

Gonorrhoea - Management

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How do I make a diagnosis in men?

Uncomplicated gonorrhoea typically causes symptoms in men.

- Symptoms usually develop after 2–5 days incubation, although they may appear after 10 days or more.
- Genital infection is most common and causes:
 - Urethral discharge in 80% of men. Initially it is often scant and mucoid, becoming overtly purulent after 1–2 days.
 - Pain or difficulty urinating (dysuria) in about 50% of men. Usually there is no frequency or urgency.
 - No symptoms in 10% of men.
 - Rectal infection is asymptomatic in most men (about 75%), but may cause acute proctitis. This presents as anal pruritus, pain and spasm of the anal sphincter (tenesmus), purulent discharge, or bleeding.
 - Pharyngeal infection is asymptomatic in 90% of men, but may cause overt pharyngitis.
- **Examination commonly reveals a mucopurulent or purulent urethral discharge.** Less commonly, there may be epididymal tenderness or swelling, or balanitis.
- **Diagnosis of gonorrhoea is confirmed by positive identification of *Neisseria gonorrhoeae* through culture and nucleic acid amplification tests.**
- For more information, see the section on [Assessment](#) in the CKS topic on [Urethritis - male](#).

[[BASHH, 2005b](#); [Handsfield and Sparling, 2005](#); [Bignell et al, 2006](#)]

How do I make a diagnosis in women?

- **Uncomplicated gonorrhoea causes no symptoms in up to 50% of women.**
- Where present, symptoms usually develop within 10 days.
- Genital infection is most common and causes:
 - Increased or altered vaginal discharge in up to 50% of women.
 - Pain or difficulty urinating (dysuria) in 12% of women. Urgency or frequency are uncommon.
 - Intermenstrual bleeding, sometimes triggered by intercourse (less commonly).
 - Pelvic or abdominal pain, with possible pain on intercourse (dyspareunia), if there is ascending infection (see the CKS topic on [Pelvic inflammatory disease](#)).
 - Rectal gonorrhoea may occur, but tends to cause symptoms (anal pruritus, pain and spasm of the anal sphincter [tenesmus], purulent discharge, or bleeding) that are less severe than in men.
 - Pharyngeal infection is asymptomatic in 90% of women, but it may cause overt pharyngitis.
- **Examination may show:**
 - Most commonly, purulent or mucopurulent endocervical discharge, or easily induced endocervical bleeding. However, this is not a sensitive predictor of cervical infection (occurring in less than 50% of women).
 - Less commonly, purulent discharge from the urethra.
 - Abdominal tenderness if pelvic inflammatory disease is present.
- **Diagnosis of gonorrhoea is confirmed by positive identification of *Neisseria gonorrhoeae* through culture, which requires an endocervical swab.**
 - Nucleic acid amplification tests, which require a first-pass urine sample, may also be used initially depending on local protocols, although culture will also usually be required for confirmation.

- See the CKS topic on [Vaginal discharge](#) for further information.

[[BASHH, 2005b](#); [Handsfield and Sparling, 2005](#); [Bignell et al, 2006](#)]

When should I suspect sexual abuse?

- Consider the possibility of sexual abuse in any child or young person with gonorrhoea, particularly in the following circumstances:
 - The child is younger than 13 years of age, unless there is clear evidence of mother-to-child transmission during birth, or of blood contamination.
 - The young person is 13 to 15 years of age, unless there is clear evidence of mother-to-child transmission during birth, blood contamination, or that the STI was acquired from consensual sexual activity with a peer.
 - The young person is 16 to 17 years of age and there is no clear evidence of blood contamination or that the STI was acquired from consensual sexual activity *and* there is a clear difference in power or mental capacity between the young person and their sexual partner, in particular when the relationship is incestuous or with a person in a position of trust (such as a teacher, sports coach, minister of religion) *or* there is concern that the young person is being exploited.
- Follow appropriate [child protection](#) procedures and refer to a paediatrician if necessary.

