the implementation of pooling should perform appropriate clinical evaluation prior to local implementation.

9.1.5. Diagnosing DGI

If DGI is suspected, specimens should be taken from disseminated sites of infection (e.g. synovial fluid) for both culture and NAAT. Blood cultures should be taken from all suspected cases. Laboratories in England should refer isolates from DGI to the UKHSA Sexually Transmitted Reference Laboratory (STIRL). Cases in Wales and Scotland should be referred to the devolved region national Public Health laboratory. Additionally, specimens should be taken from urogenital and extragenital sites for culture and NAAT (GRADE 1C).

9.1.6. Point-of-care and Near-patient Tests

A number of assays have been developed as point-of-care or near-patient tests which have shown high accuracy in detecting *N. gonorrhoeae* from urogenital and rectal sites (96-100% sensitivity, 99% specificity), however the specificity for pharyngeal samples remain low.[78-80] As these assays become more readily available, it is recommended that local validation is conducted prior to implementation in local departments.

9.1.7. Detecting Antimicrobial Resistance Markers

A number of commercially available assays have been developed with good sensitivity in detecting genetic markers of resistance to fluoroquinolones[81, 82] and can be considered depending on local need. However, it is noted that the Medicines and Healthcare products Regulatory Agency (MHRA) recently recommended against the use of fluoroquinolones unless there is no alternative (see Section 11). Testing for mosaic *penA* mutants may predict cephalosporin susceptibility, but these tests are not yet commercially available.[83]

9.1.8. Considerations for People Following Gender-affirming Surgery

- The susceptibility of a site to gonococcal infection is likely to be related to the nature of the surgery, with sites constructed from mucosal tissue (e.g. from the vaginal or bowel mucosa) being more susceptible than sites constructed from skin.
- Gonococcal infections of the urethra[84], sigmoid neovagina[33] and penile skin-lined neovagina[32] have all been reported following gender affirming surgery. Gonococcal infections of the neopenis have not been reported.
- Although the sensitivity of microscopy for infection of the neovagina and neopenis is not known, this may facilitate a presumptive diagnosis of gonorrhoea and could be considered (GRADE 1D).
- We recommend that optimal genital testing in transgender women at risk of gonorrhoea should include swabs from the neovagina and first-pass urine (GRADE 1D).
- We recommend first-pass urine as the specimen of choice from people with a neopenis (GRADE 1D). Where the vagina is still present following gender affirming surgery, a vaginal swab should be considered as directed by the sexual history and symptoms.
- Extragenital testing should be guided by sexual history and symptoms.
- Self-collected sampling has been shown to be highly acceptable to patients and has comparable results to clinician-taken sampling in transwomen with a neovagina.[85]

9.1.9. Testing for Other Sexually Transmitted Infections

Approximately 21% of patients with gonorrhoea have concurrent *C. trachomatis* infection.[7] Testing for other STIs should be undertaken according to BASHH STI testing guidelines.

9.1.10. Timing of Testing

Infection cannot be ruled out in individuals who test within two weeks of sexual contact with an infected partner. Therefore, it is recommended that patients return for repeat testing after this window period if epidemiological treatment is not given (GRADE 1D).

10. MANAGEMENT

10.1. General Advice

Patients should be given a detailed explanation of their condition with particular emphasis on the implications for the health of themselves and their partner(s). This should be reinforced, if necessary, with clear and accurate written information (GRADE 1D). Patients should be advised to abstain from sexual intercourse until seven days after they and their partner(s) have completed treatment (GRADE 1D).

11. TREATMENT

11.1. Indications for Therapy

It is recommended to confirm the presence of *N. gonorrhoeae* before treatment using the following indications:

- Identification of intracellular gram-negative diplococci on microscopy;
- A positive culture for *N. gonorrhoeae*;
- A confirmed positive NAAT for *N. gonorrhoeae*.

Treatment of sexual contacts of a person with confirmed gonococcal infection is not routinely recommended, except in some specific circumstances (See Section 13).

11.2. Treatment of Uncomplicated Ano-genital and Pharyngeal Infection in Adults

- Ceftriaxone 1 g intramuscularly (IM) as a single dose (GRADE 1B).[86-90]

Ceftriaxone remains highly effective. Most gonococcal infections with ceftriaxone resistance are still cleared with ceftriaxone 1 g.[9, 10] There have been very few treatment failures reported, all associated with extra-genital (usually pharyngeal) infection.[62, 63, 91]

11.3. Alternative Regimens

Alternative regimens may be given because of allergy, needle phobia or other absolute or relative contraindications. In patients with penicillin allergy there is ample evidence to allow the safe use of all but a few early generation cephalosporins (e.g. cephalexin, cefaclor and cefadroxil). Third generation cephalosporins such as cefixime and ceftriaxone show negligible cross-allergy with penicillin.[92, 93]

Therefore, in penicillin-allergic patients, ceftriaxone and cefixime are suitable treatment options, unless there is a history of severe hypersensitivity (e.g. anaphylactic reaction) to any beta-lactam antibacterial agent (penicillins, cephalosporins, monobactams and carbapenems).

