Gonorrhoea

MANAGEMENT SUMMARY

TEST IF:

- Person is a sexual contact of gonorrhoea
- Routine sexual health check in females
- Pre-termination of pregnancy (TOP)
- Pre-intrauterine device (IUD) insertion
- Routine sexual health check in man who has sex with other men (MSM)
- Signs or symptoms suggestive of gonorrhoea
  - **Females:** Vaginal discharge/dysuria/lower abdominal pain/abnormal bleeding/anal pain or discharge
  - **Males:** Urethral discharge/dysuria/testicular pain or swelling/anal pain or discharge

Note: Most laboratories are automatically performing multiplex NAAT testing for chlamydia & gonorrhoea (+/-trichomoniasis).
False positive gonorrhoea results are possible in low prevalence populations – see NZSHS Management of Gonorrhoea 2017, and Response to the Threat of Antimicrobial Resistance www.nzshs.org/guidelines.

RECOMMENDED TESTS

- It is recommended to test for co-existing STIs (see Sexual Health Check guideline **www.nzshs.org/guidelines**)
- **Asymptomatic Female** (or examination declined):
  - A vulvovaginal NAAT swab either clinician-taken or self-taken
  - Additional anorectal NAAT swab as indicated based on sexual history
- **Symptomatic Female**:
  - A speculum examination should be carried out. A vulvovaginal NAAT swab (prior to speculum insertion) plus an endocervical culture swab for gonorrhoea (if gonorrhoea culture available) plus a high vaginal culture swab for testing for candida, BV & trichomoniasis (if NAAT for trichomoniasis not available)
  - Additional anorectal NAAT swab as indicated based on sexual history
- **Symptomatic Male**:
  - Take a urethral culture swab for gonorrhoea (if gonorrhoea culture available), followed by first-void urine for gonorrhoea NAAT testing (first 30ml), preferably ≥1 hour after last void
- **Asymptomatic Male**:
  - Men do not require screening for urethral gonorrhoea if asymptomatic but gonorrhoea testing may be done if a first-void urine specimen is sent for chlamydia testing
- **Men who have Sex with Men**:
  - **Additional pharyngeal and anorectal NAAT swabs** irrespective of reported sexual practices or condom use, as asymptomatic rectal and pharyngeal infection is common

MANAGEMENT

- **Treat immediately if high index of suspicion** e.g. symptoms and/or signs, or contact of gonorrhoea
- Ceftriaxone 500mg im stat (make up with 2ml lignocaine 1% or as per data sheet) PLUS azithromycin 1g po stat (pregnancy category B1)
- If clinical PID or epididymo-orchitis, treat as per PID guideline **www.nzshs.org/guidelines** or Epididymo-orchitis guideline **www.nzshs.org/guidelines**
- Refer or discuss with a sexual health specialist if case has drug allergies or anti-microbial resistance is suspected or if anorectal symptoms or there are concerns with QT-prolonging medication (**www.medsafe.govt.nz/profs/PUArticles/DrugInducedQTProlongation.htm**)
- Advise to abstain from sex or use condoms for 1 week from the start of treatment and until 1 week after sexual contact/s have been treated

PARTNER NOTIFICATION AND MANAGEMENT OF SEXUAL CONTACTS

- Be clear about language: 'partner' implies relationship – all sexual contacts in the last 3 months should be notified
- Contact/s should have a sexual health check and treatment for gonorrhoea with ceftriaxone 500mg im stat (make up with 2ml lignocaine 1% or as per data sheet) plus azithromycin 1 gram po stat, without waiting for test results
- If contacts test positive for an STI refer to specific guideline **www.nzshs.org/guidelines**
- Advise contacts to abstain from sex or use condoms for 1 week from the start of treatment and until results of tests are available
- Most choose to tell contacts themselves; giving written information is helpful
- Notifying all contacts may not be possible, e.g. if there is insufficient information or a threat of violence

FOLLOW-UP

- By phone or in person, 1 week later
- No unprotected sex in the week post-treatment?
- Completed/tolerated medication?
- All notifiable contact/s informed?
- Any risk of re-infection? Re-treatment necessary if re-exposed to untreated contact
- Test of cure is only needed if symptoms don't resolve or if pharyngeal infection. Re-test by culture in 3 days for genital gonorrhoea, or by NAAT in 3 weeks for pharyngeal infection
- Reinfection is common; offer repeat sexual health check in 3 months

The Ministry of Health supports the use of these clinical guidelines, developed by clinical experts and professional associations to guide clinical care.
Further guideline information – **www.nzshs.org/guidelines** or phone a sexual health specialist.
This STI Management Guideline Summary has been produced by NZSHS. Every effort has been taken to ensure that the information in this guideline is correct at the time of publishing (September 2017).