[[NICE, 2009](#)]

What else might it be?

- **Men**
 - Other causes of penile discharge, including:
 - Non-gonococcal urethritis caused by *Chlamydia trachomatis*, *Ureaplasma urealyticum*, *Mycoplasma genitalium*, or *Trichomonas vaginalis* (see the CKS topic on [Urethritis - male](#)).
 - Physiological discharge (small amounts of clear or mucoid discharge upon sexual excitement).

- Subpreputial infection (for example candidiasis).
- Acute prostatitis — may present with: blood-tinged urethral discharge; dysuria, frequency, and urgency; fever; or penile, perineal, and rectal pain. The prostate is swollen and tender.
- Herpes simplex virus infection — can present with herpetic lesions on the urethral meatus.

- **Women**

- Chlamydia. It is not possible to distinguish gonorrhoeal infection from chlamydia in women by clinical features alone, and the infections coexist in about a third of women.
- See the CKS topic on [Chlamydia - uncomplicated genital](#) for further information.
- Other causes of vaginal discharge.
- See the CKS topics on [Vaginal discharge](#), [Candida - female genital](#), [Bacterial vaginosis](#), [Trichomoniasis](#), and [Pelvic inflammatory disease](#).

[[Adler, 2004](#); [Handsfield and Sparling, 2005](#); [GRASP Steering Group, 2007](#)]

Gonorrhoea - Management

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[How should I manage a person with gonorrhoea in primary care?](#)

- Ideally, [refer](#) all people with confirmed or suspected gonorrhoea to a genito-urinary medicine clinic or to a general practice providing an enhanced sexual health service.
- If these services cannot be accessed within a reasonable time, or if the person is unwilling to attend despite receiving appropriate [information and advice](#):

- For confirmed anogenital gonorrhoea, [treat](#) with a cephalosporin (cefixime or ceftriaxone) first line. A fluoroquinolone (ciprofloxacin or ofloxacin) may be a suitable alternative only if the organism is known to be sensitive to it.
- For confirmed pharyngeal gonorrhoea, [treat](#) with ceftriaxone first line if it is available; otherwise, consider a 3-day course of cefixime. Ciprofloxacin may be a suitable alternative only if the organism is known to be sensitive to it.
- If gonorrhoea has not been confirmed, treat empirically whilst waiting for laboratory confirmation, and consider offering an antibiotic to cover *Chlamydia trachomatis* (azithromycin or doxycycline).
- For women who are [pregnant or breastfeeding](#), who have confirmed or suspected gonorrhoea:
 - Treat with a cephalosporin (cefixime or ceftriaxone). Fluoroquinolones (ciprofloxacin or ofloxacin) are not recommended.
 - If an antibiotic to cover infection with *C. trachomatis* is also required, treat with amoxicillin, erythromycin, or azithromycin. Doxycycline is contraindicated.
- Offer screening for other STIs and for HIV.
- Encourage patient-led [partner notification](#).
- Partners should be screened for sexually transmitted infections and [treated](#) empirically for gonorrhoea whilst awaiting results.
- [Follow-up](#) after 1 week to verify the success of treatment.
- Test of cure (swab for culture and sensitivity at least 3 days after antibiotic treatment) is required in pregnancy, for pharyngeal gonorrhoea, or if symptoms persist.
- Advise the person to abstain from sex until they and any partners have successfully completed treatment, and to practice safe sex in the future.

[When should I refer or admit a person with gonorrhoea?](#)

- Ideally, refer all people with suspected or confirmed gonorrhoea to a genito-urinary medicine (GUM) clinic or a general practice providing an enhanced sexual health service.
- Referral is particularly important in:
 - Men who have complications caused by gonorrhoea (such as epididymitis or prostatitis).
 - Women who are pregnant.
 - Women with suspected ascending infection (see the CKS topic on [Pelvic inflammatory disease](#)).
- Admit:
 - People with suspected disseminated gonorrhoea (systemic symptoms may be present, such as fever, pain, malaise, joint pain and swelling, and rash).
 - Women with pelvic inflammatory disease if it is severe or there are complications.

