

# AUSTRALASIAN CONTACT TRACING MANUAL

A practical handbook for health care providers managing people with HIV, viral hepatitis, other sexually transmissible infections (STIs) and HIV-related tuberculosis.



EDITION 3 2006

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ENDORSED BY:



The Royal Australasian  
College of Physicians

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A practical handbook for health care providers managing people with HIV, viral hepatitis, other sexually transmissible infections (STIs) and HIV-related tuberculosis.

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## **Dedication**

This manual is dedicated to the memory of

### **Dr Robert Ariss**

who as Convener of People Living with HIV/AIDS (NSW) Inc. and member of the Australian National Council on AIDS officially opened the Contact Tracing Seminar held at the Quarantine Station, North Head Sydney on 20 November 1991.



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# INTRODUCTION

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Recent court decisions have confirmed that every health care provider involved in the management of people with sexually transmissible and blood-borne infections bears some responsibility for the health and well-being of the sexual partners and other contacts of their patients. This responsibility has to be weighed against the index patient's right to care and confidentiality, time restraints, various laws, and community sensitivities that are also important to public health. As well, dramatic advances in the prognosis of people with HIV infection and improvements in the diagnosis of other sexually transmissible infections have tipped the balance towards higher priority being afforded to contact tracing than when the first edition of this manual was produced.

This manual was originally developed as a result of a recommendation of the National Seminar on Contact Tracing held in Sydney in November 1991. At that seminar we took care to have wide representation from various health disciplines, affected communities and government. The ease with which a consensus was reached was remarkable and the subsequent report met with universal acceptance. The community representatives proved to be sympathetic to the obligations confronting the health care providers involved in contact tracing. In turn, the health care providers were impressed by the clear commitment of the affected communities to minimise the spread of infection.

This third edition of the manual serves to reconfirm the collaboration demonstrated in the first edition. It has been updated in keeping with expanded knowledge about and treatment for infections along with greater input from New Zealand. The manual is available on the ASHM website at: [www.ashm.org.au](http://www.ashm.org.au). The major target groups for this manual are primary carers – general practitioners, community and public health nurses, Indigenous health workers, sexual health, hepatitis and HIV service staff. As these infections often occur together, the manual covers all sexually transmissible infections, viral hepatitis and HIV and the particular problem of HIV-related tuberculosis.

Our particular thanks go to the members of the manual's Reference Group (listed in Appendix A).

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Senior Staff Specialist, Sydney Sexual Health Centre, Sydney Hospital,  
On behalf of the Third Edition Writing Team

# 1. CONTACT TRACING IN CONTEXT

## 1.1. Definitions

### Contact:

A person who has had sex, reused injecting equipment or has had some other relevant exposure to the index case. The exposure may have been unprotected with no precautions taken (and therefore the contact would be at significant risk of any infection found in the index case) or protected with varying degrees of precaution used (and therefore the contact would have a lesser degree of risk).

### Contact tracing:

The process of identifying relevant contacts of a person with an infectious disease and ensuring that they are aware of their exposure. For sexually transmissible infections (STIs), relevant contacts include those with whom the index case has had sex during the infectious period as well as babies with infected mothers. The particular sexual practices of importance vary for different STIs and are outlined in Chapter 4. For blood-borne infections (HIV, hepatitis B and C) needle-sharing contacts and transfusion recipients, as well as those who may have been accidentally exposed to blood by other means, are also relevant. For pulmonary tuberculosis, domestic or other close social contacts also need to be traced. The term 'partner notification' has sometimes been used synonymously with contact tracing in the context of HIV. In Australia and New Zealand, the term has not achieved broad acceptance as the term 'partner' excludes needle-sharing contacts, transfusion recipients and children born to infected women. In the USA, contact tracing may be synonymous with provider referral (see below) while patient referral may be synonymous with partner notification.

### Incubation period:

The period of time between acquisition of an infection and the appearance of symptoms.

### Index case:

The original person identified with an infection. The index case may or may not have infected other persons but represents a starting point for the process of contact tracing.

### Infectious period:

The period of risk of transmission of infection, not to be confused with incubation period. The infectious period varies for different infections (see Chapter 4) but always begins after infection but before symptoms appear. All asymptotically infected people should be assumed to be infectious.

**Partner notification:** See 'Contact tracing'.

### Patient (index case) referral:

The index case notifies contacts of their exposure to an infection and refers them to appropriate services. The health care provider counsels the index case about the information to be conveyed and gives the index case advice on techniques for providing the information to the contact(s).

### Patient-delivered testing:

An alternative partner-management strategy may involve the index patient delivering a test, such as a urine container or self-collected swab kit, to his/her contact. This strategy may also be used in conjunction with patient-delivered treatment.

### Patient-delivered treatment:

Recent research in the USA has suggested that partners of index patients with certain STIs may be more efficiently managed by providing the index patient with an additional course of antibiotics to give to his/her sexual partner (Golden 2005). This strategy may only be practical for conditions that are treatable with a single dose of an oral antibiotic – specifically chlamydia and trichomoniasis. Anecdotally, patient-delivered treatment for trichomoniasis was once common in Australia, in part because there was no reliable test for the condition in men. Similarly, over many years, individual doctors have frequently had recourse to this strategy (albeit unofficially and with some heart-searching) when faced with the very real eventuality of a contact refusing to attend for testing and treatment. Prescribing a single-dose and usually well-tolerated medication for an unseen but recalcitrant partner has always seemed a lesser evil than doing nothing effective at all about a possibly infected person in the community. While the medico-legal implications of treating an unseen person are uncertain, this strategy may be an appropriate way to manage a partner with limited access to medical care – a case of recent research validating a common sense but hitherto un-talked about approach.

### Presumptive treatment:

Sometimes called epidemiological or contact treatment, this consists of treating contacts before the contact's test results are known. The aims are to stop ongoing transmission, avert complications that may result from treatment delay, and overcome the problem of false negative tests.

### Provider referral:

The index case delegates the duty of directly tracing contacts to a health care provider or other agency.

### Safe(r) sex:

For HIV infection, the Australian Federation of AIDS Organisations (AFAO) defines safe sex as any form of sex in which HIV does not pass from the blood, semen or vaginal fluids of one person directly into the body of another. This may include avoiding anal or vaginal intercourse or the proper use of condoms. Sexual practices associated with the transmission of various STIs are outlined in the chapters on individual conditions.

**NB.** 'Safe sex' is the term adopted by the Department of Health and Ageing. However, many prefer the term 'safer'.

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**Safe(r) use:**

The use of injectable substances in a way that prevents the transmission of HIV, hepatitis B and C. Safe injecting is only possible if hands remain clean and injecting equipment, including mixing implements, water and filters, are never shared and if the hands touching the equipment are not contaminated with blood. Reusing equipment that has been cleaned with bleach is not completely safe as both HIV and hepatitis C have been transmitted on occasions despite bleaching.

**Source person:**

The person from whom the index case acquired an infection. The original source for a cluster of infections may never become apparent.

**Unsafe sex:**

Any form of sex in which HIV-infected blood, semen or vaginal fluids of one person could pass directly into the body of another. Unprotected anal or vaginal sex with a potentially infected person are considered unsafe. Other STIs tend to be considerably more infectious than HIV so safe/unsafe practices for those conditions will vary.

## 1.2. Aims

The aims of contact tracing are:

- a) to interrupt the ongoing transmission of infection;
- b) to identify people with an infection who may benefit from treatment in order to minimise the likelihood of complications of infection;
- c) to provide individual counselling to effect sustained behaviour change among infected people or people at risk of infection; and
- d) more generally, to identify and reach populations at particular risk of infection in order to influence community norms. In the case of 'minor' STIs, for example, genital warts or herpes, the sole aim may be to educate the contact in order to allay unnecessary anxiety. However, if the contact reports high-risk behaviour screening for other STIs may be indicated.

Contact tracing that is undertaken inexpertly or insensitively can alienate individuals and communities and thus work against these aims. The aims are achieved by adhering to high levels of professionalism and assessing each case individually. This requires assessing the biological and social implications of each infection as well as the ethical and legal considerations for each case. Changes in behaviour that have occurred since the HIV/AIDS epidemic have largely been achieved due to the constructive partnership between the communities at risk, health care professions and government agencies. Though important, contact tracing is only one component of the strategy to contain the epidemic.

The priorities and strategies involved in contact tracing, as well as the special concerns of particular community groups, are outlined in later chapters.

## 1.3. Underlying principles

Contact tracing should only be performed within the context of comprehensive control programs with careful attention to the potentially serious medical, social, public health, legal and ethical issues involved. Strategies such as targeted education, selective voluntary testing and distribution of safe sex and safe drug use equipment do much more to control the spread of these infections. Contact tracing aims to complement, not replace, these strategies.

Contact tracing is irrelevant for some STIs, e.g. human papilloma viruses, and of limited relevance for some others, e.g. herpes simplex viruses, but of considerable value in the control of others, e.g. chlamydia and gonorrhoea.

