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British Association of Sexual Health and HIV National Guideline on the Management of Non-gonococcal Urethritis (NGU), 2026

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Abstract

The British Association for Sexual Health and HIV United Kingdom guideline on the management of non-gonococcal urethritis (NGU) 2026 provides details on the aetiology and clinical features of NGU, with recommendations on diagnosis and treatment of acute and persistent/recurrent NGU. Non-gonococcal urethritis is characterised by urethral inflammation, and it can be infectious or non-infectious. The most common organisms causing NGU are *Chlamydia trachomatis* and *Mycoplasma genitalium*. Diagnosis of NGU is based on clinical history and evidence of an excess of polymorphonuclear leucocytes in the anterior urethra of symptomatic men. Nucleic acid amplification tests to determine the specific aetiology are used to guide treatment and reduce complications. Recommendations include advising patients to abstain from sexual intercourse until they and their partner(s) have completed treatment and follow-up to prevent re-infection.

Keywords

non-gonococcal urethritis, urethritis, *Chlamydia trachomatis*, *Mycoplasma genitalium*

What is new in the 2026 guideline?

- *Haemophilus influenzae, Haemophilus parainfluenzae* and *Neisseria meningitidis* are included as probable causative pathogens of non-gonococcal urethritis (NGU).
- Automated urinary flow cytometry (AUFC) analysis of a first voided urine (FVU) specimen is included as a diagnostic test for NGU, in addition to a Gram-stained urethral smear.
- Leucocyte esterase (LE) dipstick test on a FVU specimen is no longer recommended for the diagnosis of urethritis.
- Nucleic acid amplification test (NAAT) for *M. genitalium* on a FVU specimen is recommended for all symptomatic men with a diagnosis of NGU.
- NAATs for herpes simplex virus (HSV) should be considered when the aetiology of NGU is suspected to be viral.
- Azithromycin 1 g stat is no longer recommended for the treatment of NGU.
- Azithromycin 1 g orally single dose, then 250 mg for 4 days, or azithromycin 1 g orally single dose, then 500 mg once daily for 2 days are included as alternative regimens for the treatment of acute NGU.

Introduction and methodology

Objectives

The objective of this guideline is to effectively manage symptomatic urethritis in people with a penis, and to prevent complications that can arise.

This guideline offers recommendations on the diagnostic tests, treatment regimens and health promotion principles needed for the effective management of NGU, covering the management of the initial presentation, as well as how to prevent transmission and future infection.

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The guideline is aimed primarily at health care professionals seeing patients aged 16 years or older (see specific guidelines for those under 16) in departments offering specialist level 3 care in sexually transmitted infection (STI) management within the United Kingdom (UK). However, the principles of the recommendations are applicable across all levels. The diagnosis of NGU pertains to penile symptoms; therefore this guideline is directed to the management of penile symptoms only except where it addresses the management of partners of those with NGU.

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

Search strategy and methods

This guideline was produced according to specifications set out in the Clinical Effectiveness Group (CEG) document 'framework for guideline development and assessment' (2015, updated 2019) accessed at: https://www.bashh.org/_userfiles/pages/files/resources/2020_guidelines_framework.pdf.

This guideline has been updated by reviewing the previous UK national guideline on the management of NGU (2015[1] and 2018 update[2]) and conducting a comprehensive literature search of publications from January 2014 to January 2023. Medline, Embase and Cochrane library databases were used to identify published articles including the search terms 'nongonococcal urethritis', 'non-gonococcal urethritis', 'nonspecific urethritis', or 'non-specific urethritis' (and broadened the search to include 'urethritis' and urethritis combined with '*Chlamydia trachomatis*' or '*Mycoplasma genitalium*'). Reviews, case reports, editorials, comments, letters, and research pertaining to the development of laboratory assays and the study of genomics were excluded. Additional articles, not retrieved from the initial comprehensive literature search, and book chapters were considered when appropriate. Due to the paucity of clinical trials, all entries in the English language were reviewed, and if relevant the full text obtained.