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Introduction

- Gonorrhoea is caused by infection with the bacterium *Neisseria gonorrhoeae*.
- It is highly infectious and can infect the endocervix, urethra, rectum, pharynx, and conjunctivae.
- Transmission is through direct inoculation onto mucosal surfaces via:
  - sexual contact (oral, vaginal or anal), particularly when saliva is used as a lubricant
  - sexual practices such as fingering, or sharing of sex toys
  - vertical transmission from mother to baby at delivery (e.g. neonatal conjunctivitis).

Gonorrhoea is most commonly diagnosed in:

- People under 30.
- Sexual contacts of gonorrhoea.
- People with recent gonorrhoea.
- People who have multiple sexual contacts.
- People who have not used condoms consistently.
- Men who have sex with men (MSM).

Test

- People with possible symptoms and signs of gonorrhoea infection.
- Sexual contacts of gonorrhoea.
- Females requesting a sexual health check (beware of false positives in low prevalence populations).
- Automatic reporting of gonorrhea results in pregnant females having antenatal screening with a chlamydia NAAT (beware of false positives in low prevalence populations).
- Pre-TOP.
- Pre-IUD insertion in persons with a risk for STIs.
- Suspected epididymo-orchitis.
- Suspected PID.
- MSM.
- If history of sexual assault or intimate partner violence.

Note: If patient is asymptomatic and is concerned about a specific recent sexual event- the recommended testing interval is 2 weeks from time of last unprotected sexual intercourse.

If the patient is unlikely to return and has not been previously tested then test opportunistically at the time of presentation and offer a re-test in 2 weeks time.

Symptoms and Signs

Males with urethral gonorrhoea are more likely to be symptomatic than females with endocervical infection. Symptoms and signs are non-specific.

Females

- Often asymptomatic, but may complain of vaginal discharge, dysuria,lower abdominal pain, abnormal bleeding, anal pain or discharge.
- There may be signs of purulent urethral discharge, mucopurulent cervicitis with easily induced bleeding and/or signs of PID.

Males

- Males with urethral infection are usually symptomatic with discharge and dysuria (see Urethritis guideline **www.nzshs.org/guidelines**).
- Incubation period 1–14 days (average 2–5). If untreated most will become asymptomatic within a few weeks to 6 months, but can still be infectious.
- There may be signs or symptoms of epididymo-orchitis (see Epididymo-orchitis guideline **www.nzshs.org/guidelines**).

Note: Pharyngeal and rectal infections in both sexes are usually asymptomatic but occasionally there may be pharyngeal symptoms, anal pain or discharge, or other symptoms of proctitis such as bleeding and tenesmus.

Complications

- PID, infertility, chronic pelvic pain, ectopic pregnancy.
- Epididymo-orchitis.
- Disseminated infection manifested by arthritis, skin lesions, endocarditis, meningitis.
- Fitz-Hugh Curtis syndrome (peri-hepatitis).
- Adverse pregnancy outcomes, e.g. chorio-amnionitis, premature rupture of membranes, neonatal conjunctivitis.
- Adult gonococcal conjunctivitis.

Diagnostic Tests

All people at risk for gonorrhoea infection should be tested for other sexually transmitted infections. Refer to NZSHS guideline on how to do a Sexual Health Check www.nzshs.org/guidelines.

NAAT (nucleic acid amplification tests, e.g. PCR)

- Most NZ laboratories are performing multiplex NAAT testing for gonorrhoea & chlamydia (+/- trichomoniasis).

NAAT are recommended as tests of choice for non-genital sites in all international guidelines despite not yet being fully validated.

Advantages

- More sensitive than culture, particularly for non-genital specimens.
- Allow for testing on a wider range of specimens.
- Dual testing for chlamydia can be done on the same specimen.
- Allow for testing without examination, e.g. urines or vaginal swabs.

Disadvantages

- Cannot test for anti-microbial susceptibilities – it is therefore recommended that an additional specimen is sent for culture if gonorrhoea is clinically suspected.
- False positives can occur on rare occasions particularly in non-genital sites so supplementary testing may be required, e.g. if culture has not been done or if the culture is negative. Discussion with your laboratory or a sexual health specialist is recommended for unexpected positive results.

Culture

Advantages

- Highly specific and cheap.
- Allows for antimicrobial susceptibility testing.

Disadvantages

- Important to get specimen to laboratory within 6 hours as there is loss of viable organisms so transport delays can result in false negatives.
- Less sensitive particularly for non-genital sites.

