

# Management of Chlamydia and gonorrhoea in primary care

## Ministry of Health Sexual Health Campaign, Summer 2004

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The Ministry of Health sexual health campaign is aimed at encouraging sexually active young people to protect themselves from sexually transmissible infections (STI) by using a condom. The overall goal of the campaign is to increase the practice of safer sex in order to reduce the incidence of sexually transmissible infections in 15–19-year-old New Zealanders. The campaign will have a particular focus on rangatahi Maori and Pacific youth.

There have been no major public health campaigns addressing the risk of contracting STIs (including HIV/AIDS) for over a decade. During the last decade, rates of infection have risen dramatically with cases of Chlamydia increasing by 65 per cent and cases of gonorrhoea by 57 per

cent (diagnosed at sexual health clinics) over the past five years.

The Sexual and Reproductive Health Strategy<sup>1</sup> was released by the Ministry of Health in 2001. The Strategy provides an overall direction for improved sexual and reproductive health outcomes. It highlights the need to increase knowledge about safer sex and provide information on sexual health, the risk of STIs and HIV, and on prevention, early diagnosis and treatment.

A safer sex public health campaign was outlined in the 2003 document *Sexual and reproductive health: A resource book for New Zealand healthcare organisations*.<sup>2</sup> The campaign is in line with key directions of the Primary Health Care Strategy<sup>3</sup> which places a greater emphasis on

population health, health promotion and preventative care.

The campaign, funded by the Ministry of Health, will go to air in the week beginning 21 November 2004, and will finish at the end of February 2005.

A range of media will be used including television commercials, radio, websites, and magazines. The campaign message will also be promoted at youth events.

### No rubba, no hubba hubba

The campaign message is 'no rubba, no hubba hubba'. The television commercial will feature a warehouse in which a party is taking place. The key message – 'no rubba, no hubba hubba', in other words, 'no condom, no sex', will feature hip-hop music and a mixture of animated characters and 'real people'.



**Nicky Perkins** has been a full-time sexual health physician at Auckland Sexual Health Service since 2001. She is a Fellow of the Australasian Chapter of Sexual Health Medicine, Vice President of the NZVS (New Zealand Venereological Society) and Secretary of the Australian and New Zealand

Vulvovaginal Society. Her special interests are sexual health clinical guideline development and vulvovaginal disease.



**Alison Roberts** is a Senior Advisor (Public Health Medicine) at the Ministry of Health where she is currently working on policy for Immunisation and Communicable Disease Control. She has been a Fellow of Royal Australasian College of Physicians (Paediat-

rics) since 1982 and a Fellow of the Australasian Faculty of Public Health Medicine since 1994.

Table 1. Case numbers and rates of *chlamydia* in the Waikato/ Bay of Plenty and Auckland regions by age group 15–25 years and by gender in 2003.

Area	Age group in years	Number of cases			Rate per 100 000 population		
		Female	Male	Total	Female	Male	Total
Waikato/ BOP	15–19	1451	358	1809	7069	1648	4289
	20–24	1017	416	1433	5919	2425	4179
Auckland	15–19	1733	382	2115	4144	895	2509
	20–24	1601	624	2225	3803	1535	2699

Table 2. Case numbers and rates of *gonorrhoea* in the Waikato/ Bay of Plenty and Auckland regions by age group 15–25 years and by gender in 2003.

Area	Age group in years	Number of cases			Rate per 100 000 population		
		Female	Male	Total	Female	Male	Total
Waikato/ BOP	15–19	89	56	145	434	258	343
	20–24	52	54	106	303	315	309
Auckland	15–19	134	102	236	502	376	438
	20–24	76	138	214	262	508	381

Young people liked this concept when pre-tested because it was positive, credible and relevant for their age. It clearly gave the message 'if you're having sex, use a condom'.

### What do we know about young people's sexual behaviour?

In 2001 a health profile was compiled on New Zealand youth who attend secondary school.<sup>4</sup> 9699 students, in Years 9 to 13, from 133 randomly selected secondary schools across New Zealand, participated in this survey. The study was designed to determine the prevalence of selected behaviours and risk factors, and includes sexual behaviour.

Two-thirds of students (males 68%, female 70%) report they have never had sexual intercourse. The prevalence of sexual activity increases across age groups with 17% of 13-year-olds, 33% of 15-year-olds and 49% of 17-year-olds reported having had sexual intercourse. Of these students, more than

two-thirds reported they or their partner used a condom during the most recent episode of sexual intercourse. More males than females reported condom use in the most recent episode of intercourse (males 77%, females 69%)

A study of 1133 Year 12 and 13 students in Christchurch<sup>5</sup> found that 563 students, 49%, indicated they were sexually active and 2.3% had had a previous sexually transmitted infection. Eighty-four per cent of sexually active students provided a urine sample for Chlamydia trachomatis testing and of these

2% of specimens were positive. The rate of infection was similar for males and females with 1.8% males and 2.3% of females testing positive for Chlamydia infection.