To structure the analysis of the evidence, the authors formulated six "PICO" questions (Appendix 1) addressing the patient problem or population (P), intervention (I) (or aetiology/diagnosis/frequency/prognosis), comparison (C) and outcome(s) (O). The Grading of Recommendations, Assessment, Development, and Evaluations (GRADE) system was used to assess the evidence and make recommendations (Appendix 2).

Direct comparison of published studies is hindered by the majority lacking a clear microscopic definition of NGU or using an alternative definition to 'five or more polymorphonuclear leucocytes (PMNLs) per high powered field (hpf) averaged over five fields with the greatest concentration of polymorphs' and varying urethral specimen collection techniques. Generally, only those studies which had objective evidence of urethral inflammation were included. If such studies were included this is commented in the text.

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.

The British Association for Sexual Health and HIV (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'.

Stakeholder involvement, piloting and feedback

The writing group consisted of genitourinary medicine physicians with experience in managing NGU (CT, KB, MC, MR and PJH) and a sexual health adviser (CE). The first draft was produced by the writing group and then circulated to the BASHH Clinical Effectiveness Group (CEG) for review using the Appraisal of Guidelines, Research and Evaluation (AGREE) tool (Appendix 4). 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 (Appendix 5).

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 5 years.

Introduction

Urethritis, or inflammation of the urethra, is a multifactorial condition which is sexually acquired in the majority of cases. It is characterised by urethral discharge, dysuria and/or urethral discomfort but may be asymptomatic. The diagnosis of urethritis is confirmed by demonstrating an excess of PMNLs in the anterior penile urethra without the presence of intracellular Gram-negative diplococci. This is usually assessed by microscopy analysis of a Gram- or methylene blue-stained urethral smear. Automated urine flow cytometry of a FVU specimen can also be used for the diagnosis of urethritis if *N. gonorrhoeae* is excluded. Urethritis is described as either gonococcal, when *Neisseria gonorrhoeae* is detected, or non-gonococcal (NGU) when it is not. The most common organisms causing NGU are *Chlamydia trachomatis* and *Mycoplasma genitalium*.[3–13]

There are a number of uncertainties with NGU. There is significant inter-observer and intra-observer error in performing and reading urethral slides and counting PMNLs, especially in samples with low-grade inflammation.[14,15] In 10%–45% of NGU cases, a pathogenic microorganism is not detected.[3,6,7,16] The cause of organism-negative or idiopathic NGU is unclear.

Aetiology

Causative pathogens

The prevalence of the common microorganisms associated with NGU is listed in Table 1.

There is conflicting evidence on whether the sex of the patient's partner affects the most likely cause of NGU.[3,24]

Chlamydia trachomatis *and* Mycoplasma genitalium. The most common organisms causing NGU are *C. trachomatis* and *M. genitalium*.[3–13]

- The prevalence of *C. trachomatis* and *M. genitalium* in men with NGU probably varies by age group, with some studies suggesting a higher proportion of infections identified among younger men with NGU.[5,8,25]
- No symptom and/or sign can be reliably used to distinguish NGU caused by C. *trachomatis* and *M. genitalium* from men with idiopathic NGU.[6,8,25–27]
- *M. genitalium*, but not *C. trachomatis,* has been associated with balano-posthitis in a single study.[28]
- Co-infection with *C. trachomatis* and *M. genitalium* is uncommon, occurring in <5% of men with NGU.[3,6,17,25,29]

Ureaplasma urealyticum and Ureaplasma parvum. *Ureaplasmas* spp. have been inconsistently associated with NGU. The majority of men with *Ureaplasma* spp. infections are asymptomatic and NGU may only develop in the presence of a high organism load (>1000 copies/mL of FVU).[3,7,17,30–32]

- A meta-analysis including seven studies and 1507 NGU patients demonstrated an association of *U. urealyticum* infection with NGU,[33] yet no association has been observed in two more recent studies with one study only observing an association in men with >30 PMNLs per hpf.[3,17,34]
- One study indicated association of *U. urealyticum* infection with NGU in men with fewer lifetime sexual partners but no association in men with more lifetime sexual partners.[9] This result suggests that previous exposure to *U. urealyticum* and adaptive immunity may reduce the bacterial load and the likelihood of NGU.[7,9]
- *U. parvum* is unlikely to cause NGU.[33] It is usually detected more often in controls (men without NGU) than cases (men with NGU).[33,35]
- Earlier studies did not differentiate between the two species *U. urealyticum* (biovar 2) and *U. parvum* (biovar 1) which continues to be the case if culture alone is used and with some NAATs. Clinicians should be aware of this when interpreting test results with no biovar differentiation.[7,30,31,33]