Contact tracing is acceptable only if the following principles are observed:

- a) Health care providers should respect the human rights and dignity of the index case and contacts.
- b) Contact tracing should be a balanced part of any prevention, care and support program.
- c) Contact tracing should be voluntary, without coercion. The index case and contacts should have equal and adequate access to all available services regardless of their willingness to co-operate with contact tracing. When an index case refuses to notify or permit notification of a contact(s), the practitioner should have access to expert assistance,
- d) The process should be confidential and include procedures to ensure the protection of written and database records, as well as electronic health records. In provider referral the anonymity of the index case must be protected as far as is possible. There are obviously situations where this is not possible, as when a contact has only one sexual partner – the index case. Specific written permission must be given to release this information to the contact(s).
- e) Contact tracing should be undertaken only when appropriate and culturally sensitive support services are readily available to both the index case and contacts. The quality of these services should be assured through monitoring (adapted from World Health Organization 1989).

# 2. CONTACT TRACING

## AS PART OF THE COUNSELLING PROCESS

### 2.1. General

For most STIs and blood-borne infections the primary care provider bears the major responsibility for ensuring that contacts are properly assessed and counselled. With practice – and specialist assistance when necessary – contact tracing can become a relatively fluent and constructive element of the counselling process. In addition to being a public health issue, contact tracing is also an important part of the clinical management of the index case.

For example, for many HIV patients personal issues surrounding a positive diagnosis will not be resolved until they are satisfied that their contacts have been managed appropriately. Thus contact tracing is an integral and essential part of the counselling process. For a more detailed account of counselling people with HIV/AIDS, or chronic viral hepatitis, readers are referred to *HIV/Viral Hepatitis: a guide for primary care* (Dore et al 2001 – available at [www.ashm.org.au](http://www.ashm.org.au)) and to Ross et al (2000).

In designated circumstances (e.g. pulmonary tuberculosis, hepatitis A, HIV infection, acute hepatitis B or C not immediately attributable to sexual or injecting drug use (IDU) transmission), consultation with specialist services for advice or assistance with detailed risk assessment and contact tracing is strongly recommended. If the patient needs to be referred, the primary care provider should explain the reason for the referral and the processes involved. Where contacts are patients of the same practice, the primary carer may wish to provide the initial assessment and counselling to the contacts. Specialist services that may be able to provide support are listed in Appendix B.

If the health care provider feels inadequately trained to counsel index patients or to trace contacts, referral to or consultation with a specialist centre should be considered. Contact tracing is an exacting and sometimes time-consuming process that requires a particular set of skills, experience and knowledge of the communities most affected. Patients may be referred either for comprehensive care or just counselling and contact tracing support.

Contact tracing relies on the goodwill and cooperation of the index case, and (except in the case of pulmonary TB) a person cannot be compelled to attend for treatment or to divulge the names of contacts. To gain cooperation the health care provider must be non-judgemental and supportive. His/her role is also educational: to inform the index patient and contacts about the implications of infection, modes of transmission and prevention, and treatment options. The health care provider should be culturally aware (refer to Appendix C for assistance) and have basic counselling skills and other personal qualities such as tact, empathy and awareness of both the physical and emotional condition of the patient. The health care provider also needs to have current and accurate knowledge of treatment and support services and be familiar with legislation relevant to HIV/AIDS and related diseases.

### 2.2. Timing

Counselling should be a largely non-directive process that facilitates patients to develop an awareness of their own feelings and insight into their options for coping with their diagnosis. Yet contact tracing is a somewhat directive process, with specific objectives that need to be woven into the counselling plan for each patient. The most appropriate time to embark on the contact tracing process is therefore judged on a case-by-case basis. Factors that influence this decision on timing include:

1. **The patient's physical and emotional state.** If the index patient is acutely physically or emotionally distressed, it may be better to defer the issue until a subsequent consultation.
2. **The patient's own priority.** For many index patients the issue of notifying contacts is highest on their agenda and it may be helpful for them to deal with the issue immediately.
3. **The nature of the condition.** For easily treated conditions (e.g. chlamydia, gonorrhoea and syphilis) which also tend to be very infectious, contact tracing is usually dealt with during the same visit in which the index patient is given their diagnosis and treatment. Contact tracing is more often deferred to a later consultation in the case of chronic viral conditions. This not only avoids compounding the patient's acute crisis but offers the counsellor the chance to check that the information which the index case gives to his/her contact(s) about their condition will be accurate. For some conditions, e.g. Hepatitis C dating back to exposure many years ago, common sense may dictate that contact tracing is no longer appropriate.
4. **Public health factors.** If it is considered that a contact is placing others at immediate risk of infection, contact tracing should usually proceed with urgency. The public health considerations for individual conditions are described in chapter 4.

### 2.3. Getting started

Contact tracing is sometimes raised during pre-test discussion, particularly if the patient voices concerns. In fact, it is helpful for practitioners to have contact tracing permanently on their checklist of matters to be considered in pre-test discussion – sometimes direct discussion of contact tracing may be deemed inappropriate at this stage and can be deferred. Major patient concerns typically relate to confidentiality.

After a positive diagnosis, the patient's sexual, IDU or other risk history should be reassessed. Other potential risk factors or events frequently emerge at this time. Disclosure is facilitated by asking open-ended questions non-judgmentally. For example:  
'How do you think you might have picked up the infection?'  
'Who do you think you need to tell about your condition?'  
'How do you think your partner will react?'

At the outset it should be made clear why the information is needed. In particular, the index patient needs to know that infected contacts are usually unaware of their infection, they

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are probably asymptomatic and they may be at risk of serious complications. While health practitioners know these facts well and take them for granted, patients are frequently surprised that contacts could be unwittingly infected.

Care should be taken not to only focus on the risk encounter that is the most recent or obvious. Although the most recent encounter may have precipitated the patient's request for testing, infection often precedes this point (see Case study 1). Accurate determination of the patient's risk history also provides a foundation for discussion about future risk avoidance.

When taking a social and sexual history for STIs and blood-borne infections:

- Do not assume the gender of contact(s).
- Do not ask questions that imply a judgment.
- Ask open-ended questions.
- Ask explicit information about relationship with contact(s), sexual practices, condom use and location, e.g. brothel, gay sauna, overseas.
- Ask about substance use that may have contributed to risk, e.g. reusing drug injecting equipment and excessive alcohol and drug use.
- In the case of blood borne infections, ask about blood donation or receipt of blood products, tattooing, piercing or sharps exposure.

### The approach to the patient

The key to successful contact tracing is to be able to get the patient on side and to work productively with him or her. The whole concept and process of contact tracing is rendered ineffective if the cooperation of the patient is lost. Fortunately, in the vast majority of cases, patient cooperation is not especially difficult to achieve. Patients diagnosed with an STI are usually all too aware that the infection did not appear out of nowhere but that they must have contracted it from a sexual partner, and if they have had more than one partner in the past few months they are often acutely conscious that they themselves may have passed the infection on to others.

Where an infection has come from, and in turn, to whom they may have passed an infection on, are often major concerns and preoccupations of patients. People may feel aggrieved that they have acquired the infection from a partner and very angry feelings may be directed towards that partner, quite unreasonably. At the same time, people may feel guilty about their own perceived role in the chain of transmission and that they have put others at risk. Most patients welcome a chance to ventilate anger and to unburden themselves of guilt about these aspects of their diagnosis. The patient's need to ventilate these issues allows the practitioner to acquire information about contacts and, as a useful spin off, it can kick-start the formulation of a plan of action, with the patient's involvement, for contacting these partners.

Providing an enabling climate for the patient to voice angers, fears and concerns has to be done with sensitivity and tact. Patients diagnosed with an STI can be vulnerable and fragile. Failure to appreciate this vulnerability and insensitive handling of the case can convert a patient who was eager to take advice and to cooperate with contact tracing into a churlish and reluctant participant.

There are some real turn-offs for the patient that generally prove counter-productive in contact tracing. These may alienate the people who should be your best allies. Making an appeal to 'the wider public health' is one such ploy. Patients have no real concept of public health, but at the same time they usually are aware of a personal responsibility towards their own sexual partners. It's best for practitioners to stay with the personal rather than invoking 'the public' and 'the public good'. Similarly, any appeal to a faceless bureaucracy (e.g. 'the Health Department') is not likely to assist your patient. Patients distrust and fear bureaucracies no matter how benign they may appear. 'The Health Department requires me to tell you...' and 'the Health Department has rules about contact tracing which we must follow in all cases of gonorrhoea' are NOT statements likely to produce willing and cooperative patients. In fact, any attempt to threaten the patient may result in alienating the patient.

The relationship established between the individual patient and the health professional has to be a working relationship based on mutual trust and not on suspicion. The health professional doesn't have to love the patient or to endorse the patient's sexual behaviour; but he or she does have to achieve some sort of understanding of the patient's situation. The process of contact tracing cannot be learned by rote. There is no simple recipe book which will produce a positive outcome every single time. Having a non-judgmental approach, showing empathy for the patient, and keeping one's own moral values in the background is essential. Having awareness of misconceptions about individual STIs which patients might have and being prepared to counter these, are all important and valuable attributes to cultivate. Sadly however, these qualities are not learned overnight or from a quick reading of a textbook – they are gained slowly (if at all) by trial and error and by being willing to learn from mistakes.