### Sexually transmissible infections in New Zealand

Surveillance data on sexually transmissible infections (STI) in New Zealand comes from information collected from all Sexual Health Services, Family Planning Association clinics and some student and youth health clinics. The information is collated by the Institute of Environmental Science and Research (ESR) for the Ministry of Health.

The laboratories in the Waikato, Bay of Plenty (BOP) and Auckland region provide laboratory data to ESR, and from these data population estimates are calculated. Other laboratories may provide data in the future.

### Chlamydia

Chlamydia trachomatis infection is the most commonly diagnosed bacterial STI in New Zealand and numbers have been increasing over the past five years. From the ESR surveillance data,<sup>6</sup> in 2003 there were 7028 cases of Chlamydia reported from all the participating clinics. Of these 7208 cases, 121 cases, 1.7 per cent, were in youth under 15 years of age, 2728 cases, 39 per cent, were in young people aged between 15 and 19 years, and 2525 cases, 35 per cent were aged between 19 and 25 years.

Laboratory information provides population estimates (see Table 1). Chlamydia is most common in females

aged 15 to 19 years compared with females aged 20 to 24 years and males of both age groups. The higher rates of Chlamydia infection in females may be artifactual because of differences in testing. The number of males tested is probably

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low compared with females tested and therefore rates of infection are lower in males. Females are more likely to be tested when attending for contraception/PAP smears.

## Gonorrhoea

Over the last five years cases of gonorrhoea have increased in New Zealand, with increased cases in both males and females. Highest rates are seen in those of Maori or Pacific origin and in particular in the 15 to 19 years, and 20 to 24 age groups. Over the same period, laboratory gonorrhoea surveillance in the Auckland, Waikato and Bay of Plenty regions has shown increase in the population rates from 32 per 100 000 in 1999, to 82 per 100 000 in 2003.<sup>7</sup>

In 2003, of all confirmed and probable cases of gonorrhoea, 33 per cent were young adults age 15 to 19 years, and 31 per cent were in adults age 20 to 24 years. Laboratory surveillance data is summarised in Table 2. The rate of gonorrhoea in females is higher than males at age 15 to 19 years, but higher in males at age 20 to 24 years and all older age groups.

Rates for STI are high in New Zealand compared with Australia. In Australia, gonococcal infection is a notifiable disease, and Chlamydia infection is notified from all states except New South Wales. Although a direct comparison cannot be made because of differences in data collection, the difference between countries is considerable. For example, in Australia<sup>8</sup> in 2003, the rate of Chlamydia in the 15 to 24 years age group was 684.3 per 100 000, and the rate of gonococcal infection in the 15 to 24 year age group was 1043.8 per 100 000, compared with rates in Tables 1 and 2 for areas of New Zealand.

## Management of STIs in primary care

Primary care practitioners see and treat 70 per cent of STIs in New Zealand. They therefore have an important role in prevention and control of STIs, particularly in young people. Primary care practitioners may be able to offer opportunistic screen-

ing for STIs to selected patients. Age is the sociodemographic factor most strongly associated with chlamydial infection and therefore testing should be offered to all sexually active young people. It is suggested that the following groups be offered a test for chlamydia:

- Asymptomatic sexually active young people between the ages of 15 and 25 years.
- Asymptomatic men and women of any age group who have:
  - a new, or more than one sex partner during the previous 12 months
  - and have inconsistent use of barrier contraception.
- Asymptomatic women:
  - seeking termination of pregnancy
  - seeking post-coital contraception
  - before gynaecological surgery
  - before IUCD insertion
  - with a history of previous chlamydial infection
  - if at risk, early during the third trimester of their pregnancy, (if only testing once, otherwise test at booking and retest in the third trimester as a test of reinfection).

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## How to broach the subject of offering STI tests?

It may seem intrusive to offer STI testing to a patient who is having a general health check, or is attending for an unrelated issue. However, if this is approached in the right manner, most patients will not be offended. It is important to frame the question in a way that does not make the patient feel that they have been singled out as being likely to have an STI, hence it is sensible to mention that the offer of testing is a routine one. It is also useful to make it clear that patients do not have to

have a full examination if they do not wish to, as this will increase uptake of testing.

## Some suggested questions

'As part of a general health check I ask my patients about their sexual health, and I offer testing for infection.