Haemophilus influenzae and Haemophilus parainfluenzae. *Haemophilus influenzae,* which colonises the respiratory tract, has recently been associated with NGU and may be transmitted by condom-less oral sex.[3,6,7,36] It is possible that *Haemophilus parainfluenzae* may also cause NGU.[37,38]

Trichomonas vaginalis. *Trichomonas vaginalis* can cause NGU in men who have sex with women (MSW). In the UK, the prevalence of *T. vaginalis* is relatively low, affecting <2% of men with NGU.[4,13,39] In women, risk factors for

Table 1. Prevalence of microorganisms associated with NGU in case control studies.

Microorganism	Prevalence in cases vs controls (%)	References
C. trachomatis	22–48 vs. 0–3	3,6,7,11–13,17–20
M. genitalium	9–33 vs. 3–5	3,6,7,11–13,17–21
U. urealyticum	15–26 vs. 11–21	3,6,7,11,17,19
U. parvum	8–16 vs. 18–31	6,7,19,22
Haemophilus spp	5–14 vs. 0–2	3,6,7
T. vaginalis	1–13 vs. 0–2	3,6,7,11,12,17
M. penetrans	1–8 vs. 0–1	3,23
N. meningitidis	0–2 vs. 0	6,7
Adenovirus	3-8 vs. 0	6,7
Herpes simplex virus type 1 and type 2	1–5 vs. <1–1	3,6,7
Idiopathic[a]	10–45	3,6,11,17,23

[a]At least four microorganisms tested for. All studies except Srinivasan et al.[3] assumed *U. urealyticum* was causual.
v.s.: versus.

T. vaginalis infection include older age, black ethnicity and socio-economic deprivation.[40,41]

Mycoplasma penetrans. *Mycoplasma penetrans* in a recent study was associated with NGU in men who have sex with men (MSM) but not in MSW.[3] This requires confirmation and further study.

Neisseria meningitidis. *Neisseria meningitidis* sequence type 11 has been linked to clusters of NGU in the United States and may represent a urethrotropic clade.[42,43]

Bacterial vaginosis-associated bacteria. There is some evidence that bacterial vaginosis (BV)-associated bacteria may cause NGU.[44–46] However, despite a number of case-control studies using species specific polymerase chain reactions (PCRs) or 16S rRNA microbiome sequencing, no single microorganism has been consistently associated with NGU.[3,16,23,45,46]

Adenovirus. Adenovirus can cause NGU and transmission occurs by oral and ano-genital sex and possibly also by auto-inoculation.[6,47–49] Clinical features include dysuria, meatitis and conjunctivitis with urethral discharge often being either scanty or absent.[6,47] Symptoms and signs are self-limiting and usually resolve within 3 weeks.[48] The urethral smear may not demonstrate ≥5 PMNLs per hpf and the leukocytes observed may be predominantly mononuclear.[6,47,50]

Herpes simplex virus. Herpes simplex virus types 1 and 2 can cause NGU and clinical features include dysuria, meatitis (with or without genital ulceration) and inguinal lymphadenopathy.[49,51,52] In most cases shedding of HSV from the urethra stops spontaneously and signs and symptoms resolve within 7–19 days.[51] Microscopy analysis of urethral smear or FVU from men with HSV-NGU may reveal a high proportion of mononuclear leukocytes and/or not demonstrate ≥5 PMNLs per hpf.[6,49,51,52]

Other pathogens. *Candida* spp., urethral stricture and foreign bodies probably account for a small proportion of NGU, whilst the role of Epstein-Barr virus is questionable.[53,54]

Urinary tract infection

A urinary tract infection (UTI) was found in 6% of men with acute NGU in a single study.[55]