It is perhaps more practical and useful to recognise that every patient is unique and every situation differs slightly from other situations. Successful contact tracing depends on the practitioner being flexible, being prepared to listen to the patient in order to find out their unique concerns (and sometimes fears) about partners, acknowledging difficulty where real difficulty exists, imparting reliable information, being frank and open and demonstrating that in the matter of contact tracing the practitioner is prepared to form a working partnership with the patient so that the best outcome possible both for patient and partners is achieved. 'I'll help you to the best of my ability, if you'll help me to help your partners' is perhaps an over-brutal summing up of what contact tracing is really all about, but nevertheless it is an approach most patients can appreciate, understand and respond to.

Frankly explaining to the patient the duty imposed upon you because of the information about partners you have received is likely to enlist the patient's support. An example of what you might say follows: 'From what you've told me today we now know there are 2 or 3 people out there who might be infected. While my first duty is to you, as a health professional I have a duty to the partners you've told me about to see that they get proper care as well. I'm sure we can work together on this and any more help you can give me would be much appreciated.'

## DOs and DON'Ts for getting started

### DOs

- Have contact tracing permanently on your checklist for managing STIs
- At all times try to work with the patient – their concerns and yours often tally
- Explain why information about clients is needed
- Educate patient about asymptomatic infection and potential complications of untreated infections
- Ask open-ended questions which are not judgmental
- Try to get a clear picture of the patient's sexual and drug-taking risks over a period
- Understand the patient's particular and unique situation
- Give the patient an opportunity to ventilate concerns, express anger and acknowledge guilt
- Share your own duty of care with the patient
- Reassure where you can and be supportive when reassurance is inappropriate

### DON'Ts

- Don't just concentrate on the patient's most recent risky exposure
- Don't invoke and hide behind 'the public good' or 'the public health'
- Don't align yourself with a faceless bureaucracy – you are not a sex police service
- Don't create a perception that you are threatening the patient
- Don't be tactless and insensitive if you can possibly avoid it
- Don't be inflexible and don't try to work to a 'recipe book' approach

For the index case, contact tracing must be an enabling process and any interviews relating to contact tracing should be guided by the following objectives:

- a) Ensuring the education and empowerment of the index case and his/her contact(s). This includes providing accurate information on modes of transmission, clinical manifestations, treatment options and support/advocacy services.
- b) Identifying and addressing the individual barriers to notification of the contact(s); and facilitating development of communication skills that will enhance the outcome of the process for the index case, the contact(s) and the health care provider.
- c) Identifying the most appropriate method for notifying a contact and providing the index case with support and guidelines as required.

For a fuller account of history taking and counselling see Ross et al (2000).

## 2.4. Choosing a method of advising contacts

The method of advising and counselling contacts about their exposure is chosen after taking into account the risk history, condition, sexual or social environment and motivation of the index case. The following strategies are available:

### Patient (index case) referral

#### Specific instructions:

The health care provider provides the index case with specific advice regarding which contacts to advise and the information to be imparted, including appropriate agencies for assessment and counselling. The index case personally notifies his/her contact(s). Many services provide 'contact letters' (see Appendix D) detailing the index case's diagnosis and treatment, that the contact can take to the doctor of his/her choice.

#### Imparting skills:

Patient referral requires a well-informed, motivated and self-confident index patient. If the index case fears embarrassment or reprisal by his/her contact(s), it may be helpful for a skilled counsellor to rehearse the notification with the index case. The advantages of role-playing are that information to be imparted can be confirmed and the index case can be taught to anticipate and respond to reactions by contacts.

General counselling support can also be provided.

If relying on patient referral, it is important to use follow-up consultations to confirm that the contacts have been advised and assessed adequately.

### Provider referral

Either at the index patient's request or at the suggestion of the health care provider, the provider may advise the contact(s) directly or recruit another agency (e.g. sexual health service, chest clinic, public health unit or blood bank) to ensure that the contact(s) are assessed. To do so, the health care provider should have the explicit approval of the index case (see Chapter 3.6 and Chapter 6). Provider referral may have the advantage of offering the index case a higher level of confidentiality. However, provider referral is more time- and resource-intensive. It is the contact tracing method of choice for certain situations and conditions (e.g. pulmonary TB, transfusion-related infections, infections involving sex workers or persons with intellectual disability), where patient referral has failed, and when the index case fears a violent reaction.

A combination of patient and provider referral is often used for the different contacts of one index case.

## 2.5. How to make initial contact

Where provider referral is the most appropriate strategy, several options are available for making initial contact, with the following advantages and disadvantages:

	ADVANTAGES	DISADVANTAGES
<b>Telephone</b>	Saves time and an appointment time can be organised	Provides verbal cues only
	Cost-effective, especially if the contact is rarely home or has a mobile phone	Inappropriate for disclosing full details as limited control over response
	Confidential (if the source of the call is not revealed to others)	Can be intercepted by a third person
	Some anxiety can be allayed	Inappropriate for the hearing-impaired and people with limited English language skills
<b>Letter or email</b>	Allows the person to phone at a time when their confidentiality is assured	Creates anxiety especially if received after services are closed
	Letters tend to be collected or redirected when a person is difficult to find at home or has moved	Letters can be intercepted by a third person
		Problematic for people with literacy problems
		Generally inappropriate for disclosing diagnosis
		Not appropriate for people with limited English language skills – they may inadvertently breach their own confidentiality by giving the letter to someone with better English
<b>Visit</b>	The health care provider can give full details immediately, deal with the response and link in with appropriate supports	Visibility can detract from confidentiality can give impression of policing
	Depending on the training of the health care provider and the circumstances, testing may be offered on the spot	Expensive/time consuming testing on site can work against the individual's willingness to accept referrals
<b>Referral to a specialist agency</b>	Saves time (agency contacted by phone) <ul style="list-style-type: none"> <li>• accesses greater expertise/ knowledge of social contexts</li> <li>• agencies may have other information about contacts</li> <li>• often index case's identity not required (aids confidentiality)</li> </ul>	May reduce continuity of care resource intensive for other agency Uptake of referral can be poor

## 2.6. Managing reluctant patients

Occasionally, the index case may be reluctant to cooperate either with informing contacts or imparting contact details to the health care provider. In the first instance, it is most useful for the health care provider to reassess the index case and address the patient's reasons for this reluctance. These reasons – often occurring in combination – and suggested strategies are listed below.

Reason	Suggested strategies
Fear of loss of confidentiality	Offer the potential anonymity of provider referral
<b>Unassertive patient</b>	<b>Practise role playing (perhaps with counsellor assistance)</b>
Patient not reconciled to his/her diagnosis	Allow more time and support
<b>Logistic (time/distance/nowhere for contacts to go)</b>	<b>Advise on provider referral, other support/health agencies. Occasionally patient-delivered treatment may be appropriate</b>
Patient unaware of seriousness of consequences for contacts	Educate patient
<b>Patient has little concern for consequences to contacts</b>	<b>Explain that contacts tend to find out eventually anyway. Advise about risk of re infection and legal requirements</b>

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Most reluctant index cases respond to the simple support measures outlined above. Much of the success hinges on the expertise and empathy of the interviewer and their acceptance that the process may take a little time. Many of the problems are allayed if the index case is given sufficient time to adjust to their own diagnosis and develop trust in their carer. For the more serious diagnoses this may take a number of interviews.

Consultation with or referral of the index patient to a local specialist agency (Appendix B) may be advisable.

## 2.7. Case-by case assessment

Chapter 4.1 to 4.18 provides medical information that is necessary to assess the relevance of contact tracing for individual STIs, blood-borne infections and tuberculosis. To assess the priority of contact tracing for each case, many issues need to be considered including:

**a) Potential seriousness of the condition:**

higher priority (and greater resources) may be given to conditions that are life threatening or commonly have other major sequelae for example, HIV infection, syphilis, TB, and infections during pregnancy.

**b) Commonness of the condition:**

the relative importance of contact tracing may be greater when a condition is rare in a particular population; for example HIV infection among heterosexuals or chancroid in a low prevalence area. This is because community awareness may be lower and other strategies, e.g. selective screening, may not exist.

**c) Existence of other control strategies:**

In certain circumstances, e.g. intensive targeted education and screening programs among sex workers, it may be reasonable to conclude that a contact has been tested for the particular infection. However, this may need to be confirmed.

**d) Direct benefit to contacts:**

The contact tracing priority is higher where a condition, such as a bacterial STI, is easily cured by antibiotics and the consequences of lack of treatment are often serious. In the case of HIV infection, infected contacts can benefit from antiretroviral therapy, vertical transmission can be avoided and access to Positive Living Programs and other community supports made available.

**e) Likelihood of further transmission:**

Contact tracing becomes more urgent if there is imminent risk of a contact transmitting an infection to others; for example, the contact is likely to have other unprotected sexual partners, continues to reuse injecting equipment or the contact is a pregnant woman.