Spectinomycin has been removed as an option in this guideline as it is no longer available in the UK.

Azithromycin 2 g dose is associated with gastrointestinal side effects; to reduce these, azithromycin may be given as divided doses, with 1g followed by another 1 g dose 6-12 hours later.[94]

- Cefixime 800 mg orally as a single dose plus azithromycin 2 g orally (GRADE 1B):
    - Only advisable if an IM injection is contraindicated and antimicrobial susceptibility results are available;
    - The dose has been increased from 400 mg in the previous guideline, due to an increase in the proportion of isolates with reduced cephalosporin susceptibility[7];
    - Cefixime has been associated with treatment failure when used as monotherapy for pharyngeal infection[95-99], therefore it is recommended to use dual therapy with azithromycin 2 g where possible.
- Gentamicin 240 mg IM as a single dose plus azithromycin 2 g orally (GRADE 1A):
    - In one randomised clinical trial (RCT) gentamicin 240 mg IM in combination with azithromycin 1 g cured 94% of urogenital, 90% of rectal and 80% of pharyngeal infections[100], and another trial using gentamicin 240 mg IM with azithromycin 2 g reported 100% clearance for all sites of infection[101];
    - An RCT using gentamicin 5 mg/kg IM monotherapy found 93% cure for anogenital infection but only 26% cure for pharyngeal infection[88], while another study examining the effectiveness of gentamicin 360 mg IM as monotherapy for treating pharyngeal gonorrhoea was stopped early due to poor efficacy (2/10 cured)[102].
- Azithromycin 2 g as a single oral dose (GRADE 1B):
    - The clinical efficacy of azithromycin does not always correlate with *in vitro* susceptibility testing[103, 104] and azithromycin resistance is high.
- Ciprofloxacin 500 mg orally as a single dose (GRADE 1B).[105]

In the previous guideline, ciprofloxacin was recommended as first line therapy if phenotypic or genotypic antimicrobial susceptibility data indicated susceptibility to ciprofloxacin. The rationale for this was that using alternative antibiotics can reduce the selective pressure which

comes from the universal use of ceftriaxone, and this may delay the emergence of ceftriaxone resistance.[106, 107]

In 2018 the European Medicines Agency issued an alert following their review of serious side effects associated with the use of fluoroquinolone antibiotics. These include side effects involving muscles, tendons, joints, and the nervous system. It was advised that ciprofloxacin should be avoided in people who have previously had serious side effects with a quinolone antibiotic and used with caution in those over the age of 60 years, those taking a corticosteroid, people with kidney disease and those who have had an organ transplantation. However, following a review (https://www.gov.uk/drug-safety-update/fluoroquinolone-antibiotics-must-now-only-be-prescribed-when-other-commonly-recommended-antibiotics-are-inappropriate), the MHRA updated this recommendation to state that quinolones should only be used when other antibiotics are inappropriate. Therefore, although known to be an effective treatment when susceptibility data are present, ciprofloxacin is no longer recommended as a first line treatment but may be used if clinically judged appropriate.

11.4. Treatment of Complicated Infections

11.4.1. Gonococcal Pelvic Inflammatory Disease

- Ceftriaxone 1 g IM as a single dose in addition to the regimen chosen to treat PID. For details, please see BASHH PID guideline.

11.4.2. Gonococcal Epididymo-orchitis

- Ceftriaxone 1 g IM as a single dose in addition to the regimen chosen to treat epididymo-orchitis. For details, please see BASHH epididymo-orchitis guideline.

11.4.3. Gonococcal Ocular Infection

Gonococcal conjunctivitis may rapidly progress to a potentially blinding keratoconjunctivitis; prompt diagnosis and treatment are essential to reduce the risk of vision loss.[29, 108-110] If gonococcal eye infection is suspected, empiric treatment is advised. There are no recent clinical trials on the management of gonococcal conjunctivitis.

Joint management by ophthalmologists and sexual health clinicians is essential and patients should be referred urgently to Ophthalmology and followed closely until resolution of symptoms. Contact lens wearers are advised to stop use until all symptoms are fully resolved.