Organism-negative or idiopathic NGU

In 10%–45% of men with NGU, no pathogens are identified after screening for common infections.[3,6–8,17,25] Idiopathic NGU seems to be more prevalent in older men and is associated with a less marked inflammatory response.[6,18,25,56]

The cause of organism-negative or idiopathic NGU is unclear. Some cases are almost certainly non-infective.[3,7,13,16,36,57]

Asymptomatic NGU. Asymptomatic NGU, without an observable discharge, probably has a different aetiology from symptomatic NGU, with *C. trachomatis* and *M. genitalium* being detected less frequently.[5,18,26,56,58] It is not recommended to test asymptomatic men for NGU by microscopy of a urethral smear.[59] **(Grade 2B)**.

Clinical features

Symptoms and signs

Symptoms:

- Urethral discharge;
- Dysuria;
- Penile tip irritation;
- Urethral discomfort and/or itch;
- Nil.

Signs:

- Urethral discharge;
- Penile tip erythema;
- Normal examination.

Complications

- Epididymo-orchitis;
- Sexually acquired reactive arthritis – acute or chronic.

Diagnosis of urethritis and investigations

Diagnosis of urethritis

Men with symptoms compatible with urethritis and those with a visible discharge should be assessed for the presence of urethritis.

Urethritis is diagnosed by demonstrating an excess of PMNLs in the anterior urethra without the presence of intracellular Gram-negative diplococci.

We recommend the diagnosis of NGU should be confirmed by microscopy analysis of a Gram- or methylene blue (MB)-stained urethral smear showing no Gram-negative intracellular diplococci and ≥5 PMNLs per hpf (averaged over 5 fields with greatest concentration of PMNLs).[56,58,60–62] **(Grade 1B)**.

- The sensitivity of the smear test for diagnosing urethritis, is affected by the period since last passing urine. We recommend the optimum time to ensure a

definite diagnosis in a symptomatic men is a minimum of 2 h since voiding urine. (**Grade 1D**).

- The quality of the urethral smear is dependent on sample collection and the interpretation of the microscopy results is subject to inter- and intra-observer variation.[14,15]
- Urethral smears should be prepared by collecting urethral secretions using a 5-mm plastic loop or a cotton tipped swab introduced about 1 cm into the urethra. We recommend the use of a 5-mm plastic loop as this is less painful than a Dacron swab, which is less painful than a Rayon swab.[63] (**Grade 1C**).
- There is no evidence regarding the acceptability or the level of pain experienced using these methods of urethral secretion collection in the UK. Other devices can be used to collect the urethral secretion for the urethral smear, including a sterile blunt curette or spatula. These sampling methods may have better recovery of PMNLs to the slide and therefore it has been proposed to use ≥10 PMNLs per hpf for diagnosis of NGU, with 5–9 PMNLs per hpf regarded as a "grey zone". Syndromic management for patients in the "grey zone" should be reserved in those who have severe symptoms or other risk factors.[34,64] **(Grade 2D)**.
- If a visible discharge is present, we recommend the urethral smear can be prepared by collecting a small sample of the discharge without introducing the device into the urethra. (**Grade 1D**).
- If the leukocytes observed by microscopy are predominantly mononuclear and the patient reports dysuria, conjunctivitis, meatitis or inguinal lymphadenopathy, consider the investigation of a viral aetiology.[50–52] (**Grade 2C**).

Automated urine flow cytometry of a FVU specimen (having not voided for 2 h) can be used for the diagnosis of urethritis if *N. gonorrhoeae* is excluded. Therefore, AUFC should not be seen as a replacement for microscopy as the presence or absence of Gram-negative intracellular diplococci cannot be assessed.

- We recommend urethritis can be confirmed by AUFC analysis of a FVU specimen (FVU-AUFC) if ≥ 30 leucocytes per μL of urine are demonstrated.[65] (**Grade 1C**).

Leucocyte esterase dipstick test on a FVU specimen is not recommended for the diagnosis of urethritis.[66,67] Use of an LE dipstick test should only be considered in settings with no access to microscopy or AUFC.