**f) Ethical and legal context:**

The health care provider has ethical and legal responsibilities for the health and well-being of the contacts and/or potential contacts of the index case. These obligations may be even greater when a medical procedure such as blood transfusion or artificial insemination is involved. These responsibilities may be transferred through the involvement of another agency; for example, blood bank, public health unit or sexual health service (see Chapter 6 - Privacy, Confidentiality and Public Health Laws). The health care provider should directly contact the agency concerned and establish without doubt and document the fact that the agency is assuming responsibility for the contacts.

# 3. CASE STUDIES

While it is not possible to provide case studies that will cover every situation, the following case studies illustrate some of the issues that may arise. When problems are encountered, contact the local STI/HIV service or chest clinic for advice or referral.

## CASE STUDY ONE: HIV INFECTION

(adapted from: Croft et al MJA 1992 156(2) 137).

An Australian resident, not known to be infected with HIV, travelled to Bali for a one-week holiday. While in Bali he had four sex partners, all female Javanese sex workers, with one of whom he did not use condoms. Six months later, after hearing about the risks of HIV infection among sex tourists to South-East Asia, he presented for HIV-antibody testing and was found to be seropositive.

Before 1985 he had been an injecting drug user (IDU) and shared injecting equipment with other IDUs; however, after ceasing this practice he had been tested for HIV antibody in 1986 and had been found to be seronegative. In 1988 he had had a regular female partner with whom he did not consistently use condoms, and he reported contact with female sex workers in Australia with whom he did consistently use condoms. He reported no male sexual contacts, had never received blood or blood products, and had no history of genital ulcer or discharge.

It has proven impossible to contact the sex workers he had contact with since 1988. However, his sexual partner of 1988 was contacted and tested for antibody to HIV, and was found to be seropositive. She was not previously aware of her status. She had had unprotected sexual contact with several men since 1985, and also had a history of injecting drug use. It is likely that she was the source of the presenting patient's infection.

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### **Comment**

This case illustrates that many people with HIV infection may have multiple risk factors, thus highlighting the pitfalls of focusing only on the most recent risk event(s).

(See also Chapter 4.1 HIV Infection)

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## CASE STUDY TWO: HIV INFECTION

A young Indigenous woman from a remote community became ill, was admitted to hospital and was eventually diagnosed with *Pneumocystis carinii* pneumonia. An HIV-antibody test was found to be positive, thus confirming a diagnosis of AIDS. After counselling, she voluntarily gave several names as sexual contacts over the past five years, including one man with whom she had lived for a two-year period about five years before. These contacts were followed up by Indigenous health workers. All underwent HIV-antibody testing and were all found to be negative. The man with whom she had lived for two years told the health worker who counselled him that he knew for a fact who the index patient was, because he had heard rumours from her community about the suspected nature of her illness. He also stated that he knew from whom she had probably contracted HIV, because he had broken off his relationship with her when she had a casual affair for a few weeks with a visiting African seaman. (It is interesting that the index case had never mentioned the African seaman to her counsellor, although she did confirm it later.) Although the health worker who conducted the contact tracing neither confirmed nor denied the identity of the index case, the man with whom she had lived for two years found out where she was living and proceeded to both telephone her and visit her with considerable verbal abuse and threats. Fortunately, when he knew his HIV-antibody test was negative, he lost interest in harassing the woman, and the potentially damaging situation eased.

### *Comment*

This case illustrates both the advantages and the potentially damaging effects of contact tracing in HIV infection. There was a great deal of concern in the local health authority when the young woman was diagnosed, and contact tracing appeared to be a vital step to ascertain if any other members of the remote community were infected. Indirectly, it was through the contact tracing process that health authority officers discovered that the source of her infection was probably external to the community and that there had been no further transmission. However, if the index case's previous two-year partner had been infected, the outcome for the index patient could have been extremely damaging – perhaps even life-threatening. All attempts to preserve her confidentiality had been in vain since her confidentiality had been breached before contact was made with health workers. The index case has not been able to return to her community. This case also highlights the need for strict professional confidentiality even though confidentiality is often broken at the source. (See also Chapter 4.1 HIV Infection)

## CASE STUDY THREE: HIV INFECTION

A rural general practitioner contacted a sexual health centre to ask for assistance in locating an Aboriginal patient named 'Ian'. The patient had tested HIV-antibody positive but had failed to return for his results. The GP was unable to locate him but thought he had moved to the city and gave the centre a possible address.

The centre attempted to make contact by visiting the address on several occasions but found no one at home. Finally they met a woman who claimed that 'Ian' was her second cousin. The woman had another cousin who worked at the Aboriginal Health Service (AHS) and knew that the centre was looking for someone.

A message was left for 'Ian' to contact the centre but no information was given to either cousin. Through the AHS and his cousins, a message finally got through to 'Ian' who made contact with the centre. No mention was made of HIV, only that blood test results were available from his GP. 'Ian' contacted the GP and subsequently attended the centre.

'Ian' made it quite clear that he would not attend the AHS due to confidentiality concerns including aunts, uncles, family friends etc. He was feeling isolated, 'shamed' and 'out of control'. At this point, he disappeared to the bush and drank heavily. He notes 'I went crazy'. Finally he returned to the city and addressed some of his problems but did not attend the AHS. He went public about his HIV status at an Aboriginal seminar (with two close aunts present). This went very well. There were tears and recriminations, 'Why didn't you tell me?' Generally, he was well supported.

'Ian' believed he contracted HIV through a casual encounter in a gay sauna. As he did not know the person's identity further contact tracing was not possible. He reported having had no further sexual contact since that contact so further contact tracing was unnecessary.

(See also Chapter 4.1 HIV Infection)

## CASE STUDY FOUR: CHLAMYDIA

A 22-year-old woman had a Pap smear which was reported as 'inflammatory'. When she phoned for her results, it emerged from specific inquiry by her GP that she had started a new sexual relationship four months previously. Though she was asymptomatic, she was recalled for STI screening. A self-collected vaginal swab for *Chlamydia trachomatis* was confirmed as positive. The young woman willingly passed a contact letter on to her new partner. He had no symptoms of urethritis, and an STI screen (including first void urine for *Neisseria gonorrhoeae* and *C. trachomatis* and blood testing for HIV and syphilis) was negative. She was reluctant, however, to notify her previous partner as the separation had been bitter and he had a history of violence. Provided her name was not mentioned, she agreed to her GP passing on her ex-partner's name and details to a counsellor at the local sexual health clinic by telephone. She had had no other sexual partners and, as she thought she was at low risk for HIV, had never used a condom.

The counsellor telephoned the man and he attended the clinic that evening. He had signs of mild urethritis but no symptoms, and urine testing for specific causes was negative. He willingly (and uneventfully) passed on contact letters to all three partners he had been with in the previous nine months, including one to the index case.

One woman was normal on clinical examination and negative on screening. Another woman had recently had her oral contraceptives changed because of inter-menstrual bleeding and malaise. She was re-diagnosed as having subacute pelvic inflammatory disease (PID) and her swab for *C. trachomatis* was positive. Further contact tracing was undertaken with the previous partners of this woman. All contacts were treated with azithromycin and all accepted advice on condoms for future use.

### **Comment**

This case study highlights the clinical subtlety of *C. trachomatis* and the importance of contact tracing for its control. As it is an essentially logical idea to the lay person, most are cooperative with contact tracing once they are counselled about the typically asymptomatic nature of the infection.

(See Chapter 4.4 Chlamydia and Chapter 4.14 Pelvic Inflammatory Disease.)

## CASE STUDY FIVE: GONORRHOEA

A woman was admitted to hospital with severe gonococcal pelvic inflammatory disease (PID) diagnosed at laparotomy. On the advice of the hospital resident her only sexual partner, her husband, attended his GP for assessment. As he was asymptomatic, the GP reassured him that he could not have gonorrhoea and no tests were taken. Concerned about this, the husband attended a sexual health clinic.

At the clinic the husband revealed that six months earlier he had had unprotected vaginal intercourse with a bar-girl in Hong Kong while on a business trip. Five days later he had developed a urethral discharge and was treated with an injection by a GP in Hong Kong. The husband's symptoms resolved within 24 hours and he did not attend for follow-up.

On examination at the clinic the husband remained asymptomatic and had no physical signs. However, polymerase chain reaction for *N. gonorrhoeae* and *C. trachomatis* were both positive. Serology for HIV, hepatitis B and syphilis was negative. In this case, the husband willingly relayed letters between attending clinicians, averting any potential problems with confidentiality. The imminent danger of his wife being re-infected was removed. The husband's demonstration of concern for his wife's health ultimately helped to repair some of the damage to their relationship.

### **Comment**

Asymptomatic infection with *N. gonorrhoeae* and *C. trachomatis* in women is well recognised. However, it is not well understood that most infections in women are acquired from asymptomatic men.

Asymptomatic urethral infections in men may occur during the incubation period, from treatment without follow-up (as in this case), or the men may never develop symptoms. As they usually go undiagnosed, the number of men with asymptomatic infections tends to accumulate in the community. Such men and their partners are at increased risk of complications such as epididymitis and disseminated infection. Contact tracing with appropriate counselling and testing is the major strategy to detect such cases.