Basis for recommendation

Referral recommendations are based on expert opinion in the *National guideline on the diagnosis and treatment of gonorrhoea in adults*, published by the British Association for Sexual Health and HIV (BASHH), which states that referral to a genito-urinary medicine clinic is 'strongly encouraged' [[BASHH, 2005b](#)].

Referral

- Genito-urinary medicine clinics and general practices providing enhanced sexual health services have the resources to ensure effective diagnosis and treatment of gonorrhoea, as well as screening for other sexually transmitted infections (including HIV), counselling, follow up, and contact tracing (partner notification).
- Men who are suspected of having complications caused by gonorrhoea require specialist management (for example extended courses of antibiotics) [[Handsfield and Sparling, 2005](#); [Bignell, 2009](#)].

- Gonorrhoea in pregnancy is associated with spontaneous abortion, premature labour, early rupture of fetal membranes, perinatal mortality, and gonococcal conjunctivitis in the newborn [[Handsfield and Sparling, 2005](#)].
- Pelvic inflammatory disease requires treatment with intramuscular ceftriaxone, which is not always available in primary care [[BASHH, 2005a](#); [RCOG, 2009](#)].

Admission

- Admission is required for disseminated gonorrhoea because it can develop into life-threatening infection (for example gonococcal meningitis). Treatment in secondary care will typically involve higher doses of an intramuscular or intravenous cephalosporin for up to a week [[Bignell, 2009](#)].
- Pelvic inflammatory disease that is severe or has complications requires admission for specialist management, such as intravenous antibiotics [[BASHH, 2005a](#); [RCOG, 2008](#)].

Sexually transmitted infection and HIV screening

- Screening for other sexually transmitted infections is in line with guidelines from BASHH and the Health Protection Agency [[BASHH, 2006](#); [RCGP and BASHH, 2006](#); [HPA, 2008](#)].

How should I treat a person with gonorrhoea in primary care?

- **For confirmed anogenital gonorrhoea**, prescribe:
 - A cephalosporin first line.
 - **Cefixime** (400 mg, single oral dose) is usually preferred owing to convenience (off-label indication).
 - **Ceftriaxone** (250 mg, intramuscular injection) is licensed but is often not readily available in primary care.
 - A fluoroquinolone is an alternative if cephalosporins are contraindicated (for example the person has a true allergy to penicillin-type antibiotics), provided that the infection is known to be sensitive to fluoroquinolones (that is, culture and sensitivity results are available for the person or recent sexual partners). Avoid fluoroquinolones in people with tendonitis or a history of epilepsy. Prescribe:

- **Ciprofloxacin** (500 mg, single oral dose).
- **Ofloxacin** (400 mg, single oral dose).
- If both cephalosporins and fluoroquinolones are unsuitable, contact the local microbiology or genito-urinary medicine clinic for advice.
- **For confirmed pharyngeal gonorrhoea:**
 - Administer ceftriaxone (250 mg, intramuscular injection) first line if this is available.
 - If ceftriaxone is unavailable, consider a 3-day course of oral cefixime (400 mg loading dose, followed by 200 mg twice a day for 3 days). Note this regimen is off label and is recommended on the basis of expert opinion rather than trial-based evidence.
 - Prescribe oral ciprofloxacin (if a cephalosporin is contraindicated) only if the infection is known to be sensitive to it.
- **For empirical treatment of suspected gonorrhoea** (see [Scenario: Diagnosis](#) for clinical features), prescribe additional antibiotics to treat *Chlamydia trachomatis*.
 - Azithromycin (1 gram, single oral dose) or doxycycline (100 mg twice a day for 7 days) are suitable choices.
 - For more information, see the CKS topics on [Urethritis - male](#) and [Vaginal discharge](#).

