Chlamydia - uncomplicated genital - Management

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When should I suspect and test for chlamydia?

- **Women:**
  - **Test for chlamydia if they are sexually active with symptoms and signs suggesting chlamydia:**
  - Post-coital or intermenstrual bleeding.
  - Purulent vaginal discharge.
  - Mucopurulent cervical discharge.
  - Deep dyspareunia.
  - Dysuria.
  - Pelvic pain and tenderness.
  - Inflamed or friable cervix (which may bleed on contact).
- **Men:**
  - **Test for chlamydia if they are sexually active with symptoms and signs suggesting chlamydia:**
  - Dysuria (urinary frequency or nocturia is more suggestive of a urinary tract infection).
  - Urethral discharge.
  - Urethral discomfort.
- **In people with signs or symptoms strongly suggestive of chlamydia, start treatment without waiting for laboratory confirmation** (after testing for other sexually transmitted infections as appropriate).

Basis for recommendation

- These recommendations are in line with guidelines from the British Association for Sexual Health and HIV, the Royal College of General Practitioners, and the Health Protection Agency [BASHH, 2006; RCGP and BASHH, 2006; HPA, 2008].

When should I offer screening to asymptomatic men and women in primary care?

- Opportunistic testing of asymptomatic men and women is recommended for:
  - All sexually active people younger than 25 years of age.
  - The National Chlamydia Screening Programme recommends annual screening for all sexually active people younger than 25 years of age, or sooner if they change their partner.
  - Men and women with a new sexual partner, or more than one sexual partner in the past 12 months.
  - Men and women who request screening.
- Screening is also recommended for other groups:
  - Sexual partners of those with proven or suspected chlamydial infection.
  - All women seeking termination of pregnancy.
  - All men and women with another sexually transmitted infection, including genital warts.
  - All men and women attending genito-urinary medicine clinics.
  - Women undergoing cervical instrumentation (including fitting of an intrauterine contraceptive device).
  - Parents of infants with chlamydial conjunctivitis or pneumonitis.
  - Semen and egg donors.
- For information on managing people with a positive screening result, see Scenario: Management.

Basis for recommendation

Screening all sexually active people younger than 25 years of age

- Screening all sexually active people younger than 25 years of age is in line with the recommendations of the National Chlamydia Screening Programme.

Screening people with a new sexual partner or more than one sexual partner in the past 12 months

- Screening for sexually active men and women younger than 25 years of age, and those with a new sexual partner or more than one sexual partner in the past 12 months, is recommended because genital chlamydial infection is particularly associated with these groups [BASHH, 2006].

Screening on request

- Screening at the person's request at any age is a pragmatic recommendation, given that chlamydial infection is asymptomatic in a large proportion of infected people.

Screening other groups

- Screening other individuals (for example, those who are seeking termination of pregnancy or who have an other sexually transmitted infection) is recommended by the British Association for Sexual Health and HIV as these people have an increased risk of chlamydial infection [BASHH, 2006].

How should I test for chlamydia in women?

- **In *symptomatic* women,** a cervical swab or vulvovaginal swab is the specimen of choice.
  - In women undergoing a vaginal examination, obtain an endocervical swab.
  - Use a chlamydia collection kit (provided by the local laboratory).
  - Remove excess cervical secretions before taking the swab.
  - Insert the swab inside the cervical os and firmly rotate it against the endocervix.

- If a vaginal examination is not possible, a self-taken vulvovaginal swab or first-void urine sample (held in the bladder for at least 1 hour; 2 hours is recommended with some kits) can be used if local laboratories support this.

- **In *asymptomatic* women,** a self-taken vaginal swab or first-void urine specimen should be sent for testing (check with the local laboratory as to which type of specimen they can process).

Basis for recommendation

These recommendations are in line with guidance from the British Association for Sexual Health and HIV and the Health Protection Agency [BASHH, 2006; HPA, 2008].

- Nucleic acid amplification tests (NAATs) have superior sensitivity and specificity compared with enzyme immunoassays and other tests for chlamydia, and they are the tests of choice to diagnose genital chlamydia [DH, 2005; BASHH, 2006].

- In women, NAATs can be performed on cervical, first-void urine, and vulvovaginal specimens.

  - The vulvovaginal swab has a sensitivity of 90–95% [BASHH, 2006]. Studies indicate that sensitivities similar to those of a cervical swab are obtainable [Schachter et al, 2003].