(See Chapter 4.8 Gonorrhoea and Chapter 4.14 Pelvic Inflammatory Disease.)

## 4. INDIVIDUAL CONDITIONS AND PATIENT HANDOUTS

The information provided for each condition should be interpreted on a case-by-case basis. For index cases detected by screening (rather than as a result of symptoms) the duration of potential infectivity will usually have to be inferred by the sexual or IDU history in combination with the clinical picture. The incubation period is only helpful to determine the infectious period for an acutely symptomatic index case. Infected contacts are very unlikely to have specific symptoms. Contacts who have not already sought medical attention are more likely to be asymptomatic (or minimally symptomatic) than might usually be expected for each condition. For many contacts, contact tracing may be their only indication that they are at risk of infection.

As sexually transmissible and blood-borne infections frequently co-exist, in most cases contacts should be screened for all common infections, not just the infection diagnosed in the index case.

Issues relevant to particular patient/community groups are outlined in Chapter 5: Special needs populations.

# 4.1. HIV/AIDS

Causative organism	Human immunodeficiency virus type 1
Incubation period	1–6 weeks for primary HIV (many are asymptomatic, illness may be poorly recalled); on average 8–10 years to AIDS without treatment
How far to trace back	6 weeks prior to the onset of a confirmed primary HIV illness. As early as 1980 (depending on risk history and age of index case) for late HIV infection or an infection of unknown duration
Usual testing method	Antibody in a blood test (must be confirmed)
Common symptoms	Usually asymptomatic until immunocompromised. Primary illness: acute fever, malaise, headaches, mouth ulcers, rash and diarrhoea; lasts a few days to a few weeks
Likelihood of transmission per unprotected exposure (adapted from Baggaley 2006)	Receptive anal sex: 0.8–3.2% Receptive vaginal sex: 0.05–0.15% Insertive vaginal or anal sex: 0.03–0.09% Reused injecting equipment: 0.8% Needle-stick injury (freshly contaminated): 0.23% Blood transfusion: 92.5% Higher with elevated viral load, e.g. during primary infection and late infection, or if other STIs or a male foreskin are present. Reduced by antiviral drugs.
Likelihood of long-term sexual partner being infected	Increases with duration of relationship
Protective effect of condoms	High
Transmission by oral sex	Rare
Duration of potential infectivity	Lifetime
Important sequelae	AIDS; death, congenital infection
Direct benefit of detection and treatment of contacts	Letting them know they have been at risk. Improved quality and duration of life through monitoring and use of antiviral drugs when indicated. Reduced vertical transmission. Reduced transmission to others.
Usual management of contacts	HIV-antibody testing and counselling; Ongoing monitoring and antiviral therapy if indicated  Referral to support agencies. Prophylactic therapies if advanced HIV infection
Contact tracing priority	High for low-prevalence populations (low-prevalence areas, heterosexual people, injecting drug users, transfusion recipients)  Medium for gay men (known partners are usually traced) For isolated exposures to HIV within the last 72 hours, contacts may benefit from post-exposure prophylaxis with antiviral drugs  <b>Note:</b> If the index case has donated or received blood products, contact the relevant Blood Bank as well (see Appendix B)
Notification	AIDS is notifiable by all doctors in all Australian states and territories and in New Zealand. HIV notification is made by laboratories or doctors in most states and territories of Australia. Public health legislation in some jurisdictions requires that people with HIV advise future sexual partners of their condition  (See also Case studies 1, 2 and 3.)

# 4.1. HIV/AIDS

## What are HIV and AIDS?

HIV (human immunodeficiency virus) is a virus which causes a lifelong infection which usually causes damage to the body's immune system. AIDS (acquired immune deficiency syndrome) is a late form of infection with HIV which occurs once the body's immune system has become too damaged to fight off infection. Without treatment AIDS conditions occur on average between 2–10 years after becoming infected with HIV. However, with anti-HIV drugs most people infected with HIV remain well indefinitely.

## How does someone catch HIV?

HIV is *commonly* transmitted by:

- vaginal intercourse without a condom (man to woman and woman to man);
- anal sex without a condom (both partners are at risk);
- reusing drug injecting equipment; and
- an infected mother to her baby during pregnancy, at childbirth, or by breastfeeding.

HIV is *rarely* transmitted by:

- vaginal or anal sex with proper use of a condom;
- oral sex without a condom (ejaculation increases the risk); or
- fresh blood-contaminated sharp injuries or splashes, e.g. needle-stick injuries for health workers.

HIV was previously transmitted through transfusion of blood or blood-derived products from about 1980 through to early 1985.

HIV has never been reported as being transmitted by:

- cuddling;
- shaking hands;
- sharing knives and forks, cups or glasses; or
- toilet seats or mosquitoes.

## What are the symptoms?

Most people with HIV look and feel perfectly healthy. More than half of those infected may develop a glandular fever like illness (with fever, sweats, diarrhoea, rash, mouth ulcers) between one and six weeks after becoming infected with HIV. This may last a few days to a few weeks. Many have no symptoms at all. Most will then have no symptoms for several years. Some time later HIV may cause unexplained diarrhoea, weight loss, recurrent rashes, fever or one of the AIDS conditions. AIDS conditions include pneumonia, brain infections, skin cancers, severe fungal infections and many other problems. The symptoms will depend on the organ(s) most affected.

## How does someone avoid becoming infected with HIV or infecting someone else?

There are a variety of ways to avoid the transmission of HIV. Individuals use different strategies and their choice may change over time. They include:

- No sex and no injecting drugs.
- Sexual practices that do not include anal or vaginal penetration, e.g. massage/body rubbing, mutual masturbation.
- Oral sex (fellatio, rimming and cunnilingus); HIV transmission by these means is rare and generally associated with ejaculation (cumming in someone's mouth). The decision about whether or not to engage in oral sex is a personal one dependent on a person accepting this minimal risk of transmitting HIV. Use of a condom or dental dam reduces this small risk further. However, it should be noted that unprotected oral sex may be an efficient way to transmit other STIs, e.g. gonorrhoea, Herpes simplex virus or syphilis.
- Anal or vaginal sex using a condom throughout intercourse on every occasion. Some may also use the added protection of combining this with withdrawal prior to ejaculation. Condoms can

break or slip off if they are not used properly. Read the instructions on the package and practise before relying on them for HIV protection.

- Always using new drug injecting equipment.
- Only having unprotected sex in a 'closed' (monogamous) relationship if both people test negative for HIV and other STIs three or more months into the relationship. Both partners have to then avoid any risk outside the relationship.

Anyone who requires any more detailed advice about HIV transmission is welcome to talk to the counsellors, nurses or doctors at a sexual health service.

## Is it worth getting tested for HIV?

While routinely offered at sexual health services and readily available through GPs, being tested for HIV is entirely optional and should remain a personal decision. Testing can be done on coded specimens and this is routine practice in public sexual health clinics; however, it is the patient's right to request this if he/she desires from any health care provider. In any case, the highest level of confidentiality should surround the test.

The advantages of getting tested for HIV include:

- Modern treatment methods extend the duration and the quality of life of people with HIV.
- People who know their HIV status may be better placed to make informed choices about their future life plans.
- Knowledge of HIV status may help some people to decide on their safe sex strategies.

Some disadvantages about being tested for HIV are:

- The anxious wait for the result.
- Concerns about confidentiality and insurance status.
- Some people misuse a negative result to think that prior risk behaviour was OK.
- Knowing about one's HIV infection can be stressful and frightening.

All people thinking about being tested for HIV are invited to discuss their concerns with a counsellor, nurse or doctor.

## Is the HIV antibody test reliable?

HIV antibody tests in well over 99 per cent of people with HIV will show a positive result within three months of infection. However, HIV can often be detected earlier in most positive people. As all positive tests require confirmation by further testing, inaccurate results are now very rare.

## What happens after the test comes back positive?

All positive tests have to be repeated. The doctor will need to reassess a positive person to see if they have any physical or laboratory signs of the condition progressing. The most common type of laboratory test, the 'T-cell test' will help to determine the degree of damage to the immune system. The 'viral load' test measures how active the virus is. Through this assessment and regular monitoring every 3 months, the patient and doctor can then decide on the best time to introduce any treatments. People with HIV are also urged to discuss social, housing and other support with a counsellor, nurse or doctor. Staff will be able to offer support and assistance in the difficult task of notifying and helping any contact(s) that may have been exposed.

The Health Department receives statistics on people with HIV or AIDS, but not names or addresses. The clinic or doctor is the only agency who knows the identity of people who have HIV or AIDS. Patients can seek further information from all public sexual health clinics and specialist clinics for HIV/AIDS.