Basis for recommendation

Treatment recommendations are based on the *National guideline on the diagnosis and treatment of gonorrhoea in adults*, published by the British Association for Sexual Health and HIV (BASHH) [[BASHH, 2005b](#)], a primary care guideline [[RCGP and BASHH, 2006](#)], and a European guideline [[Bignell, 2009](#)].

Treatment with antibiotics

- For ethical reasons, the efficacy of antibiotics for gonorrhoea has not been established compared with placebo. However, historical evidence suggests that left untreated, *Neisseria*

gonorrhoeae will cause prolonged infectivity and symptoms over several weeks, with a risk of chronic complications [[Handsfield and Sparling, 2005](#)].

- Good [evidence](#) from several comparative randomized controlled trials (RCTs) supports the use of antibiotics in the treatment of gonorrhoea. Historically, cephalosporins, fluoroquinolones, and macrolides have produced microbiological cure rates in excess of 95% in these trials [[Moran and Levine, 1995](#)].

Choice of antibiotics

- Since the introduction of sulphonamides in the 1930s, there has been growing [evidence](#) of gonococcal resistance to antibiotics [[Workowski et al, 2008](#)]. Therefore, antibiotic recommendations are mainly based on current gonococcal sensitivity to antibiotics, rather than historical evidence of their efficacy from RCTs [[Tyson, 2005](#)].

- Cephalosporins are recommended first line because *N. gonorrhoeae* is currently sensitive to this drug class [[HPA, 2010a](#)]. Cefixime and ceftriaxone are third-generation cephalosporins that have shown [evidence](#) of a cure rate greater than 95% in RCTs (the accepted level of effectiveness) [[Moran and Levine, 1995](#)].

- The use of cefixime for the treatment of gonorrhoea is off-label [[ABPI Medicines Compendium, 2008a](#)], but one RCT showed it to be effective at a single oral dose of 400 mg (cure rate 96%, 95% CI 94 to 98) [[Handsfield, 1991](#)].

- Ceftriaxone is less convenient than cefixime but was shown to give a 100% cure rate in one trial of people with uncomplicated infection [[Zajdowicz et al, 1983](#)], and in one trial which included people with pharyngeal infection [[Christophersen et al, 1989](#)].

- Confirmed therapeutic failure to cefixime is rare, and is undocumented for ceftriaxone in England and Wales [[HPA, 2010a](#)]. However, in 2009, 1.2% of gonococcal isolates demonstrated reduced susceptibility to cefixime, and 0.3% to ceftriaxone.

- For treatment of pharyngeal gonorrhoea, BASHH recommends ceftriaxone first line [[BASHH, 2005b](#)]. However, because ceftriaxone is not usually readily available in primary care, some experts recommend an alternative 3-day regimen of cefixime on the basis of pharmacokinetic principles [[Horner,](#)

[Personal Communication, 2009](#)]. This is reasonable, as a test of cure is always recommended for pharyngeal gonorrhoea (see [Follow-up](#)).

- Ciprofloxacin and ofloxacin are fluoroquinolones that are recommended if cephalosporins are contraindicated, most commonly because of documented beta-lactam allergy (allergy to penicillins, cephalosporins, and associated antibiotics). Between 1% and 10% of people with penicillin allergy are thought to have cross-sensitivity to cephalosporins [[Workowski et al, 2008](#)].

- Good evidence from RCTs indicates that fluoroquinolones have been effective in the treatment of gonorrhoea [[Bignell, 1996](#)]. However, [evidence](#) from surveillance data indicates that there is endemic resistance of gonorrhoeal isolates to ciprofloxacin, with a prevalence of around 35% [[HPA, 2010a](#)]. Therefore, it is important that the sensitivity of the infection is known before treatment with a fluoroquinolone is prescribed.

- The manufacturers of ciprofloxacin (Ciproxin[®]) and ofloxacin (Taravid[®]) state that fluoroquinolones should be avoided in people with tendonitis or epilepsy [[ABPI Medicines Compendium, 2008b](#); [ABPI Medicines Compendium, 2009](#)]. However, the adverse effects of fluoroquinolones are not likely to be significant, as they are given as a single dose for the treatment of gonorrhoea.