Investigations in symptomatic men with confirmed diagnosis of urethritis

- We recommend testing for the following pathogens if NGU is confirmed:
  - *C. trachomatis* (**Grade 1B**)
  - *N. gonorrhoeae* (**Grade 1B**)
  - *M. genitalium* (**Grade 1B**)
- We recommend a NAAT on a FVU as the specimen of choice. (**Grade 1B**).

Implementing *M. genitalium* NAAT (in addition to *C. trachomatis*/*N. gonorrhoeae* NAATs) at first presentation of NGU may reduce clinical visits for persistent NGU.[68]

- If patients have severe dysuria, constitutional symptoms, lymphadenopathy, meatitis or genital ulceration, particularly with a mononuclear cell response on urethral smear, consider testing for HSV using a NAAT. (**Grade 2C**).
- Symptoms of UTI may overlap with those of urethritis. A urinary dipstick analysis on a mid-stream urine specimen should be considered in men with symptoms of UTI (including dysuria, macroscopic haematuria, nocturia, urinary frequency or urgency) or at low risk for a STI. If urinalysis is positive for nitrites and leucocytes, a urine culture and antibiotic sensitivity we recommend testing.[55,69] (**Grade 1D**) If a UTI is confirmed consider further urological assessment in line with National Institute for Health and Care Excellence Clinical Knowledge Summary on management of lower UTI in men.[70]

Investigations in symptomatic men without confirmed diagnosis of urethritis

- In approximately one third of the men with symptoms of urethritis, the result of urethral smear microscopy is normal (<5 PMNLs per hpf).[34]
- To prevent perpetuating symptoms of urethritis, it is not recommended to treat men with symptoms without a confirmed diagnosis of urethritis. Empirical treatment should only be given in exceptional circumstances.
- If the result of urethral smear microscopy is normal and/or FVU-AUFC analysis is negative we recommend awaiting for the results of NAATs. **(Grade 1D)**.
- If the result of urethral smear microscopy is normal (and/or FVU-AUFC analysis is negative) and *C. trachomatis*/*N. gonorrhoeae* NAATs are negative, we recommend the patient can be reassured, and advised to reattend for an early morning urethral smear if symptoms persist. (**Grade 1D**).
- Men attending for an early morning smear should be advised to hold the urine overnight and to re-attend not having voided urine. We recommend to advise the patient to take their last drink at about 8 p.m. and to void about 3 h later to avoid waking with a full bladder. (**Grade 1D**).

- If the result of the early morning urethral smear microscopy is normal, consider performing FVU-AUFC analysis (and vice-versa). (**Grade 2D**).
- If the result of microscopy of the early morning urethral smear is negative, and on FVU-AUFC analysis (if available), microscopy analysis of Gram- or MB-stained thread from a FVU specimen thread can be considered. Urethritis can be diagnosed if the specimen has ≥10 PMNLs per hpf (averaged over five fields with greatest concentration of PMNLs).[10] (**Grade 2D**).

Investigations in settings without access to microscopy or AUFC analyses

Symptomatic patients should be strongly encouraged to attend a centre that has microscopy available.

Management of acute NGU

General advice

Patients should be given a detailed explanation of their condition including: short- and long-term implications for the health of themselves and their partner(s); infective and non-infective causes of NGU; and available treatments and side-effects. This should be reinforced by providing clear written information (see https://www.bashh.org/guidelines for a patient information leaflet on NGU[71]).

Patients should be advised to abstain from sexual intercourse until they and their partner(s) have completed treatment and follow-up. Safer sexual practices[72] should be discussed and the importance of adhering to treatment and testing/treating sexual partner(s) should be emphasised.

Treatment of acute NGU

We recommend treatment of men with severe symptoms be initiated as soon as the diagnosis of urethritis is made and without waiting for the results of *C. trachomatis*/*N. gonorrhoeae*/*M. genitalium* NAATs and *N. gonorrhoeae* culture. (**Grade 1C**).

We recommend in men with mild symptoms and/or low-grade urethritis (i.e., 5–15 PMNLs per hpf on urethral smear), antibiotic management may be delayed until the results of NAATs are available. In some cases, this allows for resolution of inflammation/urethritis without treatment.[73] (**Grade 1D**).