## 4.2. BACTERIAL VAGINOSIS

Causative organism	Associated with <i>Gardnerella vaginalis</i> , anaerobes and other normal vaginal bacteria
Incubation period	Unknown
Usual testing method	Microscopy of a vaginal smear
Common symptoms	Vaginal discharge or odour
Likelihood of transmission per act of unprotected intercourse	Not sexually transmitted
Likelihood of long-term sexual partner being infected	Not applicable
Protective effect of condoms	Not applicable
Transmission by oral sex	Not applicable
Duration of potential infectivity	Not applicable
Important sequelae	Preterm delivery
Direct benefit of detection and treatment of contacts	Nil
Usual management of contacts	Assessment or treatment of partners is not indicated
Contact tracing priority	Not appropriate
Notification	Not notifiable

## 4.3. CHANCROID

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Causative organism	<i>Haemophilus ducreyi</i> (a bacterium)
Incubation period	6 days to 2 weeks
How far to trace back	2 weeks before ulcer appeared or since arrival from endemic area
Usual testing method	Usually clinical in resource-limited settings Nucleic acid amplification testing is ideal
Common symptoms	Painful anogenital ulcers; Inguinal abscess(es)
Likelihood of transmission per act of unprotected intercourse	High
Likelihood of long-term sexual partner being infected	High
Protective effect of condoms	Unknown (probably high)
Transmission by oral sex	Rare
Duration of potential infectivity	Weeks
Important sequelae	Local tissue destruction, abscesses, fistulae, sinuses. Enhanced HIV transmission
Direct benefit of detection and treatment of contacts	Cure
Usual management of contacts	Counselling, clinical examination and culture (or PCR if available) of any lesion Presumptively treat with: Azithromycin 1g orally statim; Or ceftriaxone 250mg IMI stat
Contact tracing priority	High (not endemic in Australia or New Zealand). Specialist support for contact tracing should be sought if local acquisition or transmission is possible (see Appendix B)
Notification	Notifiable by all doctors in all Australian states and territories and in New Zealand

## 4.4. CHLAMYDIA (GENITAL)

<b>Causative organism</b>	<i>Chlamydia trachomatis</i> , serovars D-K (a bacterium)
<b>Incubation period</b>	> 2–60 days for male urethral infection, though many remain asymptomatic. Most cervical infections in women and anal infections in men and women remain asymptomatic
<b>How far to trace back</b>	According to symptoms or sexual history; usually up to 6 months
<b>Usual testing method</b>	Nucleic acid amplification testing of vaginal, cervical or anal swab, or first void urine
<b>Common symptoms</b>	Usually asymptomatic in both men and women. Urethral discharge/dysuria (in <10% of infected male contacts) Cervical and anal infections are usually asymptomatic; Pelvic symptoms (see Chapter 4.14 on Pelvic inflammatory disease); Epididymitis (scrotal pain) in men <35 years
<b>Likelihood of transmission per act of unprotected intercourse</b>	30–50%
<b>Likelihood of long-term sexual partner being infected</b>	High – 68% of male partners of infected women and a higher percentage of female partners of chlamydia-infected men
<b>Protective effect of condoms</b>	High
<b>Transmission by oral sex</b>	Unknown
<b>Duration of potential infectivity</b>	Months to years
<b>Important sequelae</b>	Pelvic inflammatory disease (PID); Neonatal pneumonitis; Preterm delivery; Ectopic pregnancy; Infertility; Enhanced HIV transmission
<b>Direct benefit of detection and treatment of contacts</b>	Cure
<b>Usual management of contacts</b>	Counselling, clinical examination, and testing of appropriate sites (urine, vagina, cervix or anus) Presumptively treat with: azithromycin 1g orally statim (now acceptable in pregnancy and breastfeeding)
<b>Contact tracing priority</b>	High
<b>Notification</b>	Genital <i>C. trachomatis</i> infection is notifiable in all Australian states and territories by doctors or laboratories. Non-gonococcal urethritis (NGU) and PID are not notifiable. Genital <i>C. trachomatis</i> infection is not notifiable in New Zealand, but voluntary laboratory notification occurs in the Auckland and mid-central regions of the north island.  (See also Case study 4)

## 4.4. CHLAMYDIA (GENITAL)

### What causes this infection?

Chlamydia is a bacterial infection of the genitals, anus or throat.

### What are the symptoms?

In the unlikely event that a woman does have symptoms, they may include discomfort when urinating, lower abdominal pain, vaginal spotting or bleeding. Men may have a urethral discharge, pain upon urinating or urethral irritation.

Inflammation of the male urethra caused by chlamydia used to be known as non-specific urethritis before modern testing was available.

Inflammation of a woman's cervix is known as cervicitis.

### How does someone get infected?

Chlamydia is transmitted by having vaginal or anal sex without a condom, with someone who has the infection. Transmission by oral sex is rare.

### How long does it take before symptoms develop?

Symptoms can occur within 2–14 days after infection. However, a person may have chlamydia for months or even years without knowing it.

### Is there any treatment?

Chlamydia is easily cured with an appropriate course of antibiotics.

### What are the complications of this infection?

If left untreated in women chlamydia may lead to pelvic inflammatory disease (PID). This is when the reproductive organs which are situated in the pelvis become inflamed. PID may cause ectopic pregnancies (the pregnancy develops in the fallopian tubes instead of the uterus), infertility (when the fallopian tubes become damaged by scar tissue) or chronic pelvic pain.

Men may develop epididymitis (inflammation of the epididymis, in the scrotum), chronic urethral irritation or chronic testicular discomfort. Rarely, chlamydia may trigger chronic arthritis, rashes and eye inflammation.

### Do sexual partners need treatment?

Sexual partners exposed by vaginal, oral or anal sex without using a condom are at high risk of the infection. This means they should be treated regardless of symptoms or test results.

### What advice should be given to a person with a chlamydia?

- If the antibiotic is more than a single dose, ensure full course is completed – symptoms may resolve in a few days but the bacteria may not have been eradicated.
- Mild, transient diarrhoea may be experienced as a side effect.
- If taking the antibiotic doxycycline, use a sun block if out in the sun, as medication may cause sun sensitivity.
- Some antibiotics may stop the oral contraceptive pill from working properly. Use extra contraception e.g. condoms whilst on the antibiotic and for seven days afterwards.
- The tablets should be taken after a meal and with plenty of water. If not eating, take the tablets with milk.
- Sexual intercourse during treatment and for one week after should be avoided because the infection can still be transmitted.
- While on treatment, having the occasional alcoholic drink is not harmful.
- After completing the treatment, the person may be advised to return for a follow-up appointment.
- The opportunity should be taken to educate the patient about safer-sex practices in order to reduce the risk of chlamydial infection and other STIs in the future.

PATIENT

## 4.5. DONOVANOSIS (GRANULOMA INGUINALE)

<b>Causative organism</b>	<i>Klebsiella granulomatis</i> (a bacterium)
<b>Incubation period</b>	Weeks to months
<b>How far to trace back</b>	Weeks to months according to sexual history
<b>Usual testing method</b>	Clinical, histology of a shave biopsy, or (if available) nucleic acid amplification testing of a lesion swab
<b>Common symptoms</b>	Usually painless granulomatous anogenital lesions
<b>Likelihood of transmission per act of unprotected intercourse</b>	Low
<b>Likelihood of long-term sexual partner being infected</b>	Low–moderate
<b>Protective effect of condoms</b>	Unknown (probably low)
<b>Transmission by oral sex</b>	Unknown
<b>Duration of potential infectivity</b>	Months to years
<b>Important sequelae</b>	Local tissue destruction; Metastatic (internal) lesions. Enhanced HIV transmission
<b>Direct benefit of detection and treatment of contacts</b>	Cure
<b>Usual management of contacts</b>	Counselling and clinical examination Lesions usually respond to: azithromycin 1g orally weekly for 4 weeks; or 500mg orally daily for 7 days; or doxycycline 100mg orally twice a day for 4 weeks or until lesions have healed
<b>Contact tracing priority</b>	Medium (regular partners only). Most infected contacts will be symptomatic
<b>Notification</b>	Notifiable by all doctors in all Australian states and territories and in New Zealand. Notification of every case is important as a national eradication strategy is in place in Australia.

## 4.5. DONOVANOSIS

### What causes this infection?

Donovanosis is a bacterial infection.

### What are the symptoms?

Usually one or more painless ulcers or nodules on genitals, anus or mouth. If untreated lesions get worse.

### How does someone get infected?

Thought to be spread mainly by sexual contact but possibly also by fingers or other non-sexual contact. Infants may acquire the infection from their mothers.

### How long does it take for symptoms to develop?

Symptoms generally appear from 3–40 days after infection but occasionally may take as long as a year.

### What is the treatment?

Donovanosis is readily cured by an appropriate course of antibiotics.

### What are the complications of this infection?

If left untreated, bleeding, genital scarring and a form of skin cancer may occur. There is an increased risk of other sexually transmissible infections, including HIV.

### Do sexual partners need treatment?

Any sexual partners during the 40 days prior to appearance of symptoms should be tested and treated. Sexual health clinic staff can offer confidential assistance for people with difficulty in advising contacts.

### What advice should be given to a person with Donovanosis?

- Finish all the antibiotics – symptoms may resolve in a few days but the bacteria may not have been eradicated.
- The tablets should be taken after a meal and with plenty of water. If not eating, take the tablets with milk.
- Sexual intercourse and other contact with the lesions should be avoided during treatment because the infection can still be transmitted.

After completing the treatment, the person should return for a follow-up appointment.