  - Variable sensitivities (65–100%) have been reported using first-void urine specimens. However, a meta-analysis found that the sensitivity and specificity of NAATs on urine specimens were nearly identical to those of cervical samples [Cook et al, 2005].

How should I test for chlamydia in men?

- **In *symptomatic* men,** a first-void urine sample (held in the bladder for at least 1 hour; 2 hours is recommended with some kits) should be used.

  - A urethral swab (inserted 2–4 cm inside the urethra and rotated once before removal) can be used if the man cannot pass urine.

- **In *asymptomatic* men,** a first-void urine specimen should be sent for testing.

Basis for recommendation

These recommendations are in line with guidance from the British Association for Sexual Health and HIV and the Health Protection Agency [BASHH, 2006; HPA, 2008].

- In men, first-void urine samples are preferable to urethral swabs because they are easy to collect and do not cause discomfort. A first-void urine sample is reported to be as good as a urethral swab [BASHH, 2006].

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What other tests should I consider?

- Strongly encourage all people who test positive for chlamydia to undergo screening for other sexually transmitted infections, including an HIV test and, where indicated, hepatitis B screening and vaccination.

Basis for recommendation

This recommendation is in line with guidelines from the British Association for Sexual Health and HIV and the Health Protection Agency [BASHH, 2006; RCGP and BASHH, 2006; HPA, 2008].

Where should a person with chlamydia be managed?

- Refer all women with suspected pelvic inflammatory disease to a genito-urinary medicine (GUM) clinic (see the CKS topic on Pelvic inflammatory disease).

- All people with a positive chlamydia test should be offered treatment, support to notify any partners, and testing for other sexually transmitted infections (STIs).

o This service may be provided by general practice (where appropriate training and facilities exist), community sexual and reproductive health services, or GUM clinics.

- The decision on where to manage an individual with chlamydia will depend on the individual's circumstances and whether counselling, full screening for other STIs, and effective partner notification are available.

- Options include:

- Refer to a GUM clinic. The clinic will arrange treatment, screening for other STIs, detailed information on STIs, and partner notification.

- Do not delay starting treatment if there is a delay in accessing GUM services.

- Offer antibiotic treatment for chlamydia after testing for other STIs as appropriate. Partner notification may be undertaken in a practice with appropriately trained staff and support.

- Offer antibiotic treatment and refer to a GUM clinic for partner notification and screening for other STIs.

- If antibiotic treatment has been given in general practice, screening for other STIs at the GUM clinic should occur at least 1 week after antibiotic treatment has been completed, because if antibiotics are still in the system, this may mask the diagnosis of other STIs.

- This option is less desirable because other STIs may go undiagnosed if treatment is given before full screening for other STIs is carried out.

- Partner notification should be discussed with all people identified as having chlamydia.

- Consider the possibility of sexual abuse in any child or young person with chlamydia, 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.

Basis for recommendation

- CKS found no guidelines regarding when a person with suspected or proven uncomplicated chlamydia should be referred to a genito-urinary medicine clinic.

  - The options for referral or management in primary care are in line with guidance from the Royal College of General Practitioners [RCGP and BASHH, 2006]. The decision on whether to refer should be made according to local services and policy, and the individual's preference.

What advice should I give?

- **Discuss and provide clear written information on chlamydia, including:**

  - What it is, and how it is transmitted.
  - That it often causes no symptoms.
  - That without treatment, it can persist for months or even years.
  - That complications can occur if it is left untreated.
  - That it is important that sexual partners are evaluated and treated (see Partner notification).
  - The importance of complying fully with treatment, and its possible adverse effects.

- **Sexual intercourse (including genital, oral, and anal sex, even with a condom) should be avoided until both the person diagnosed with chlamydia and any partners have completed the course of treatment.**

- If treatment with single-dose azithromycin is given, sexual abstinence for the following 7 days is advised or until any sexual partners have completed their treatment, whichever is the longer.

- If any partners have chosen not to receive treatment unless they test positive, sexual intercourse should be avoided until this test result is known and they have received treatment if appropriate.

- **The person should be tested for other sexually transmitted infections** before treatment (if this has not already been done).

- **The importance of safer sexual practices and contraception** (where appropriate), including advice on correct, consistent condom use (see the CKS topic on Contraception).

- **Women using the combined oral contraceptive pill should use alternative methods of contraception for 1 week after completing the course of antibiotics.**

- If the antibiotics were started when there were fewer than seven active pills in the packet, the pill-free period or inactive tablets should be omitted and the next packet started without a break.