- Do you have any sexual health concerns that you would like to discuss?
- I offer all my patients aged 25 and under the opportunity to have a urine test for Chlamydia, which is a very common sexually transmitted disease. Would you be interested in testing?
- I'm offering testing for Chlamydia to all my patients at the moment. Chlamydia is a very common STI, which often doesn't cause any symptoms. Testing can be done by a urine sample (or a swab that you take yourself) if you would prefer not to be examined. Would you be interested in testing?'

## Diagnosis and treatment of Chlamydia and gonorrhoea

The charts below describe key features of diagnosis and treatment of Chlamydia and gonorrhoea.<sup>9</sup>

## Further information

More detailed information on the Ministry of Health Sexual Health Campaign will be available on the Ministry of Health website: <http://hubba.co.nz>

## Acknowledgements for peer review

Dr Arthur Morris, Microbiologist, Auckland District Health Board and Dr Rick Franklin, Sexual Health Physician, Auckland District Health Board.

Chlamydia	
<b>Target populations for screening</b>	Infection with Chlamydia trachomatis is most common in adolescents and young sexually active adults. As a guide, patients in this age-group should be offered testing when they access health care, in particular when attending for sexual health related issues such as contraception and cervical cytology screening. Patients outside this age-group should be offered testing according to assessment of risk or if they request it.
<b>Introduction</b>	<p><b>Aetiology and epidemiology:</b></p> <ul style="list-style-type: none"> <li>• Causative agent Chlamydia trachomatis</li> <li>• Infects endocervix, urethra, rectum and occasionally pharynx and eye</li> <li>• Transmitted through contact with infected genital secretions – by sexual intercourse, or mother to child transmission at delivery</li> <li>• Incubation period about 7–21 days</li> <li>• 70% women asymptomatic, ~50% men asymptomatic</li> </ul> <p><b>Genital infection:</b></p> <p><b>Symptoms:</b></p> <ul style="list-style-type: none"> <li>• Women often have no symptoms at all – may complain of vaginal discharge, dysuria, lower abdominal pain, abnormal bleeding (if endometritis present)</li> <li>• Men often have no symptoms but may complain of urethral discharge, dysuria, urethral irritation, testicular pain/swelling</li> </ul> <p><b>Signs:</b></p> <ul style="list-style-type: none"> <li>• Women – mucopurulent cervicitis, signs of Pelvic Inflammatory Disease (PID), urinalysis may show pyuria</li> <li>• Men – urethral discharge (clear, milky, mucopurulent), signs of epididymo-orchitis</li> <li>• Both men and women may have no signs at all</li> </ul> <p><b>Complications:</b></p> <ul style="list-style-type: none"> <li>• PID (and subsequent infertility, pelvic pain, ectopic pregnancy)</li> <li>• Epididymo-orchitis</li> <li>• Reiter's disease</li> <li>• Fitz-Hugh Curtis syndrome (perihepatitis)</li> </ul>
<b>Testing methods</b>	<p><b>Chlamydia culture:</b></p> <ul style="list-style-type: none"> <li>• The only test acceptable for forensic purposes. This test is not commonly available – check with the laboratory.</li> </ul> <p><b>Enzyme immunoassay:</b></p> <ul style="list-style-type: none"> <li>• Sensitivity ~70% (false negatives common), specificity ~98% (false positives common in low prevalence population)</li> <li>• Suitable for testing from endocervix and urethra only.</li> </ul> <p><b>Nucleic acid amplification tests:</b></p> <ul style="list-style-type: none"> <li>• In New Zealand mainly PCR (polymerase chain reaction) and SDA (Strand Displacement Amplification)</li> <li>• Sensitivity ~90–95%, specificity 99.5%</li> <li>• Suitable for samples from endocervix, vagina, urethra, and first void urine (FVU).</li> </ul>
<b>Availability of laboratory tests</b>	<b>Check with the local laboratory for tests available and specimen collection.</b>