PATIENT

## 4.6. GENITAL HERPES

<b>Causative organism</b>	Herpes simplex viruses (HSV) types 1 and 2
<b>Incubation period</b>	Usually 2 to 12 days but may occur more than 12 months later; most are asymptomatic or have atypical symptoms (i.e. mild non-specific rash, sore, spot, fissure or crack in the skin)
<b>How far back to trace</b>	Usually current partner(s) only
<b>Usual testing method</b>	Nucleic acid amplification or culture testing of a lesion swab. Type-specific serology may have a role in managing regular partners or in diagnosing true primary episodes
<b>Common symptoms</b>	Recurrent anogenital ulcers or blisters; Flu-like symptoms and bilateral lesions if primary episode Atypical symptoms can include dysuria and meatitis
<b>Likelihood of transmission per act of unprotected intercourse</b>	High if lesions present; lower, but still possible, if no lesions present
<b>Likelihood of long-term sexual partner being infected</b>	>50 per cent
<b>Protective effect of condoms</b>	Moderate to high; depends on site of lesions
<b>Transmission by oral sex</b>	Significant for HSV type 1
<b>Duration of potential infectivity</b>	Lifelong, particularly during outbreaks
<b>Important sequelae</b>	Neonatal infection; Psychosexual morbidity. Enhanced HIV transmission
<b>Direct benefit of detection and treatment of contacts</b>	Limited; frequent symptomatic recurrences can be suppressed with treatment
<b>Usual management of contacts</b>	Counselling, particularly to help contacts recognise outbreaks; contacts should be advised to present again within 36 hours if they develop symptoms later. Any lesions should be swabbed for virus. Type-specific serological tests have a role in assessing long-term partners  Initial episodes or frequent recurrences of herpes may require antiviral treatment or suppression
<b>Contact tracing priority Notification</b>	Low Not notifiable

# 4.6. GENITAL HERPES

## What causes this infection?

Herpes is caused by the Herpes simplex virus (HSV). There are two types of HSV:

- Traditionally, Type 1 was usually found around the lips and is commonly known as a cold sore.
- Traditionally, Type 2 was usually found around the genital or anal areas.

However, either type can occur on either site and can also be transmitted to other sites such as the anus, buttock and occasionally the eyes. Once a person has HSV it travels down the nerves which are connected to the affected area and lies dormant. The virus can reactivate later and travel up the nerve to cause a recurrence.

The presence of any infection that causes ulcers can increase the risk of HIV transmission.

## What are the symptoms?

The first episode of genital herpes can cause a severe illness lasting several weeks without treatment. However, the severity is extremely variable and in some people the symptoms are very mild. In fact, many people become infected with herpes either on the genital region (as adults) or on the lips (as children) without ever experiencing any symptoms whatsoever. Nevertheless, such people can shed virus unwittingly from infected sites and therefore be potentially infectious to sexual partners from time to time without being aware that they are infectious at all. Recurrent episodes are usually less severe and of shorter duration than a first episode. HSV may cause fluid-filled blisters (vesicles) appearing on or near the genitals. The blisters are usually painful and often surrounded by red painful skin. The number of blisters is variable ranging from one or two up to several dozen in a first episode. The blisters burst to leave moist sores which eventually heal. The healing process is often associated with itching. Some people may get a variety of symptoms before a recurrence. These may include: tingling, nerve pain, itching, general feelings of ill health and irritability a few hours to a few days before a recurrence occurs. This is called a prodrome. The time from prodrome to complete healing of the recurrence is approximately 6–7 days.

## How does someone get infected?

HSV is transmitted from close skin-to-skin contact with someone who has the infection. This usually occurs during vaginal, anal or oral intercourse. However, transmission can also occur if there is skin-to-skin contact without penetrative sex.

Transmission occurring from individuals with obvious symptoms is well documented, but many people are unaware they are infected with HSV because they have no symptoms, or very minor ones that are often unnoticed. These people are able to pass herpes on to a susceptible partner just as people suffering obvious symptoms are able to do.

## How long does it take for symptoms to develop?

The first episode usually takes 2 to 12 days to occur after infection, but occasionally symptoms may not occur until months or years later.

## How often do recurrent episodes happen?

Recurrent episodes occur in most, but not all, people and can happen years after the first episode. The interval between outbreaks varies greatly between individuals. Infection with herpes type 1 in the genital and anal areas is less likely to recur as often as an infection with herpes type 2. Similarly, infection with herpes type 2 around the mouth is less likely to recur as an infection with herpes type 1.

## Why do recurrences happen?

Episodes occur when the virus inside the nerve cell is reactivated. For many people there does not seem to be a pattern to their recurrences

while others notice that recurrences occur when they are premenstrual, tired, stressed, sunburnt or consume excessive alcohol or other drugs.

## How can the chances of transmitting HSV infection to a sexual partner be minimised?

From the time prodromal symptoms (burning, tingling, itching sensation at or near the affected area) are experienced until the sores have healed the virus can be transmitted by having close skin-to-skin contact with the affected area. During this time it is advisable to avoid sexual intercourse.

Most transmission occurs when no symptoms are present. This is known as asymptomatic viral shedding. It is impossible to tell when this occurs but is known to happen on at least 3% of days. Always using condoms reduces the risk of contracting HSV from people who do not have obvious symptoms during viral shedding.

Condoms should always be used with new or casual partners – this also provides protection from other sexually transmissible diseases.

Antiviral treatment with valaciclovir has been shown to reduce the risk of transmission in heterosexual couples.

## Does HSV infection affect the ability to have children?

HSV is not transmitted by sperm nor does it affect fertility. Recurrent episodes during a pregnancy very rarely affect the baby in the uterus; however a first episode late in pregnancy could be serious and immediate medical attention is required. Women should advise their obstetrician or midwife that they have had genital herpes. This is in case a recurrence is experienced at the time of childbirth so that the proper steps can be taken to help avoid transmission of herpes to the baby.

## Is there any treatment for herpes?

For people having a first episode of herpes or who have frequent or more severe recurrent episodes there are tablets, which may be appropriate, called aciclovir, valaciclovir or famciclovir. Taken continuously aciclovir greatly reduces the number of recurrences as well as the time of healing for first episodes.

These treatments are well tolerated but do not 'cure' herpes. For more information speak to a doctor or nurse.

## What advice should be given to people when they have a recurrence?

- All people who suspect that they are having their first HSV episode should seek immediate medical attention. It is also important that the diagnosis is confirmed.
- Keep the area clean and dry by bathing in salty water once or twice a day and drying the area thoroughly.
- Aspirin, paracetamol, local anaesthetic jelly or applying ice to the area may also help with pain.
- Adjusting to herpes, at first, can be difficult. Discussing with a friend or partner may help the adjustment process. Counselling services are available at some sexual health services that can offer support and information around genital herpes diagnosis.

## How can someone reduce the number of recurrences?

People experiencing frequent HSV recurrences are advised to try to identify what triggers recurrences and then avoid their trigger factors (see above) as much as possible. If this process is not successful, they should discuss management options with a doctor.

Some sexual health services also run herpes support groups. For further information about these groups contact your local sexual health service (see Appendix B).

## 4.7. GENITAL WARTS/HPV

<b>Causative organisms</b>	Human papillomaviruses (HPV) - usually types 6 & 11
<b>Incubation period</b>	3 weeks to > 12 months; many are subclinical
<b>How far back to trace</b>	Concerned current partners only
<b>Usual testing method</b>	Clinical examination (biopsy if atypical)
<b>Common symptoms</b>	Anogenital warts or 'HPV' on cervical cytology report
<b>Likelihood of transmission per act of unprotected intercourse</b>	High
<b>Likelihood of long-term sexual partner being infected</b>	>60 per cent
<b>Protective effect of condoms</b>	Moderate
<b>Transmission by oral sex</b>	Rare
<b>Duration of potential infectivity</b>	Unknown (probably years)
<b>Important sequelae</b>	Association of some HPV types with genital cancer (particularly types 16, 18, 31)
<b>Direct benefit of detection and treatment of contacts</b>	Little; treatment objective is cosmetic only. Encourage compliance with Pap smears
<b>Usual management of contacts</b>	Counselling and/or clinical examination if concerned. Lesions treated by cryotherapy, diathermy, laser or painting with podophyllotoxin, or imiquimod cream
<b>Contact tracing priority</b>	Not routinely recommended. Contacts may be seen for educational reasons or to allay anxiety. The majority of partners are probably already infected subclinically
<b>Notification</b>	Not notifiable

## 4.7. GENITAL WARTS/HPV

### What causes this infection?

Genital (and anal) wart virus infections are caused by several types of Human Papilloma Virus (HPV). There are over 100 different types of HPV affecting various parts of the body and about 40 affect the genitals. HPV infections in the genital area are very common.

Genital wart virus infections may present in the following forms:

- Visible warts which can be found anywhere on the genital or anal area.
- Subclinical infection – no warts are visible but microscopic changes show that the virus is present (usually on a Pap smear or biopsy)
- Latent infection – virus is only detectable using laboratory techniques reserved for research purposes.
- Many people will have genital HPV at some time in their life and not know it. The body's immune system usually clears the virus in one to two years.