- Ceftriaxone 1 g IM as a single dose (GRADE 1D):
    - There is a single study of the treatment of gonococcal conjunctivitis conducted in 12 adults.[111] All were successfully treated with a single dose of ceftriaxone.
- Adjunctive cefuroxime 5% eye drops (GRADE 2D):
    - Hourly day and night for 48 hours then hourly daytime only for 5 days. Maintain four times daily (QDS) until complete resolution;
    - In patients with history of severe hypersensitivity to any beta-lactam antibacterial agent, topical azithromycin hourly day and night for 48 hours then hourly daytime only for 5 days is advised. Maintain QDS until complete resolution;
    - Given the high proportion of patients that develop corneal complications (27-56%) and the potential for irreversible vision loss if they occur, intensive topical antibiotic treatment should be given even in the absence of corneal involvement.

Before administering antibiotic drops, the eye should be irrigated with saline (NaCl 0.9%).

If pre-septal or orbital cellulitis is suspected, IV treatment may be required.

11.4.4. Disseminated Gonococcal Infection

- Ceftriaxone 1 g IM or IV every 24 hours (GRADE 1D).

Length of treatment should be determined based on the clinical presentation and response to treatment, and in conjunction with an infection specialist. There are no recent clinical trials of the management of DGI.

For arthritis and arthritis-dermatitis syndrome, therapy should continue for 7 days but may be switched 24-48 hours after symptoms improve to oral cefixime 800 mg twice daily or

ciprofloxacin 500 mg twice daily if the isolate is susceptible (note warning above for fluoroquinolones).

For gonococcal meningitis and endocarditis, parenteral therapy with ceftriaxone 1-2 g IV every 12-24 hours should be continued for 10-14 days for meningitis and at least 4 weeks for endocarditis.

11.5. Management of Ceftriaxone Treatment Failures

The case definition for treatment failure is adapted from the 2019 European Centre for Disease Prevention and Control Response Plan to control drug resistant gonorrhoea in Europe (See box below).[112] All cases of probable or confirmed treatment failure in England should be reported to UKHSA via the HIV and STI Data Exchange (https://hivstidataexchange.ukhsa.gov.uk/hivstide), in Wales should be reported to Public Health Wales, in Scotland should be reported to Public Health Scotland at phs.bbvsti@phs.scot, and in Northern Ireland should follow locally agreed pathways with the Public Health Agency.

Probable case: Points 1 to 3. **Confirmed case:** Points 1 to 4.	**1.** A patient who returns for test of cure or who has persistent symptoms after having received treatment for laboratory-confirmed gonorrhoea with ceftriaxone 1 g IM. and **2.** Remains positive for one of the following tests: • Isolation of *N. gonorrhoeae* by culture taken at least 72 hours after completion of treatment; or • Positive NAAT taken 2 to 3 weeks after completion of treatment. and **3.** Reinfection is excluded as far as feasible. **4.** Resistance to ceftriaxone (Minimum inhibitory concentration >0.125 mg/L) as confirmed by the national reference laboratory.

NAAT-positive specimens 2 weeks after treatment can be due to persistent nucleic acid (DNA or RNA) and in these cases, a repeat NAAT one week later should be taken, and further treatment considered only if repeatedly positive. Patients with suspected reinfection should be re-treated with ceftriaxone 1 g IM.

Most patients with ceftriaxone-resistant infection will still clear infection with ceftriaxone 1g IM.[9, 10, 113] For patients with confirmed treatment failure due to ceftriaxone resistance, repeat specimens should be taken from both genital and pharyngeal sites. In England ceftriaxone resistant isolates (or residual positive NAAT specimens if isolates are not available) should be sent to the STIRL, UKHSA Colindale. In Wales, isolates should be sent to the Specialist Antimicrobial Chemotherapy Unit, Public Health Wales, Cardiff. In Scotland, all isolates are sent to the Scottish Bacterial STI Reference Laboratory, Edinburgh.

Treatment options are limited and should be guided by the results of antimicrobial susceptibility testing where possible, and in conjunction with expert advice. Isolates with ceftriaxone resistance are usually also resistant to most other antimicrobials. Often these multi-drug resistant (MDR) isolates have low gentamicin MICs, however gentamicin has a high failure rate in treating pharyngeal infections.[88, 102] Ertapenem and ceftriaxone MICs are usually similar, but for some isolates with raised ceftriaxone MICs, the ertapenem minimum inhibitory concentration (MIC) is lower.[114, 115] However, this is not universal, particularly in the presence of a *penA* mosaic allele, and ertapenem MIC testing should be performed.[116] Some infections with MDR *N. gonorrhoeae* have been successfully treated with ertapenem when ceftriaxone has failed[62, 91]; three days of IV ertapenem 1 g was used for these cases, although this was a pragmatic choice and not guided by clinical trial data. In a recent RCT, a single 1 g dose of ertapenem IM was noninferior to ceftriaxone 500 mg IM, although all strains were susceptible to ceftriaxone and had low ertapenem MICs.[88]

It is recommended to contact the Consultant Microbiologist at UKHSA for treatment advice by emailing GRASP.Enquiries@ukhsa.gov.uk.