Situations when it is recommended to take a specimen for culture

- If the patient is being treated for gonorrhoea at the time of testing because gonorrhoea is clinically suspected.
- If the patient is a contact of someone with gonorrhoea.
- If there are persisting symptoms or signs after treatment so that anti-microbial susceptibility testing can be done.
- Allergy to empirical treatment in case of treatment failure.
- Medico-legal reasons, e.g. sexual assault.
- If NAAT testing is not available.

Note:

- A vaginal swab is not a suitable specimen for culture.
- Do not refrigerate culture swabs as Neisseria gonorrhoeae is sensitive to temperature.
- Ensure prompt transport to laboratory within 6 hours.
- Culture cannot be performed on NAAT specimens.

Recommended Specimens

Females

NAAT (e.g. PCR)

A vulvovaginal swab is the recommended specimen as it has the highest sensitivity for gonorrhoea and chlamydia testing in females. This can be either clinician-collected or self-collected as follows: Remove the swab from the container, wipe the swab around the vaginal entrance, then insert the swab 4cm (thumb's length) into the vagina, count slowly to 5 and replace in the swab container.

- Symptomatic females should always be examined if possible:
  - External ano-genital examination is required for females with ano-genital skin symptoms (e.g. warts, herpes, candidiasis, dermatological conditions)
  - Speculum examination is required for proper clinical assessment of females complaining of vaginal discharge, dysuria, lower abdominal pain, abnormal bleeding, anal pain or discharge.
- If doing a speculum examination – do the vulvovaginal swab prior to speculum insertion.
- If gonorrhoea is clinically suspected a speculum examination should be performed to take an endocervical swab for culture and anti-microbial susceptibility testing.
- If the female is asymptomatic and an examination is not necessary or declined – a self-collected vulvovaginal NAAT swab should be taken – instruct the woman to take the swab as detailed above.
- Females who report receptive anal sex require an anorectal NAAT swab.

Note: Urine specimens are not recommended in females, due to low sensitivity compared with vaginal swabs so should only be done if it is not possible to get a vaginal specimen.

Males

NAAT (e.g. PCR)

- Asymptomatic **heterosexual** men, i.e. **with no** urethral discharge or dysuria who are not contacts of gonorrhoea and who have normal examination findings, do not require routine testing for gonorrhoea. However, most laboratories are now routinely doing dual testing for gonorrhoea & chlamydia on any specimens sent for chlamydia testing.
- **Take a urethral swab for gonorrhoea culture if complaining of urethal discharge, dysuria, urethral irritation, or if urethral discharge is noted on examination (use smallest possible swab to minimise discomfort, e.g. pernasal)** (see Urethritis guideline www.nzshs.org/guidelines).
- After collection of the urethral swab ask the patient to collect a first void urine for gonorrhoea & chlamydia testing by NAAT. (**Note:** The first 30ml of voided urine, at least 1 hour after last voiding if possible).

Indications for rectal and pharyngeal testing

- All men who have sex with men (MSM) being screened for sexually transmitted infections should be offered pharyngeal and anorectal swabs for gonorrhoea testing regardless of stated sexual practices because:
  - Gonorrhoea is usually asymptomatic in these sites
  - Rectal and pharyngeal infection may result from oro-genital contact, fingering or anal-oral contact (see Sexual Health Check guideline www.nzshs.org/guidelines).
- Anorectal swabs in heterosexuals should be considered on basis of anorectal symptoms or history of anal intercourse with an index case.
- NAAT are the test of choice for these sites but positive specimens require supplementary testing by the laboratory as specificity is lower than for genital sites.
- Anorectal swabs can be collected by gently inserting a swab 4cm into the anal canal, rotating and then replacing into the swab container.
- Pharyngeal swabs should be wiped across the posterior pharynx, tonsils and tonsillar crypts.
- Pharyngeal and rectal swabs for culture should be taken in addition to NAAT specimens in MSM who are gonorrhoea contacts or who have anorectal symptoms.
- **MSM with anorectal symptoms such as bleeding, discharge and tenesmus require anoscopy and further testing and should be referred or discussed with a specialist sexual health clinic.**

For further information on STI testing for MSM refer STIGMA Testing Guidelines https://stipu.nsw.gov.au/wp-content/uploads/STIGMA_Testing_Guidelines_Final_v5.pdf.

Conjunctivitis

- Culture is the recommended test.
- Collect specimen by wiping a culture swab over the lower eyelid.
- Collect an additional conjunctival chlamydia NAAT swab (gonorrhoea result may be given with dual chlamydia/gonorrhoea NAAT).