Alternatively, point-of-care *C. trachomatis*/*N. gonorrhoeae* NAATs of symptomatic men at first presentation may allow for early antimicrobial treatment without requirement for microscopy and culture (when the results are positive).[74–77] This approach may improve antimicrobial stewardship and partner management.

Ideally, treatment should be effective (cure rate >95%), easy to take (twice daily or less), with a low side-effect profile, and cause minimal interference with daily lifestyle. However, assessing treatment efficacy is difficult as persistence of inflammation may not indicate persistent infection.[10,22,78,79] Detectable inflammation may persist for an unknown length of time, even when the putative organism has been eliminated.[80] Two randomised controlled trials including men with NGU treated with doxycycline 100 mg twice daily (bd) 7 days or azithromycin 1 g orally stat showed clinical cure rates <80%.[12]

Recommended regimen. Doxycycline 100 mg orally bd for 7 days (Grade 1B).

- Doxycycline 100 mg orally bd for seven days with overall efficacy of 97% in men who are *C. trachomatis*-positive.[81]
- Doxycycline 100 mg orally bd for seven days is only effective in 25%–45% of men who are *M. genitalium*-positive yet there is no evidence that it confers antimicrobial resistance.[11,12,82,83]
- The majority of other potential bacterial pathogens remain susceptible to doxycycline including *Haemophilus* spp and *U. urealyticum*.[22,84]
- Switching from azithromycin 1 g stat to doxycycline as first-line NGU treatment correlates with a reduction of persistent NGU.[68,85]
- There is no evidence that treatment with doxycycline induces antimicrobial resistance in *C. trachomatis* or *M. genitalium*. Clinicians should refer to the most recent UK national guideline on the management of *C. trachomatis* and *M. genitalium* for further details.

Alternative regimens. Azithromycin 1 g orally single dose, then 500 mg od for 2 days (3 days total treatment) (Grade 1C).

- Azithromycin 1 g stat is no longer recommended for the treatment of *C. trachomatis* and *M. genitalium*.[86–88] Azithromycin 1 g is associated with development of macrolide resistance in *M. genitalium*,[11,12,81,89–91] is likely to increase macrolide-resistant strains in the population[92–94] and has a reduced efficacy in *C. trachomatis*-positive men with urethritis.[81,95,96]
- Men should be advised to abstain from sexual intercourse until 14 days after the start of treatment with azithromycin and until symptoms have resolved. Where azithromycin has been used this is likely to reduce the risk of selecting/inducing macrolide resistance if the patient is (re)exposed to *M. genitalium*.[86]
- Azithromycin for three or 4 days (1 g stat then 500 mg od for 2 or 3 days) is at least as effective as

azithromycin for 5 days (500 mg orally single dose, then 250 mg od for 4 days), resulting in high concentrations for a prolonged duration in all tissue sites and similar cure rates.[97,98]

- Azithromycin for 5 days is about 95% effective in eradicating macrolide-susceptible *M. genitalium* and maybe more effective at eradicating *C. trachomatis* in men with urethritis.[94,99–101] It appears to induce lower rates of macrolide antimicrobial resistance than the 3 days regimen, although there is limited literature evaluating this.[93,99]
- Azithromycin has a long half life (68 h) with sub-inhibitory concentrations (MIC) levels for *N. gonorrhoeae* and *M. genitalium* persisting for 2–4 weeks extracellularly and probably longer intracellularly.[97] Increasing the total dose to 2.5 g is likely to be effective[86,98] but should be accompanied by recommending no sexual intercourse with a new partner for 2 weeks after commencing therapy.[86,102,103]
- The majority of other bacterial pathogens remain susceptible to azithromycin including *U. urealyticum*, *Haemophilus* spp. and *M. penetrans*[22,84,104,105]

Follow-up

We recommend patients who remain symptomatic (at least 2 weeks after initiating treatment) should be asked to return to the clinic and re-evaluated for urethritis with an appropriate treatment regimen provided if indicated (see below) and the possibility of re-infection explored. (**Grade 1C**).