Basis for recommendation

These recommendations are in line with guidelines from the British Association for Sexual Health and HIV and are based on expert opinion and clinical experience [BASHH, 2006].

- The recommendation regarding oral contraceptive pill use and antibiotics is based on guidance from the Faculty of Sexual and Reproductive Healthcare and is based on expert opinion [FFPRHC, 2005; FFPRHC, 2007].

How should I treat chlamydia infection?

- For the management of women with suspected pelvic inflammatory disease, see the CKS topic on Pelvic inflammatory disease.

- If the decision is made to treat in primary care, start treatment promptly in all people who test positive for chlamydia, and in those with signs or symptoms strongly suggestive of chlamydia (after testing for other sexually transmitted infections as appropriate).

- **First-line treatment:**

  - Azithromycin 1 g single dose, *or*

  - Doxycycline 100 mg twice a day for 7 days.

- **In women who are pregnant or breastfeeding:**

  - Azithromycin 1 g single dose, *or*

  - Amoxicillin 500 mg three times a day for 7 days, *or*

  - Erythromycin 500 mg four times a day for 7 days.

Over-the-counter azithromycin

- Azithromycin (Clamelle®) is available over-the-counter (OTC) from pharmacies without a prescription, following its reclassification.

- Clamelle® is indicated for men and women 16 years of age or older who are asymptomatic and have tested positive for genital chlamydia infection. It is also indicated for treatment of their sexual partners without the need for a test.

- Clamelle® is contraindicated in women who are pregnant or breastfeeding.

Basis for recommendation

These recommendations are in line with guidelines from the British Association for Sexual Health and HIV, the Royal College of General Practitioners, the Health Protection Agency, and the World Health Organization [BASHH, 2006; RCGP and BASHH, 2006; HPA, 2008].

Pelvic inflammatory disease (PID)

- If the woman has symptoms of PID, more broad-spectrum antibiotic treatment will be needed to cover other sexually transmitted infections. For information on the management of PID, see the CKS topic on Pelvic inflammatory disease.

Women who are not pregnant or breastfeeding, and men

- Good evidence from comparative studies of doxycycline (100 mg twice a day) and azithromycin (1 g single dose) shows similar efficacy of both regimens, with more than 95% of people being negative on re-testing at 2–5 weeks.

- There is less evidence to support the use of ofloxacin, therefore it is not recommended.

- Limited evidence suggests that cure rates with ciprofloxacin are lower than with doxycycline; ciprofloxacin is therefore not recommended.

- The evidence on other antibiotics is poor, so no recommendations can be made.

Pregnant and breastfeeding women

- Good evidence from a Cochrane systematic review suggests similar efficacy for amoxicillin and erythromycin, with amoxicillin being better tolerated than erythromycin, with superior efficacy and tolerability for azithromycin compared with erythromycin.

- Azithromycin is well tolerated and, because it is taken as a single dose, compliance is likely to be better than with amoxicillin or erythromycin.

- In vitro, penicillin has been shown to induce latency rather than eradicating the infection. Re-emergence of infection is a theoretical concern, and some infants develop chlamydial infection despite apparently successful treatment of the mother [BASHH, 2006].

- Safety in pregnancy:

  - There is no evidence to suggest that penicillins are associated with an increased risk of malformations or other forms of fetal toxicity in human pregnancy [NTIS, 2008c].

  - Data from more than 7000 pregnancies does not indicate that erythromycin is associated with an increased risk of congenital malformations or any other adverse fetal effects. A recent study has suggested a possible increased risk of cardiovascular malformations and pyloric stenosis; however, causality has not been established and the individual risk, if any, is thought to be low [NTIS, 2008b].

- There are fewer published data on the use of azithromycin during pregnancy and breastfeeding. The limited published data and follow-up data collected by the UK Teratology Information Service (UKTIS), (formerly the National Teratology Information Service [NTIS]), do not demonstrate an increased risk of congenital malformations following exposure to azithromycin in human pregnancy [NTIS, 2008a].

- Doxycycline is contraindicated during pregnancy and breastfeeding [ABPI Medicines Compendium, 2006; BNF 56, 2008].

Do I need to re-test following treatment?

- A test of cure is not usually necessary.

- A test of cure is recommended after treatment in pregnancy.

- Consider inviting the person for review (which may include a test of cure) if they are unlikely to complete the course of treatment, or if they are at risk of re-exposure.