See also UKHSA guidance on managing incidents of ceftriaxone-resistant *N. gonorrhoeae* in England: https://www.gov.uk/government/publications/ceftriaxone-resistant-neisseria-gonorrhoeae-incident-management, and specific guidance for Scotland: https://www.publiche

althscotland.scot/publications/managing-incidents-of-ceftriaxone-resistant-neisseria-gonorrhoeae/.

11.6. Pregnancy and Breast/Chest-feeding

Pregnancy does not diminish treatment efficacy.[117-119] Pregnant and breast/chest-feeding individuals should not be treated with quinolones. Gentamicin should be avoided in pregnancy.

The manufacturer of azithromycin advises use only if adequate alternatives are not available. In addition, azithromycin should only be used if isolate known to be susceptible.

11.7. People Living with HIV

Individuals living with human immunodeficiency virus (HIV) should be managed in the same way as HIV-negative individuals.

11.8. *Chlamydia trachomatis* Coinfection

- Treatment for confirmed or suspected chlamydia coinfection should follow the current BASHH guideline for the management of chlamydia.
- If an individual has already received azithromycin 2 g for the treatment of gonorrhoea, then this should be sufficient to treat chlamydia and no further doses of azithromycin are required.

11.9. Adjunctive Therapies

In clinical trials, antiseptic mouthwash was not effective in either preventing or treating pharyngeal gonorrhoea in GBMSM.[120-122]

12. FOLLOW-UP

Test of cure (TOC) practice should be underpinned by confidence in the effectiveness of treatment regimens, including rates of treatment failure and resistance to recommended regimens.

There have been no reported cases of treatment failure when ceftriaxone has been used to treat a ceftriaxone-susceptible genital infection. When antimicrobial susceptibility is known, routine TOC is no longer recommended for patients with anogenital infection who have received ceftriaxone 1g IM (GRADE 2D).

Routine TOC remains recommended for the following patients:

1. With persistent symptoms or signs;
2. With pharyngeal infection;
3. Antimicrobial susceptibility is unknown;
4. Treated with anything other than ceftriaxone; and
5. Who are pregnant.

Assessment after treatment may be helpful to detect treatment failure and emerging resistance, confirm compliance with treatment, ensure resolution of symptoms, explore the possibility of reinfection, and confirm partner notification and health promotion.

12.1. Method and Timing of Test of Cure

A positive TOC could be due to treatment failure, reinfection or residual non-viable organism and should be interpreted in the clinical context. Where TOC is considered, we recommend the following approach:

- Culture, performed at least 72 hours after completion of therapy, should be used if symptoms or signs are present at time of TOC[123];
- NAAT should be used if asymptomatic, followed by culture if NAAT-positive.

The time to a negative TOC using NAATs is variable and there are limited studies, all in GBMSM. When an RNA NAAT is used, most individuals with anogenital infection should be negative 7 days following treatment[124], whilst those with pharyngeal infection should be negative 12 days following treatment[125]. When using a DNA NAAT, most individuals with anogenital infection should be negative 14 days following treatment.[124]

- We recommend TOC using NAAT should be performed at least 2 weeks after treatment (GRADE 1B).

13. TRACING AND TREATMENT OF CONTACTS

Contact tracing for specific STIs should be performed according to BASHH guidelines (www.bashh.org/guidelines), with reference to look-back periods. Patients should be informed of the importance of partner notification and supported to do this by appropriately trained professionals.

Partner notification should be pursued in all patients identified with gonococcal infection. There is limited data on look-back periods when attempting to ascertain sexual partners potentially at risk of infection. The following partners should be notified, if possible:

- All partners since, and in the two weeks (or the last partner if longer than two weeks ago) preceding the onset of symptoms in patients with symptomatic penile urethral infection;
- All partners in the preceding three months of patients with infection at other sites or asymptomatic infection.