Persistent/recurrent NGU

Persistent or recurrent NGU, when symptoms do not resolve or recur within 90 days following initial treatment of acute NGU, occurs in 5%–25% of men.[10–12,79,106,107]

The aetiology of persistent/recurrent NGU is probably multifactorial, with an infectious agent being identified in <50% of cases.[7,8,10,11]

M. genitalium has been identified in 20%–70% and *C. trachomatis* in 5%–10% of men treated with doxycycline 100 mg bd for 7 days.[8,12,107,108]

U. urealyticum and *U. parvum* may also play a role in some men with persistent NGU, but urethritis appears to resolve despite persistent infection.[10,104,109]

Trichomonas vaginalis can be identified in up to 10% of men in populations where it is endemic, but it is an uncommon cause of NGU in the UK (<5%).[8,107]

Investigations in men with symptoms of persistent/recurrent NGU

We recommend testing only for persistent/recurrent NGU at least 2 weeks after initial treatment of acute NGU.[11,12,110] (**Grade 1C**).

NAATs for *C. trachomatis*/*N. gonorrhoeae* on a FVU specimen is recommended for all men with persistent/recurrent symptoms of NGU if at risk of new infection or if not performed an initial assessment. (**Grade 1A**).

- If ongoing evidence of urethritis, perform NAAT for *M. genitalium* on a FVU specimen (if not undertaken at first presentation).[86] (**Grade 1A**)
  - If *M. genitalium* NAAT result is positive, AMR should be considered. Clinicians should refer to the most recent UK national guideline on the management of *M. genitalium* for further details.
- If ongoing evidence of urethritis, consider NAATs for *T. vaginalis* on a FVU specimen. (**Grade 2D**)
  - NAAT for *T. vaginalis* should be considered if it is prevalent (≥2% in symptomatic women) in the local population.[87]
  - If *T. vaginalis* NAAT result is positive, clinicians should refer to the most recent UK national guideline on the management of *T. vaginalis* for further details.

Management of persistent/recurrent NGU

- Assess treatment adherence. (**Grade 1D**).
- Re-assess sexual history and evaluate for possible reinfection. (**Grade 1D**).
- Only treat men with symptoms of urethritis and confirmed diagnosis of urethritis (see above). (**Grade 2C**).
- Reassure symptomatic men without evidence of ongoing inflammation with information on why they might be experiencing pain. Guide them on how to relax their pelvic floor and advise to re-attend for an early morning smear if symptoms persist. (**Grade 2C**).

Treatment of persistent or recurrent NGU

Treatment of persistent/recurrent NGU should cover *M. genitalium*, *C. trachomatis*, *Ureaplasmas* spp., *T. vaginalis* and possibly BV-associated bacteria. The only randomised controlled trial for persistent/recurrent NGU was undertaken before *M. genitalium* had been identified as an important pathogen (but before macrolide resistance was common) and used erythromycin, a first-generation macrolide.[111] Although a 3-week erythromycin regimen was more efficient than placebo, it is not clear how relevant this regimen is today, given that better macrolides are available with fewer side-effects.[112]

Recommended regimens (second attendance or first follow-up visit)

If doxycycline 100 mg bd for 7 days used as first line treatment. Azithromycin 1 g orally single dose, then 500 mg od for 3 days (4 days total treatment).

PLUS Metronidazole 400–500 mg orally bd for 7 days (**Grade 2B**).

If azithromycin used as first line treatment. Doxycycline 100 mg orally bd for 7 days.

PLUS metronidazole 400–500 mg orally bd for 7 days (**Grade 1A**).

Continuing symptoms. There is growing evidence on how best to manage patients who either remain symptomatic following second-line treatment, or who have frequent recurrences after treatment. After excluding persistent infection, management should focus on improving symptoms.