Management

- Dual therapy is recommended to delay anti-microbial resistance to gonorrhoea.
- It is essential to check the susceptibility profile of the isolate to ensure successful treatment.
- Resistance to penicillin, tetracycline and ciprofloxacin, is widespread in New Zealand. These antibiotic agents are therefore not suitable for treatment of gonorrhoea.

Treatment Regimens

- Ceftriaxone 500mg im stat (make up with 2ml lignocaine 1% as per data sheet) AND azithromycin 1g po stat for urogenital, rectal, pharyngeal and infection.
- If co-infection with rectal chlamydia treatment as above PLUS doxycycline 100mg po twice daily for 7 days.
- Advise to abstain from sex or use condoms for 1 week from the start of treatment and until 1 week after sexual contacts have been treated.
- Provide the patient with a fact sheet.
- Partner notification.

Pregnancy and breastfeeding

- Ceftriaxone 500mg im stat AND azithromycin 1g po stat.
- Both drugs pregnancy category B1.
- Infants born to mothers with untreated gonorrhoea infection require prophylaxis and should be discussed with a paediatrician.

Severe allergy to penicillin

- **Note:** Cross-allergy to third generation cephalosporins such as ceftriaxone is rare.
- Ceftriaxone is contraindicated as a treatment option only in patients who have genuine hypersensitivity with immediate and/or severe hypersensitivity to penicillin or other beta-lactam drugs.
- Discuss or refer to a sexual health specialist. A suitable option is Gentamicin 240mg im stat AND azithromycin 1g po stat. Azithromycin 2g po stat can be used if the isolate is susceptible.

Complicated gonococcal infections

Gonococcal PID (see PID guideline **www.nzshs.org/guidelines**)

- Ceftriaxone im stat PLUS oral doxycycline 100mg po twice daily for 14 days PLUS metronidazole 400mg po twice daily for 14 days.
- Severe PID should be referred to gynaecology in-patient services.
- If pregnant discuss with sexual health specialist.

Gonococcal epididymo-orchitis (see Epididymo-orchitis guideline **www.nzshs.org/guidelines**)

- Ceftriaxone 500mg im stat plus oral azithromycin 1g po stat plus oral doxycycline 100mg po twice daily for 14 days.

Gonococcal conjunctivitis

- Refer urgently to ophthalmologist.

Disseminated gonococcal infection

- Refer to hospital.

Partner Notification and Management of Sexual Contacts

Partner notification

- Be clear about language: 'partner' implies relationship – all sexual contacts in the last 3 months should be notified.
- Contacts should have a sexual health check and treatment for gonorrhoea with ceftriaxone 500mg im stat plus oral azithromycin 1g po stat without waiting for test results.
- If contacts test positive for an STI refer to specific guideline www.nzshs.org/guidelines.
- Advise contacts to abstain fromsex or use condoms for 1 week from the start of treatment and until results are available.
- Most choose to tell contacts themselves.
- Giving written information is helpful.
- Notifying all contacts may not be possible, e.g. if there is insufficient information or a threat of violence.

Follow-up

- The index case should be followed-up by phone or in person 1 week after treatment to ensure symptom resolution, give results and check that all sexual contacts have been notified.
- **Culture results and susceptibilities should be checked to ensure that appropriate treatment has been given.**
- Re-treatment is required if there has been any unprotected sex with untreated sexual contacts during the follow-up interval.
- Patient should be asked to re-attend for a sexual health check-up in 3 months (test of re-infection).

Test of Cure

- Test of cure is not routinely required for patients who are asymptomatic after completing treatment, as all regimens are >95% effective.
- Patients with persisting genital or anal symptoms after treatment should be re-tested by culture (if available) 3–7 days post-treatment and discussed with a sexual health specialist. If at risk of re-infection they should be re-treated at time of repeat test.
- Patients with pharyngeal infection, or in regions of NZ where gonorrhoea culture isn't offered, should be re-tested by NAAT 3 weeks post-treatment unless they have co-infection with chlamydia (when they should be re-tested at 5 weeks post-treatment as chlamydial DNA can persist for much longer).

Referral Guidelines

Referral to or discussion with a sexual health specialist is recommended for:

- Screening and treatment of sexual contacts if clinician wishes.
- Recurrent gonorrhea.
- Cases where antibiotic resistance is suspected, e.g. persisting symptoms after correct management.
- Patients with anorectal symptoms that may be STI-related.
- Complicated clinical situations where management advice is needed, e.g. unexpected positive NAAT test.

For more comprehensive guidelines please refer to NZ Guideline for the Management of Gonorrhoea 2014 and Response to the Threat of Antimicrobial Resistance **www.nzshs.org/guidelines**.