13.1. Treatment of Contacts

Epidemiological treatment is not needed for all sexual contacts, and ideally treatment should only be given to those partners who test positive for gonorrhoea. All contacts should have pharyngeal testing (see Section 9). However, an infection may be missed if a test is performed too soon after a potential exposure. The time between exposure and a positive test result may vary depending on a number of host, pathogen and diagnostic factors. There is a lack of evidence to support recommendations for the optimal time for testing. Therefore, 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[126];
- For those presenting within 14 days of exposure we recommend considering epidemiological treatment based on a clinical and psychosocial risk assessment and

following a discussion with the patient. In particular, the following patients should be considered for epidemiological treatment:

- Patients who are pregnant;
- Contacts of patients who are pregnant;
- Patients who are unlikely to abstain from sexual intercourse until their results are available, plus the additional recommended post-treatment abstinence period;
- Patients attending clinics in geographically remote regions;
- Patients who experience psychosocial barriers which may prevent them from subsequently returning for treatment.

Examples of patients experiencing psychosocial barriers include but are not limited to those who: are homeless, sell sex, are experiencing mental ill-health, misuse substances, are employed on zero-hour contracts, are unable to access childcare or are currently victims or survivors of domestic abuse.

For all other patients and asymptomatic individuals, it may be appropriate to not give epidemiological treatment, and to repeat testing 2 weeks after exposure.

13.2. Management of Contacts Using Doxycycline as Post-exposure Prophylaxis

The use of doxycycline as prophylaxis is unlikely to be effective in preventing gonorrhoea infection due to high rates of tetracycline resistance in *N. gonorrhoeae*.[127] Consequently, contacts of gonorrhoea using doxycycline post-exposure prophylaxis (doxyPEP) should be managed in the same way to those not using doxyPEP.

14. AUDITABLE OUTCOME MEASURES

- All individuals with gonorrhoea should have cultures taken for susceptibility testing prior to treatment (performance standard 97%).
- Individuals treated for gonorrhoea should be offered a test of cure according to criteria in this guideline (performance standard 97%).
- Individuals diagnosed with gonorrhoea should be tested for chlamydia, syphilis, and HIV (unless previously diagnosed with HIV) (performance standard 97%).
- Individuals diagnosed with gonorrhoea should have partner notification carried out in accordance with the BASHH statement on partner notification (performance standard 97%).
- Individuals diagnosed with gonorrhoea should be offered information (written or digital) about their diagnosis and management (performance standard 97%).
- Individuals diagnosed with gonorrhoea should receive first-line treatment or the reasons for not doing so documented (performance standard 97%).
- Cases of possible treatment failures with ceftriaxone should be reported to UKHSA (performance standard 97%).

15. RECOMMENDATIONS FOR FURTHER RESEARCH

- Routes of transmission, particularly the role of the pharynx in transmission of infection in heterosexuals.
- Optimal time to test following sexual exposure.
- Optimal time to TOC.
- Interventions to optimise partner notification and management outcomes.
- Optimal treatment of complicated infections.

16. QUALIFYING STATEMENT

The recommendations in this guideline may not be appropriate for use in all clinical situations. Decisions to follow these recommendations must be based on professional clinical judgement, consideration of individual patient circumstances and available resources.

All possible care has been undertaken to ensure specification of the correct dosage of medication and route of administration. However, it remains the responsibility of the prescribing clinician to ensure the accuracy and appropriateness of the medication they prescribe.

17. REVIEW ARRANGEMENTS

An author group will be invited by the BASHH CEG to review and revise the guideline in 2029 using the BASHH framework for guideline development. However, addenda may be issued sooner than 2029, particularly if relevant new data are available relating to testing or treatment options.

18. DISCLOSURES

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18.2. Declaration of Conflicting Interests

All members of the guideline writing committee completed the BASHH conflict of interest declaration and submitted it to the CEG. No authors had any relevant conflicts of interest to declare, and the content of the guideline is not attributed to any organisation they are associated with.

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18.5. Membership of the Clinical Effectiveness Group

Current membership of the BASHH Clinical Effectiveness Group is available at https://www.bashh.org/bashh-groups/clinical-effectiveness-group/.

18.6. ORCID ID

Helen Fifer: 0000-0001-7756-403X

Muhammad Azam Ismail: 0000-0002-1450-2568

Suneeta Soni: 0000-0002-8957-8233

Uzochi Nwaosu: 0000-0002-5500-379X

S. Tariq Sadiq: 0000-0002-0608-3818

Alice Milligan: 0000-0002-9196-9647

John Saunders: 0000-0003-3020-9916

Nicholas Medland: 0000-0003-0403-8930

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APPENDIX 1: GRADE System for Assessing Evidence

Introduction:

There has been a general move to using the GRADE system by many guideline producing bodies in recent years and the BMJ published a series of papers about the method in 2008 [1,2,3,4,5,6].