Antibiotics not recommended for confirmed gonorrhoea

- Ampicillin combined with probenecid is recommended as an alternative regimen by BASHH, provided that bacterial sensitivity is known [[BASHH, 2005b](#)], but this is an impractical option in primary care because of the limited availability of probenecid [[BNF 57, 2009](#)]. Likewise, spectinomycin is recommended for empirical treatment but is not widely available in primary care in the UK.

- Other cephalosporins are options but have not been as extensively studied as ceftriaxone, and they do not offer any additional benefits [[BASHH, 2005b](#)].

- Azithromycin is not recommended by BASHH, despite having shown adequate efficacy in RCTs. The guideline development group state 'the emergence of azithromycin resistant *N. gonorrhoeae* has been reported and clinical efficacy does not always correlate with *in vitro* sensitivity testing'. In addition, there are concerns cited that high-dose azithromycin is associated with gastrointestinal intolerance [[BASHH, 2005b](#)].

Empirical treatment

- As it is not possible to accurately differentiate between infection with *N. gonorrhoeae* and *Chlamydia trachomatis* by clinical features alone, and the infections often coexist, empirical treatment aims to cover both organisms [[RCGP and BASHH, 2006](#)].
- Azithromycin and doxycycline have both been shown to be effective in the treatment of chlamydia by RCTs [[Lau and Qureshi, 2002](#)], and they are recommended by national guidelines for chlamydia [[BASHH, 2006](#)] and non-gonococcal urethritis [[BASHH, 2007](#)].

What treatment should I prescribe for a pregnant or breastfeeding woman with gonorrhoea in primary care?

- For confirmed uncomplicated gonorrhoea, prescribe:
 - **Cefixime** (400 mg, single oral dose, off label) — usually preferred, *or*
 - **Ceftriaxone** (250 mg, intramuscular injection, off label) — recommended for pharyngeal infection.
- For empirical treatment of suspected gonorrhoea, prescribe an additional antibiotic to treat *Chlamydia trachomatis*. Options include:
 - **Amoxicillin** (500 mg three times a day for 7 days), *or*
 - **Erythromycin** (500 mg four times a day for 7 days), *or*
 - **Azithromycin** (1 g, single dose, off label).
- Do not prescribe a fluoroquinolone or tetracycline for women who are pregnant or breastfeeding. Seek specialist advice if a cephalosporin is contraindicated, for example if the woman has a true allergy to penicillin.

Basis for recommendation

Treatment recommendations for women who are pregnant or breastfeeding are based on the *National guideline on the diagnosis and treatment of gonorrhoea in adults*, published by the British Association for Sexual Health and HIV (BASHH) [[BASHH, 2005b](#)], and a European guideline [[Bignell, 2009](#)].

Treatment of confirmed gonorrhoea

- There is [evidence](#) from a meta-analysis of two comparative randomized controlled trials that cefixime and ceftriaxone are effective in the treatment of confirmed gonorrhoea in pregnant women [[Brocklehurst, 2002](#)].
- Amoxicillin (combined with probenecid) has also been shown to be effective, but it is probably not as effective as cephalosporin antibiotics [[Brocklehurst, 2002](#)], and is [evidence](#) that *Neisseria gonorrhoeae* is becoming increasingly resistant to penicillin-based antibiotics [[GRASP Steering Group, 2007](#)].

Empirical treatment of gonorrhoea

- Empirical treatment aims to provide coverage for both *Neisseria gonorrhoeae* and *Chlamydia trachomatis*, as these infections often coexist and cannot be accurately distinguished by clinical features alone [[RCGP and BASHH, 2006](#)].
- Azithromycin, erythromycin, or amoxicillin is recommended by BASHH for the treatment of chlamydia in pregnant women [[BASHH, 2006](#)]. These antibiotics have been shown to be effective in controlled trials [[Brocklehurst and Rooney, 1998](#)] and are not contraindicated in pregnancy or breastfeeding.
- Penicillin has been shown to induce latency *in vitro*, and some experts are concerned there is a theoretical risk of re-emergence of infection. However, amoxicillin has been found to be as effective as erythromycin in a meta-analysis of trials, and has considerably less adverse effects [[BASHH, 2006](#)].