Specimen collection	<p><b>Nucleic acid amplification tests</b></p> <p><b>Males:</b></p> <ul style="list-style-type: none"> <li>First void urine (first 30ml of stream), preferably two hours since micturition <ul style="list-style-type: none"> <li>Urine requires refrigeration for transport</li> </ul> </li> </ul> <p><b>Females:</b></p> <ul style="list-style-type: none"> <li>Swabs – endocervical, urethral, vaginal, or introital can be used <ul style="list-style-type: none"> <li>No refrigeration required</li> </ul> </li> <li>Urine – FVU <ul style="list-style-type: none"> <li>two hours since micturition optimal</li> <li>Refrigeration required</li> </ul> </li> </ul> <p><b>Enzyme immunoassay:</b></p> <p><b>Males:</b></p> <ul style="list-style-type: none"> <li>Urethral swab – needs to be inserted 3–4 cm and rotated</li> </ul> <p><b>Females:</b></p> <ul style="list-style-type: none"> <li>Urethral AND cervical swabs (can be processed as one sample) as this increases sensitivity by ~10%</li> </ul>
Management	<p><b>Routine treatment non-pregnant female and male:</b></p> <ul style="list-style-type: none"> <li>Azithromycin 1g stat po</li> <li>OR Doxycycline 100mg bd 7 days</li> <li>Advise no unprotected sex for 1 week</li> <li>Advise partner(s) to be treated</li> </ul> <p><b>Note:</b> Azithromycin should not be used for treatment of infection in non-genital sites or for complicated infection such as PID or epididymitis</p> <p><b>Pregnant or breast feeding:</b></p> <ol style="list-style-type: none"> <li>Azithromycin 1gm po stat (Note: this is not currently licensed in pregnancy but has been used extensively and appears to be safe)</li> <li>Amoxycillin 500mg tds po 7 days</li> </ol> <p><b>Other options:</b></p> <ol style="list-style-type: none"> <li>Erythromycin ethyl succinate (EES) 800mg qds po 7days</li> <li>Erythromycin base 250mg qds po 14 days</li> <li>EES 400mg qds po 14 days</li> </ol>
Partner notification and management of sexual partners	<p><b>Partner notification:</b></p> <ul style="list-style-type: none"> <li>Sexual partners from the previous two months should be tested and treated empirically</li> </ul> <p><b>Management of sexual partners:</b></p> <ul style="list-style-type: none"> <li>Perform a sexual health screen and treat empirically for Chlamydia</li> <li>If Chlamydia positive – partner notification as above</li> </ul>
Test of cure	<ul style="list-style-type: none"> <li>Required <b>ONLY</b> in those patients treated with Erythromycin or Amoxycillin and should be done <b>4–5 weeks after stopping treatment</b></li> <li>For pregnant women a FVU should be used rather than an endocervical swab to avoid a further speculum examination</li> </ul>
Follow-up	<ul style="list-style-type: none"> <li>All patients should be followed up to ensure resolution of symptoms, check that sexual partners have been treated, and ensure compliance</li> </ul>
Referral guidelines	<p><b>Referral to the Sexual Health Service recommended for:</b></p> <ul style="list-style-type: none"> <li>Screening and treatment of sexual partners if clinician wishes</li> <li>Complicated clinical situations for management advice</li> </ul>

Gonorrhoea	
Introduction	<p><b>Aetiology and epidemiology:</b></p> <ul style="list-style-type: none"> <li>• Aetiologic agent <i>Neisseria gonorrhoeae</i></li> <li>• Infects endocervix, urethra, rectum, pharynx and occasionally the eye</li> <li>• Highly infectious</li> <li>• Incubation period usually 2–5 days (Range 2–10 days)</li> <li>• Transmission through contact with infected genital secretions – by sexual intercourse, or mother to child transmission at delivery.</li> <li>• <b>Resistance common in Auckland region to penicillin, tetracycline and to ciprofloxacin. Resistance to ciprofloxacin is now increasing in Northland.</b></li> </ul> <p><b>Symptoms and signs:</b></p> <ul style="list-style-type: none"> <li>• Women are often asymptomatic but may complain of vaginal discharge, dysuria, lower abdominal pain</li> <li>• Men symptomatic &gt;90% of the time – dysuria, discharge, testicular pain</li> <li>• On examination women may have mucopurulent endocervicitis, purulent urethral discharge, signs of PID</li> <li>• Men may have meatitis, purulent penile discharge, signs of epididymo-orchitis</li> </ul> <p><b>Complications:</b></p> <ul style="list-style-type: none"> <li>• PID (and subsequent infertility, pelvic pain, ectopic pregnancy)</li> <li>• Epididymo-orchitis</li> <li>• Disseminated infection</li> <li>• Fitz-Hugh Curtis syndrome (perihepatitis)</li> </ul>
Tests	<p><b>Culture:</b></p> <ul style="list-style-type: none"> <li>• Transwab – non-nutritive media (plated onto nutritive media at laboratory)</li> <li>• Do not refrigerate – <i>Neisseria gonorrhoeae</i> sensitive to temperature and drying</li> <li>• Important to get to laboratory ASAP – 50% loss viable organisms if &gt;24 hrs before sample gets to lab</li> <li>• Laboratory will report positive culture of <i>Neisseria gonorrhoeae</i> followed by susceptibility profile to commonly used antibiotic agents</li> </ul>
Specimen collection	<p><b>Female:</b></p> <ul style="list-style-type: none"> <li>• Endocervical Transwab</li> <li>• Rectal/Pharyngeal sample if appropriate</li> </ul> <p><b>Routine male screen:</b></p> <ul style="list-style-type: none"> <li>• Urethral Transwab</li> <li>• Rectal/pharyngeal sample if appropriate</li> </ul>
Management	<p><b>General Points:</b></p> <ul style="list-style-type: none"> <li>• Co-infection with <i>Chlamydia trachomatis</i> is common, therefore all regimens should include treatment for Chlamydia – preferably Azithromycin 1gm stat po</li> <li>• In the Auckland region, penicillin is not generally a suitable treatment option due to high levels of resistance</li> <li>• Due to increasing levels of Ciprofloxacin resistant <i>Neisseria gonorrhoeae</i> it is essential to check the sensitivity profile of the isolate to ensure successful treatment</li> </ul> <p><b>Sensitivities of isolate known:</b></p> <ul style="list-style-type: none"> <li>• If penicillin susceptible – Amoxycillin 3gm probenecid 1gm po stat AND Azithromycin 1gm po stat</li> <li>• If Ciprofloxacin susceptible – Ciprofloxacin 500mg po stat AND Azithromycin 1gm po stat</li> <li>• If Ciprofloxacin resistant – Ceftriaxone 250mg im, AND Azithromycin 1gm po stat</li> </ul> <p><b>Sensitivities of isolate unknown (culture pending):</b></p> <p><b>Treatment depends on local sensitivity profile of <i>Neisseria gonorrhoea</i></b></p> <ul style="list-style-type: none"> <li>• Auckland region – Ceftriaxone 250mg im AND Azithromycin 1gm po stat</li> <li>• Other regions – Ciprofloxacin 500mg stat po AND Azithromycin 1gm po stat</li> </ul>