The GRADE system applied in its purest form requires scientific analyses of evidence to produce "tables" from a series of "PICO" questions: Questions that identify the patient problem or population (P), intervention (I) (or aetiology/diagnosis/frequency/prognosis), comparison (C) and outcome(s) (O). Practically this is very labour intensive and requires someone very experienced in this area, and many large guideline writing bodies employ a scientist to do this for them. However, some bodies adapt the GRADE system according to their own needs, assess the evidence in the way they have done in the past, and then make strengths of recommendations according to the GRADE system, which when applied in this way is quite simple to do and understand. BASHH have adopted GRADE to use in this manner.

The principles of GRADE:

1. Assessment of the evidence

GRADE offers four levels of evidence quality: high, moderate, low, and very low, with randomised trials classed as high-quality evidence and observational studies as low-quality evidence. Quality may be downgraded because of limitations in study design or implementation, imprecision of estimates (wide confidence intervals), variability in results,

[1] Guyatt GH, Oxman AD, Vist G, et al; GRADE Working Group. BMJ 2008; 336:924-926.

[2] Guyatt GH, Oxman AD, Kunz R, et al; GRADE Working Group. BMJ 2008; 336(7651):995-8.

[3] Schünemann HJ, Oxman AD, Brozek J, et al; GRADE Working Group. BMJ 2008; 336(7653):1106-10.

[4] Guyatt GH, Oxman AD, Kunz R, et al; GRADE Working Group. BMJ 2008; 336(7654):1170-3.

[5] Guyatt GH, Oxman AD, Kunz R, et al; GRADE Working Group. BMJ 2008; 336(7652):1049-51.

[6] Jaeschke R, Guyatt GH, Dellinger P, et al; GRADE working group. BMJ 2008; 337:a744.

indirectness of evidence, or publication bias. Quality may be upgraded because of a very large magnitude of effect, a dose-response gradient, and if all plausible biases would reduce an apparent treatment effect.

Summary of factors affecting quality of evidence:

Study limitations	Imprecision	Large magnitude of effect
Inconsistency of results	Publication bias	Dose-response gradient
Indirectness of evidence	Factors that might increase quality of evidence	Plausible confounding, which would reduce a demonstrated effect

Based on the analysis of the evidence with these factors borne in mind the evidence should be graded as follows:

A	A body of evidence of high-quality meta-analyses, systematic reviews of and RCTs directly applicable to the target population
B	As above but relating to high quality case control or cohort studies with low risk of bias or confounding and high probability that a relationship is causal
C	As B but trials may have some flaws
D	Non-analytic evidence (e.g., case reports or series or expert opinion)

However, when reviewing evidence graded A-D as above the grading can be altered follows:

- The strength of recommendation should be higher if the following apply:
    - A large effect of an intervention is demonstrated.
    - Dose response/evidence of gradient.
    - All plausible confounding would reduce a demonstrated effect or would suggest a spurious effect when results show no effect.
- Lower if there is evidence of:
    - Serious/very serious study limitations
    - Inconsistency

- Indirectness
- Imprecision
- Publication bias
- Study limitations
- Inconsistency of results
- Indirectness of evidence
- Imprecision
- Publication bias

2. Formulating recommendations

There are only two strengths of recommendation, which may be either for or against an intervention: 1 = strong or 2 = weak. Pragmatically, this means the following:

- Strong recommendation for intervention:

For patients — Most people in this situation would want the recommended course of action and only a small proportion would not.

For clinicians — Most people should receive the intervention.

For quality monitors — Adherence to this recommendation could be used as a quality criterion or performance indicator. If clinicians choose not to follow such a recommendation, they should document their rationale.

- Weak recommendation for intervention:

For patients — Most people in this situation would want the suggested course of action, but many would not.

For clinicians — Examine the evidence or a summary of the evidence yourself and be prepared to discuss that evidence with patients, as well as their values and preferences.

For quality monitors — Clinicians' discussion or consideration of the pros and cons of the intervention, and their documentation of the discussion, could be used as a quality criterion.

- No specific recommendation:
    - The advantages and disadvantages are equivalent.
    - The target population has not been identified.
    - Insufficient evidence on which to formulate a recommendation.

3. Consideration of using PICO

This may be helpful if guideline writing committee wish to utilise this method, this is explained in the NICE guideline manual; chapter 4:6.