Safety of antibiotics in pregnancy

- The benefits of antibiotics for gonorrhoea outweigh the risks in pregnancy.
 - Left untreated, gonorrhoea in pregnancy is associated with spontaneous abortion, premature labour, early rupture of fetal membranes, perinatal mortality, and gonococcal conjunctivitis in the newborn [[Handsfield and Sparling, 2005](#)].
 - Chlamydia is associated with premature birth and spontaneous abortion in pregnant women [[Stamm et al, 2005](#)] and may develop into pelvic

inflammatory disease, which increases the risk of ectopic pregnancy, infertility, and chronic pelvic pain in later life [[BASHH, 2006](#)].

- Cefixime and ceftriaxone are not specifically licensed in pregnancy but 'are not known to be harmful' [[BNF 57, 2009](#)]. Although cephalosporins cross the placenta, no evidence from animal studies indicates that they are toxic to the embryo or the fetus, and no harms have been shown in observational studies of pregnant women who have been exposed to cephalosporins [[Schaefer et al, 2007](#); [NTIS, 2008d](#)].
- Amoxicillin is considered to have a good safety profile in pregnancy, and its use is licensed in this setting [[ABPI Medicines Compendium, 2008c](#)]. There is extensive experience of using penicillins in pregnancy, with no evidence to suggest that they are associated with an increased risk of malformations or other forms of fetal toxicity [[NTIS, 2008c](#)].
- Macrolides are considered to be suitable treatment options in pregnancy where indicated [[NTIS, 2008c](#)].
 - Erythromycin is generally preferred because there is more experience with it than with other macrolides [[NTIS, 2008b](#)]. However, it is probably not as effective as azithromycin in the treatment of chlamydia [[Brocklehurst and Rooney, 1998](#)].
 - Azithromycin is usually recommended as second-line treatment in pregnancy; animal studies and limited observational data have not indicated an increased risk of congenital malformations [[NTIS, 2008a](#)].

Drugs not recommended

- Fluoroquinolones are not recommended in pregnancy or breastfeeding except 'for the treatment of serious or life-threatening conditions unresponsive to standard antibiotic therapy', because there is a theoretical risk of arthropathy in the child [[Schaefer et al, 2007](#); [NTIS, 2008c](#)].
- Tetracyclines have been associated with discolouration of teeth and bones, staining of the lenses, and the development of cataracts in newborn babies when used in the second and third trimesters. They are therefore contraindicated in pregnancy and breastfeeding [[Schaefer et al, 2007](#); [NTIS, 2008c](#)].

What information and advice should I give someone with gonorrhoea?

- Advise the person to attend a genito-urinary medicine clinic or a general practice providing an enhanced sexual health service if possible.
- Inform the person that these services have the resources to ensure effective management and [partner notification](#), and that they are confidential and non-judgemental.
- Discuss the long-term implications if gonorrhoea is left untreated for the health of the person and their partners.
- Reinforce this information with clear and accurate written material where available (patient information from the Family Planning Association, on [Gonorrhoea \(fpa\)](#), is available through CKS).
- Advise the person abstain from sex until they and any partners have successfully completed treatment, and to practice safe sex in the future (where applicable).

Basis for recommendation

Recommendations for providing information and advice are based on expert opinion from the National guideline on the diagnosis and treatment of gonorrhoea in adults, published by the British Association for Sexual Health and HIV [[BASHH, 2005b](#)].

When and how should sexual partners be notified?