The management of men with persistent/recurrent NGU who fail second-line treatment is a condition known as CPPS.[113–115] Guidance on the management of CPPS in people with a penis in UK sexual health clinic settings has been published.[116]

There is evidence that increased pelvic floor tone, of which the patient is usually unaware, is likely to be the underlying cause of continuation of symptoms in many patients, in the absence of persistent/recurrent infection.[113–115,117–119] A holistic bio-psychosocial approach has been demonstrated to be effective in managing men with chronic abacterial prostatitis (CP)/CPPS and persistent/recurrent NGU in whom infection has been excluded.[113,114,116–120] This involves incorporating a detailed explanation of:[113,115,117,120,121]

(1) How increased pelvic floor tone can cause their symptoms - this can result in referred pain elsewhere in the pelvis, difficulty in urination including dysuria and pain on ejaculation secondary to constriction of external urethral sphincter with intraprostatic reflux of urine;
(2) Identification of stressors and working with the patient to look at how these could be reduced;
(3) Pelvic floor relaxation exercises with or without use of alpha blockers and antibiotics.

Tracing and treatment of contacts

Contact tracing should be performed according to BASHH guidelines (https://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.

Current partner(s) with whom there is likely to be further sexual contact should be tested, and treated if positive for an identified infection.[122,123] Partners should be given the same antibiotic as the index patient unless there is available resistance information to suggest otherwise. Retrospective notification of past partners if no longer recommended.

Patient and current partner(s) should be advised not to be sexually active until all have completed treatment.

Any specific diagnosis made should have partner notification managed in line with the infection-specific BASHH guidance.

Details of all contacts should be obtained at the first visit. This will aid facilitating partner notification in the event of a positive test result.

There is evidence suggesting that men with idiopathic NGU may be more likely to have *C. trachomatis*-positive partner(s) (see aetiology). However, in a study conducted before NAATs for *C. trachomatis* and *M. genitalium* were available, there was no evidence of treatment benefit of partners of men with *C. trachomatis*-negative NGU.[123]

Auditable outcome measures

- Proportion of patients with diagnosis of NGU tested at first presentation for *C. trachomatis, N. gonorrhoeae* and *M. genitalium:* 97% *(for C. trachomatis and N. gonorrhoeae)* and 90% *(for M. genitalium)*.
- Proportion of patients treated with recommended regimen for confirmed NGU or not treated due to documented reasons: 97%.
- Proportion of patients offered information (written or digital) about their diagnosis and management: 97%
- Proportion of patients with symptoms consistent with NGU who have a Gram- or MB- stained urethral smear: 97%*.

*if *N. gonorrhoeae* excluded, an FVU-AUFC can be done instead of a Gram- or MB- stained urethral smear with the same auditable target

Recommendations for further research

What are the causes of pathogen-negative NGU?

How might we best manage the partners of people with NGU?

Can NGU be managed remotely or in centres without access to microscopy without evidence of harm?

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.

Review arrangements

An author group will be invited by the BASHH CEG to review and revise the guideline in 2031 using the BASHH framework for guideline development. However, addenda may be issued sooner than 2031, particularly if relevant new data are available relating to testing or treatment options.

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Editorial independence

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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/.

Supplemental material

Supplemental material for this article is available online.

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Appendix

Abbreviations

AGREE	Appraisal of Guidelines, Research and Evaluation
AUFC	Automated Urine Flow Cytometry
BASHH	British Association for Sexual Health and HIV
bd	Twice Daily
BV	Bacterial Vaginosis
CEG	Clinical Effectiveness Group
CP	Chronic Abacterial Prostatitis
CPPS	Chronic Pelvic Pain Syndrome
FVU	First Voided Urine
GRADE	Grading of Recommendations, Assessment, Development, and Evaluations
hpf	High Power Field
HSV	Herpes Simplex Virus
LE	Leucocyte esterase
MB	Methylene Blue
MIC	Minimum Inhibitory Concentration
MSM	Men Who Have Sex With Men
NAAT	Nucleic Acid Amplification Test
NGU	Non-gonococcal Urethritis
od	Once Daily
PCR	Polymerase Chain Reaction
PID	Pelvic Inflammatory Disease
PMNLs	Polymorphonuclear Leucocytes
stat	Immediately
STI	Sexually Transmitted Infections
UK	United Kingdom
UTI	Urinary Tract Infection
vs	versus