Patients/population	Which patients or population of patients are we interested in? How can they be best described? Are there subgroups that need to be considered?
Intervention	Which intervention, treatment or approach should be used?
Comparison	What is/are the main alternative/s to compare with the intervention?
Outcome	What is really important for the patient? Which outcomes should be considered, such as intermediate or short-term measures; mortality; morbidity and treatment complications; rates of relapse; late morbidity and readmission; return to work, physical and social functioning? Should other measures such as quality of life, general health status and costs be considered?

4. Consideration of costs

These may or may not legitimately be included in the GRADE system, but it would be sensible in the current climate to always consider these, and if they are not considered this should be

stated and why – for example, there is no significant difference in cost between the recommended treatments.

Generally speaking, GRADE suggests a balance sheet should inform judgments about whether the net benefits are worth the incremental costs. Evidence profiles should always present resource use, not just monetary values.

5. Using the GRADE grid to resolve differences:

This supports the Delphi technique we already adopt, i.e., to develop a consensus within the group.

6. GRADE training for BASHH guideline authors

Authors need to be familiar and confident in using the GRADE system, and training for this is available as follows:

- The papers from the BMJ series in 2008, as listed in the introduction to this appendix. The articles can be accessed through the grade working group web site at: http://www.gradeworkinggroup.org/publications/index.htm
- McMaster GRADE online modules: these have been recommended by the GRADE working group and take about 20 minutes each to complete. The web address is: http://cebgrade.mcmaster.ca/
- Journal of Clinical Epidemiology 2011: published a 20-part series that is available through the GRADE working group website (link above).

Summary: BASHH have now moved to the GRADE system for evaluating evidence and making recommendations by asking guideline authors and reviewers to apply the principles outlined in sections 1-3 above. Authors should consider structuring their analysis of evidence into PICO questions addressing Population / Intervention / Comparison / Outcome as stated in section 4. Costs should be included in the evaluation and formulation of recommendations as stated in section 5. When resolution of conflicting opinions is required, the GRADE grid should be used. This appendix is a brief summary of the GRADE system how it is to be adopted by BASHH guideline authors.

Title: BASHH National Guideline for the Management of Gonorrhoea	
Version No.: Draft 4	**Date:** 22 November 2024

APPENDIX 2: AGREE II USER MANUAL

The AGREE II consists of 23 key items organized within 6 domains followed by 2 global rating items ("Overall Assessment"). Each domain captures a unique dimension of guideline quality [7].

DOMAIN 1. SCOPE AND PURPOSE

1. The overall objective(s) of the guideline is (are) specifically described.

2. The health question(s) covered by the guideline is (are) specifically described.

3. The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described.

DOMAIN 2. STAKEHOLDER INVOLVEMENT

4. The guideline development group includes individuals from all relevant professional groups.

5. The views and preferences of the target population (patients, public, etc.) have been sought.

6. The target users of the guideline are clearly defined.

DOMAIN 3. RIGOUR OF DEVELOPMENT

7. Systematic methods were used to search for evidence.

8. The criteria for selecting the evidence are clearly described.

9. The strengths and limitations of the body of evidence are clearly described.

10. The methods for formulating the recommendations are clearly described.

[7] Appraisal of Guidelines for Research & Evaluation (AGREE) II User Manual, update from December 2017.

Access: https://www.agreetrust.org/wp-content/uploads/2017/12/AGREE-II-Users-Manual-and-23-item-Instrument-2009-Update-2017.pdf

11. The health benefits, side effects, and risks have been considered in formulating the recommendations.

12. There is an explicit link between the recommendations and the supporting evidence.

13. The guideline has been externally reviewed by experts prior to its publication.

14. A procedure for updating the guideline is provided.

DOMAIN 4. CLARITY OF PRESENTATION

15. The recommendations are specific and unambiguous.

16. The different options for management of the condition or health issue are clearly presented.

17. Key recommendations are easily identifiable.

DOMAIN 5. APPLICABILITY

18. The guideline describes facilitators and barriers to its application.

19. The guideline provides advice and/or tools on how the recommendations can be put into practice.

20. The potential resource implications of applying the recommendations have been considered.

21. The guideline presents monitoring and/or auditing criteria.

DOMAIN 6. EDITORIAL INDEPENDENCE

22. The views of the funding body have not influenced the content of the guideline.

23. Competing interests of guideline development group members have been recorded and addressed.

APPENDIX 3: EQUALITY IMPACT ASSESSMENT TABLE

BASHH Guideline Equality Impact Assessment				
Guidance title: BASHH Guidelines for the Management **Infection with *Neisseria gonorrhoeae***		**Completed by: Helen Fifer**		**Date: 13 Aug 2024**
How relevant is the topic to equality?	**Inequalities in health impact of the condition or public health issue**	**Potential of guidance to add value**	**Priority for NHS or other government department**	**Topic relevance; conclusions and outcomes**
	• Prevalence and impact of condition or public health problem • Prevalence of risk factors	• Inequalities in access, uptake or impact • Timeliness • Equality issues identified by proposers of the topic • Equality issues identified by patient or lay organisations	• Department of Health or other centralised NHS bodies such as NHS England • Local authorities • Home Office • Other agencies	• If equality issues had impact on the guidance summarise these impacts