- **Partner notification is essential for all people with newly diagnosed gonorrhoea.**
- For people with symptomatic anogenital gonorrhoea, all partners within the preceding 2 weeks should be notified, or their most recent partner, if this was longer than 2 weeks ago.
- For people with asymptomatic gonorrhoea, or gonorrhoea at other sites, all partners within the preceding 3 months should be notified.
- **Three methods of partner notification are used.** For each method, the healthcare professional should document all actions and outcomes.

- Patient referral: the person with gonorrhoea is encouraged to notify their past and present partners. This is the usual method used in primary care and the only practical option if provider referral is not available.
 - Provider referral: the healthcare professional notifies the person's partners on their behalf. This option is recommended, but is often not available in primary care. Ideally, provider referral should be facilitated by a trained health adviser in a genito-urinary medicine (GUM) clinic (see [Admission and referral](#)). If referral to a GUM clinic is not possible, a primary healthcare professional who has undergone appropriate training and has support from healthcare advisers in GUM is the next best option.
 - Contract referral: the person with gonorrhoea is encouraged to notify their partners, with the understanding that a healthcare professional will later notify those partners who do not visit the health service within an allotted time. This option is not usually suitable in a primary care setting.
- **Notified partners should be screened for sexually transmitted infections and treated empirically for gonorrhoea and chlamydia** whilst waiting for results (azithromycin 1 gram as a single oral dose or doxycycline 100 mg twice a day for 7 days are suitable choices).

Basis for recommendation

Recommendations for partner notification are based on expert opinion from the *National guideline on the diagnosis and treatment of gonorrhoea in adults*, published by the British Association for Sexual Health and HIV [[BASHH, 2005b](#)].

Partner notification in primary care

- There is expert consensus that if referral to a GUM clinic (or to a general practice providing an enhanced sexual health service) is not possible, contact tracing should be undertaken in primary care, and this should be documented [[Fitzgerald et al, 1996](#)].

Period of partner notification

- The recommended periods for notification are consistent with what is known about the natural course of symptomatic infection with gonorrhoea [[Handsfield and Sparling, 2005](#)]. However, there is less certainty about the natural course of asymptomatic infection or infection at sites

other than the genitals and rectum, and a period of 3 months is therefore advised as a precautionary measure [[BASHH, 2005b](#)].

Method of partner notification

▪ A Cochrane systematic review (search date: around 2001) found evidence that both provider and contract referral methods result in more partners presenting for medical evaluation compared with patient referral [[Mathews et al, 2001](#)]. However, in practice, provider referral can be difficult to organize, and most GUM clinics in the UK use patient referral as the contact method of first choice [[Stokes and Schober, 1999](#)].

How should I follow up someone with gonorrhoea?

- Follow up all people with gonorrhoea about 1 week after treatment (this can be done by telephone if appropriate).
 - Confirm that the person has adhered to treatment and symptoms have resolved.
 - Confirm that partner notification has been carried out (if patient or contract referral was used).
 - Ask about recent sexual history (and the possibility of re-infection), and reinforce advice about safe sexual practice.
- Microbiological test of cure is not routinely necessary. Swab for culture and sensitivity at least 3 days after antibiotic treatment:
 - In pregnant women.
 - If treatment has not fully resolved symptoms (also consider screening for other sexually transmitted infections).
 - For pharyngeal gonorrhoea.

Basis for recommendation

Recommendations on follow up are based on the *National guideline on the diagnosis and treatment of gonorrhoea in adults*, published by the British Association for Sexual Health and HIV

[[BASHH, 2005b](#)], a primary care guideline [[RCGP and BASHH, 2006](#)], and a European guideline [[Bignell, 2009](#)].