	<p><b>Pregnant or breast feeding:</b></p> <ul style="list-style-type: none"> <li>Ceftriaxone 250mg im stat AND Azithromycin 1gm stat</li> </ul> <p><b>Treatment of contacts:</b></p> <ul style="list-style-type: none"> <li>Depends on whether susceptibility profile of isolate from index case is known – see above</li> </ul> <p><b>Allergy to Ciprofloxacin:</b></p> <ul style="list-style-type: none"> <li>Ceftriaxone 250mg im stat</li> </ul> <p><b>Allergy to Penicillin:</b></p> <ul style="list-style-type: none"> <li>Carries a 10% chance of co-existent allergy to cephalosporins</li> <li>Consider Azithromycin 2gm stat po (no additional treatment for Chlamydia needed) Note: not licensed for treatment of gonorrhoea, and high rate of gastro-intestinal side effects. Requires test of cure.</li> </ul> <p><b>Important:</b></p> <ul style="list-style-type: none"> <li><b>All regimens containing Ceftriaxone require referral to a Sexual Health Service or local hospital at present as it is not possible to access Ceftriaxone in primary practice</b></li> <li><b>All regimens containing Ciprofloxacin require specialist recommendation for treatment</b></li> <li><b>Contact the sexual health service for information on local arrangements</b></li> </ul>
<b>Partner notification and management of sexual partners</b>	<p><b>Partner notification:</b></p> <ul style="list-style-type: none"> <li>Patients should be encouraged to contact all sexual partners from the preceding two months and ask them to attend for testing and treatment</li> </ul> <p><b>Management of sexual partners:</b></p> <ul style="list-style-type: none"> <li>Perform a sexual health screen and treat empirically for gonorrhoea</li> <li>If culture positive for <i>Neisseria gonorrhoeae</i> – Partner notification as above</li> </ul>
<b>Test of cure</b>	<ul style="list-style-type: none"> <li>Not required for clients who are adherent to therapy and asymptomatic on completion of therapy as all recommended options are &gt;95% effective</li> </ul>
<b>Follow-up</b>	<ul style="list-style-type: none"> <li>Patient should be followed up to ensure compliance, give results and check that partner notification is complete.</li> <li>Culture and susceptibility results should be checked to ensure that the organism is Ciprofloxacin susceptible</li> <li>Patient should be asked to re-attend for a sexual health screen in three months (test of re-infection)</li> </ul>
<b>Referral guidelines</b>	<p><b>Referral to the Sexual Health Service is recommended for:</b></p> <ul style="list-style-type: none"> <li>Management where Ceftriaxone is required as therapy</li> <li>Management of sexual partners if clinician wishes</li> <li>Complicated clinical situations where management advice is needed</li> </ul>

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