Sex/gender	The reproductive sequalae of gonorrhoea are only experienced directly by women and other people with a womb and ovaries.	NA	NA	NA
Race	Rates of STIs, including gonorrhoea, are not equal across ethnicities. Particularly, those from black ethnicities are disproportionately affected.	NA	NA	NA
Disability	Surveillance data do not tell us about any association between gonorrhoea and disability. Some people with physical and learning disabilities may be vulnerable to acquiring STIs including gonorrhoea. Departmental safeguarding procedures should be in place to identify and respond to any issues.	The guidelines are primarily for those working in level 3 specialist sexual health services and safeguarding concerns should be addressed by departmental policies. GU physicians receive level 3 safeguarding training.	Safeguarding concerns should be addressed.	Consideration of patients in these groups being at risk of sexual exploitation/abuse should be made as part of GUM departments safeguarding training.

Age	Gonorrhoea is most common among sexually active people under the age of 25 years. Some young people may be vulnerable to experiencing sexual coercion and violence. Departmental safeguarding procedures should be in place to identify and respond to any issues.	The guidelines are primarily for those working in level 3 specialist sexual health services and safeguarding concerns should be addressed by departmental policies. GU physicians receive level 3 safeguarding training.	Safeguarding concerns should be addressed.	Consideration of patients in these groups being at risk of sexual exploitation/abuse should be made as part of GUM departments safeguarding training.
Sexual orientation	There are high rates of gonorrhoea (as with other bacterial STIs) among gay, bisexual and other men who have sex with men; gonorrhoea is the most commonly diagnosed bacterial STI in this group.	NA	NA	NA
Gender reassignment	There is limited data about gonorrhoea in people following gender reassignment. The reproductive harms of untreated gonorrhoea can affect transgender men, non-binary (assigned female at birth) and other people who have not had a hysterectomy or bilateral oophorectomy.	The guideline addresses the potential harms of gonorrhoea for people following gender reassignment and provides recommendations for people following gender reassignment. We have removed, as far as possible, gendered language where this is not relevant to the information provided.	NA	Specific guidance on considerations for people following gender reassignment.

Religion/belief	Surveillance data do not tell us about any association between gonorrhoea and religion/ belief.	NA	NA	NA
Pregnancy & maternity	Gonorrhoea can lead to adverse reproductive outcomes. Some people may be vulnerable to experiencing sexual coercion and violence during pregnancy. Departmental safeguarding procedures should be in place to identify and respond.	The guidelines are primarily for those working in level 3 specialist sexual health services and safeguarding concerns should be addressed by departmental policies. GU physicians receive level 3 safeguarding training.	Safeguarding concerns should be addressed.	Specific guidance for management in pregnancy and for those who are breast or chest feeding. Consideration of patients in these groups being at risk of sexual exploitation/abuse should be made as part of GUM departments safeguarding training.

Other definable characteristics & socioeconomic factors that may affected by protected characteristics, including: • Prisoners and young offenders • Refugees and asylum seekers • Migrant workers • Looked after children • Homeless people • Deprivation • Disadvantage associated with geographical distinctions	Rates of gonorrhoea are greatest among people residing in areas of greater deprivation. There are geographical variations in access to testing and treatment for STIs, including gonorrhoea. Surveillance data do not offer sufficient granularity to comment on how other inclusion populations may be more affected by gonorrhoea. Some people in inclusion health populations may be vulnerable to additional adverse determinants of health including sexual coercion and violence. Departmental safeguarding procedures should be in place to identify and respond to any issues.	The guidelines are primarily for those working in level 3 specialist sexual health services and safeguarding concerns should be addressed by departmental policies. GU physicians receive level 3 safeguarding training.	Safeguarding concerns should be addressed.	Consideration of patients in these groups being at risk of sexual exploitation/abuse should be made as part of GUM departments safeguarding training.

Abbreviations: GU = Genitourinary; GUM = Genitourinary Medicine; NA = Not Applicable; NHS = National Health Service; STI = Sexually Transmitted Infection.

APPENDIX 4: TESTING ALGORITHM