- If a test of cure is considered appropriate, it should be performed at least 5 weeks (6 weeks for azithromycin) after completion of treatment.

Basis for recommendation

These recommendations are in line with guidelines from the British Association for Sexual Health and HIV and the Health Protection Agency [BASHH, 2006; HPA, 2008].

- In most people treated with azithromycin or doxycycline, re-testing to confirm eradication of chlamydial infection is not usually necessary, because these treatments are very effective (typically, 95% cure rates) [Ali et al, 1997].

- Re-testing is recommended after treatment in pregnancy, because of higher positive re-test rates. This is generally attributed to a less efficacious treatment regimen, non-compliance, or re-infection [BASHH, 2006].

- Re-testing should be done no earlier than 5 weeks after the end of treatment (6 weeks after azithromycin). Nucleic acid amplification tests may remain positive up to 5 weeks after treatment because nucleic acid from non-viable organisms is present [BASHH, 2006; Carder et al, 2006].

How should sexual partners be notified?

- **Partner notification (or contact tracing) should be discussed with all people with chlamydia.**

- Partner notification may either be undertaken by the index patient themselves (patient referral) or by a healthcare provider (provider referral). The method of partner notification used will depend on the person's preference and the services available.

- Partner notification may be facilitated by:

  - Referral to a genito-urinary medicine clinic.

  - A primary healthcare professional who has undergone appropriate training and has support from healthcare advisers in genito-urinary medicine.

- **Tracing of all sexual contacts in the previous 6 months is recommended.** If there have been no sexual contacts within the previous 6 months, the most recent sexual contact should be notified.

- All sexual contacts should be offered:

  - Advice and information about chlamydia and re-infection.

  - Chlamydia testing and treatment:

  - If immediate treatment is declined, advise the person to abstain from sex until they have received their test result and they have received treatment if appropriate.

  - If the partner tests positive, any other potentially exposed contacts should be notified.

  - Screening for other sexually transmitted infections, including HIV and, where indicated, hepatitis B screening and vaccination.

Methods of partner notification

- There are three main strategies for partner notification:

- Patient referral: the person with chlamydia is encouraged to notify their past and present partners. Patient referral should be supplemented with additional information about chlamydia and re-infection for both the person with chlamydia and their partners.

- Provider referral: the healthcare professional notifies the partners on behalf of the patient.

- Contract referral: the person with chlamydia 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.

Basis for recommendation

Importance of partner notification

- Testing and treating of sexual contacts is recommended because about two-thirds of sexual partners of people who test positive for chlamydia will also test positive [BASHH, 2006].

Facilitation of partner notification

- Evidence from one randomized controlled trial suggests that provider referral led by a trained practice nurse is as effective at notifying and treating partners of people with chlamydia as referral to a specialist healthcare adviser at a genito-urinary medicine (GUM) clinic [Low et al, 2006].

Method of partner notification

- Evidence from a Cochrane systematic review suggests that in people with chlamydia, provider referral increases the proportion of partners treated per person with chlamydia, compared with patient referral.

- In practice, however, provider referral can be difficult to organize. Most GUM clinics in the UK use patient referral as the contact method of first choice [Stokes and Schober, 1999], and in the National Chlamydia Screening Programme, more than three-quarters of contacts attend as a result of patient referral [DH, 2005].

- Evidence from one randomized controlled trial suggests that supplementing patient referral with additional information for both the person with chlamydia and their partners reduces the rates of persistent or recurrent infection [NICE, 2007].

- Choice of method may help to increase the rate of partner notification.

Cut-off period for partner notification

- The cut-off periods for partner notification are arbitrary, because it is not known how long chlamydia can be carried without symptoms [RCGP and BASHH, 2006].

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).

Men and women (NOT pregnant/breastfeeding)

Age from 13 years onwards

Azithromycin capsules: 1g single dose

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

Age: from 13 years onwards
NHS cost: £8.96
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: £2.01
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.

Pregnant or breastfeeding women

Age from 13 years onwards

Azithromycin capsules: 1g single dose

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

Age: from 13 years onwards
NHS cost: £8.96
Licensed use: no - off-label indication

Amoxicillin capsules: 500mg three times a day for 7 days

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

Age: from 13 years onwards
NHS cost: £1.53
Licensed use: yes

Erythromycin e/c tablets: 500mg four times a day for 7 days

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: £3.56
Licensed use: no - off-label dose