- Anogenital gonorrhoea usually responds well to antibiotics to which it is known to be sensitive, and test of cure is not necessary unless symptoms persist.
- CKS recommends a routine test of cure for pregnant women, as the infection can have serious consequences for the mother and baby if it persists (including spontaneous abortion, premature labour, early rupture of fetal membranes, perinatal mortality, and gonococcal conjunctivitis in the newborn) [[Handsfield and Sparling, 2005](#)].
- Pharyngeal gonorrhoea responds less well than anogenital gonorrhoea to treatment with antibiotics [[Moran and Levine, 1995](#)] and may cause no symptoms. Therefore, a test of cure is reasonable.
- Swabbing for culture is recommended, as this allows sensitivity testing (which should be done at least 3 days after antibiotic treatment to avoid false-positive results). Nucleic acid amplification tests do not provide information on sensitivity and require a longer washout period [[BASHH, 2005b](#)].

Prescriptions

For information on contraindications, cautions, drug interactions, and adverse effects, see the electronic Medicines Compendium (eMC) (<http://emc.medicines.org.uk>), or the British National Formulary (BNF) (www.bnf.org).

First-line antibiotics: cephalosporins

Age from 13 years onwards

Cefixime tablets: 400mg single dose

Cefixime 200mg tablets
Take two tablets as a single dose.
Supply 2 tablets.

Age: from 13 years onwards

NHS cost: £3.78

Licensed use: no - off-label indication

Ceftriaxone injection: 250mg single dose

Ceftriaxone 250mg powder for solution for injection vials
Reconstitute and give a single dose of 250mg by intramuscular injection.
Supply 1 250mg vial.

Age: from 13 years onwards
NHS cost: £2.40
Licensed use: yes

Alternative antibiotics (if sensitivity known): quinolones

Age from 18 years onwards

Ciprofloxacin tablets: 500mg single dose

Ciprofloxacin 500mg tablets
Take one tablet as a single dose.
Supply 1 tablet.

Age: from 18 years onwards
NHS cost: £0.12
Licensed use: yes

Ofloxacin tablets: 400mg single dose

Ofloxacin 400mg tablets
Take one tablet as a single dose.
Supply 1 tablet.

Age: from 18 years onwards
NHS cost: £0.62
Licensed use: yes

Additional antibiotics for chlamydia

Age from 13 years onwards

Azithromycin capsules: 1 gram single dose

Azithromycin 250mg capsules
Take four capsules as a single dose.
Supply 4 capsules.

Age: from 13 years onwards
NHS cost: £8.83
Licensed use: yes

Doxycycline capsules: 100mg twice a day

Doxycycline 100mg capsules
Take one capsule twice a day for 7 days.
Supply 14 capsules.

Age: from 13 years onwards
NHS cost: £0.97
Licensed use: yes

Patient information: Swallow the capsules whole, with a glass of water, with or after some food. Sit upright or stand while swallowing the medicine.

Additional empirical treatment for chlamydia in pregnancy

Age from 13 years onwards

Erythromycin tablets: 500mg four times a day

Erythromycin 250mg gastro-resistant tablets
Take two tablets four times a day for 7 days.
Supply 56 tablets.

Age: from 13 years onwards
NHS cost: £3.70
Licensed use: yes

Azithromycin capsules: 1 gram single dose

Azithromycin 250mg capsules
Take four capsules as a single dose.
Supply 4 capsules.

Age: from 13 years onwards
NHS cost: £8.83
Licensed use: no - off-label indication

Amoxicillin capsules: 500mg three times a day

Amoxicillin 500mg capsules
Take one capsule three times a day for 7 days.
Supply 21 capsules.

Age: from 13 years onwards
NHS cost: £1.46
Licensed use: yes

Pharyngeal gonorrhoea: cephalosporins

Age from 13 years onwards

Cefixime tablets: 400mg single dose, then 200mg twice a day

Cefixime 200mg tablets
Take two tablets as a single dose, then take one tablet twice a day.
Supply 7 tablets.

Age: from 13 years onwards
NHS cost: £13.23
Licensed use: no - off-label indication

Ceftriaxone injection: 250mg single dose

Ceftriaxone 250mg powder for solution for injection vials
Reconstitute and give a single dose of 250mg by intramuscular injection.
Supply 1 250mg vial.

Age: from 13 years onwards
NHS cost: £2.40
Licensed use: yes