### How does someone get infected?

Warts are caused by a virus (HPV) which is passed on during skin to skin contact, usually during sexual activity. This virus can cause visible warts or may infect skin cells without causing warts that can be seen. Sometimes the wart virus can cause abnormalities in Pap tests in women.

### What is the treatment?

Because this infection is caused by a virus, treatments can only remove the warts or the infected cells but they will not necessarily get rid of the virus. Warts can be removed by the application of Imiquimod, podophyllotoxin (a liquid), freezing, cautery (burning) or laser. Recurrences are common after any form of treatment. Subclinical infections of women's cervix are also sometimes treated. The doctor or nurse will discuss which treatment is most suitable.

### Does HPV cause cancer?

Some types of genital HPV have been associated with abnormal cell changes on the cervix, penis or anus. However, only a few of these viruses are strongly associated with cancer. This association seems to act together with other factors, one of which is smoking. Visible warts are less likely to lead to cell changes that precede cancer. The types of genital HPV that are linked to abnormal cell changes usually cause sub clinical infections.

### Can this infection be passed on to a sexual partner?

Visible warts can be transmitted sexually. The subclinical infection may also be transmitted sexually although less is known about this. People in a regular sexual relationship who haven't been using condoms may wish to discuss with their partner and/or the doctor or nurse whether it is necessary to start using condoms. Condoms will offer some protection, however, they do not cover all of the genital skin.

If people are having new or casual partners they are advised to always use condoms – this will help protect them from other sexually transmissible diseases.

### What advice should be given to people with, or treated for this infection?

- People having treatment for visible warts should keep the area clean and dry by bathing in salty water and drying the area thoroughly – once a day should be sufficient.
- Regular sexual partners may be advised to have a check-up to see if they have warts. If someone is unsure about how they are going to discuss this with their regular partners, they are invited to speak to a counsellor, nurse or doctor.
- Minimise or stop smoking, (as smoking seems to be associated with more recurrences of clinical warts or failures of warts to respond to treatments).
- Women should make sure they have regular Pap smears. The doctor or nurse should discuss when the next Pap smear should be taken.
- Use a condom with new or casual sexual partners.

PATIENT

## 4.8. GONORRHOEA

<b>Causative organism</b>	<i>Neisseria gonorrhoeae</i> (a bacterium)
<b>Incubation period</b>	2–10 days for male urethral infection; occasionally weeks to months. Most cervical, anal and throat infections remain asymptomatic
<b>How far back to trace</b>	According to sexual history, up to 6 months
<b>Usual testing method</b>	Culture (any site) or nucleic acid amplification testing (genital swabs or urine)
<b>Common symptoms</b>	Urethral discharge/dysuria; Rarely a purulent vaginal discharge may occur; Pelvic symptoms in women (see Chapter 4.14); Epididymitis (scrotal pain) in young men
<b>Likelihood of transmission per act of unprotected intercourse</b>	Approximately 20% to insertive partner; approximately 50% to receptive partner
<b>Likelihood of long-term sexual partner being infected</b>	>50 per cent
<b>Protective effect of condoms</b>	High
<b>Transmission by oral sex</b>	Significant
<b>Duration of potential infectivity</b>	Up to 12 months
<b>Important sequelae</b>	PID; Epididymitis; Disseminated infection; Neonatal ophthalmia. Enhanced HIV transmission
<b>Direct benefit of detection and treatment of contacts</b>	Cure
<b>Usual management of contacts</b>	Counselling, clinical examination and swabbing of appropriate sites (urethra, cervix, pharynx, anal canal) Presumptively treat with: ceftriaxone 250mg IMI stat, dissolved in 1% lignocaine. Or ciprofloxacin 500 mg po stati(only if the isolate is known to be sensitive)
<b>Contact tracing priority</b>	High
<b>Notification</b>	Notifiable in all Australian states and territories by doctors or by laboratories. In New Zealand, gonorrhoea is not notifiable but laboratories in the upper North Island have a voluntary notification scheme. (See also Case Study 5)

## 4.8. GONORRHOEA

### What causes this infection?

Gonorrhoea is a bacterial infection of the genitals, anus or throat.

### How does someone get infected?

Gonorrhoea is transmitted by having vaginal, anal or oral sex without a condom with someone who has the infection.

### What are the symptoms?

In men with a urethral infection symptoms usually occur within 2–10 days after infection, though symptoms sometimes take months to appear. Such men may have a discharge from their penis, urethral irritation, or pain on urinating. Infections of the cervix, anus and throat usually cause no symptoms. However, vaginal or anal discharge or pelvic pain in women may be caused by gonorrhoea.

### Is there any treatment?

Gonorrhoea is reliably and rapidly cured by the correct antibiotics.

### What are the complications of this infection?

If left untreated in women gonorrhoea may lead to pelvic inflammatory disease (PID). This is when the reproductive organs which are situated in the pelvic region become inflamed. PID may cause ectopic pregnancies (the pregnancy develops in the fallopian tubes instead of the uterus), infertility (when the fallopian tubes become damaged by scar tissue) or chronic pelvic pain. Similarly, men may develop epididymitis (inflammation of the epididymis, in the scrotum), chronic urethral irritation or chronic testicular discomfort.

### Do sexual partners need treatment?

Sexual partners exposed by vaginal, oral or anal sex without using a condom are at high risk of infection. This means they should be tested and treated, regardless of symptoms or test results. Sexual health clinic staff can offer confidential assistance for people who have difficulty advising contacts.

### What advice should be given to people with a gonococcal infection?

- They should not have sex for 7 days after treatment otherwise they may still transmit the infection or risk re-infection.
- After completing the treatment, the person may be advised to return for a follow-up appointment to check that the infection has resolved.

Safer sex (avoiding penetrative intercourse or using a condom) is recommended to avoid reinfection with gonorrhoea or other sexually transmissible diseases.

PATIENT

## 4.9. HEPATITIS A

<b>Causative organism</b>	Hepatitis A virus. <i>Note:</i> hepatitis A is transmitted by the faecal-oral route  Thus, in every case transmission by contaminated food and water, as well as interpersonal (social and sexual) contact should be considered
<b>Incubation period</b>	15–50 days (mean 28 days)
<b>How far back to trace</b>	Up to 50 days from onset of symptoms
<b>Usual testing method</b>	Serology (HAV IgM positive)
<b>Common symptoms</b>	Jaundice, malaise, abdominal pain
<b>Likelihood of transmission per act of unprotected intercourse</b>	Unknown Probably high if any faecal contamination of mouth or fingers
<b>Likelihood of long-term sexual partner being infected</b>	High, if susceptible
<b>Protective effect of condoms</b>	Nil (transmission is faecal-oral)
<b>Transmission by oral sex</b>	Possible if faecal contamination is present
<b>Duration of potential infectivity</b>	From time of infection until one week after jaundice appears
<b>Important sequelae</b>	Severe hepatitis and acute liver failure
<b>Direct benefit of detection and treatment of contacts</b>	Passive immunisation reduces symptoms (but not infectivity). Active vaccine provides long-term protection
<b>Usual management of contacts</b>	Passive vaccination with human immunoglobulin 2.0ml imi statim, if contact within 2 weeks. Start active vaccination course immediately
<b>Contact tracing priority</b>	High: including sexual contacts, domestic contacts, close social contacts, and food handlers
<b>Notification</b>	Acute viral hepatitis A is notifiable by all doctors and laboratories in all Australian states and territories and New Zealand. If locally acquired, telephone a public health unit within 24 hours.

## 4.9. HEPATITIS A

### What causes this infection?

The hepatitis A virus. This can result in inflammation of the liver.

### How does someone get infected?

The virus is transmitted when faeces from an infected person are transferred to another person's mouth. This can occur in the following ways:

- contaminated water or food;
- anal sexual practices including anal intercourse and oral/anal contact (rimming) (**note:** condoms do not protect against hepatitis A); and
- failure to wash hands following potential contact with faeces (e.g. especially after removing a used condom).

### What are the symptoms?

Most adults who acquire hepatitis A have symptoms that can range from none through to a mild flu-like illness to nausea, vomiting, abdominal pain and jaundice (yellowing of the skin and whites of the eyes) dark urine and pale stools.

These symptoms will resolve after a few weeks to several months and the person will develop immunity.

Very rarely, hepatitis A can be fatal but it never causes long-lasting liver infection (unlike hepatitis B and hepatitis C).

### When is a person infectious?

Infected people can transmit the virus from 2 weeks before they develop symptoms until 1 week after they develop jaundice, approximately 3 to 4 weeks in total. Following acute hepatitis A, everybody develops immunity. This means they have lifelong protection against hepatitis A and they are not infectious.

### What should people with hepatitis A do to prevent transmission to others?

Wash hands thoroughly with soap after going to the toilet.

Do not prepare food or drink for other people.

Do not share food with other people.

Do not share linen, towels or cutlery with other people. Ensure these items are carefully and thoroughly washed before they are used by anyone else.

**Note:** once the cutlery and linen has been washed it can then be used by other people.

Avoid anal sexual practices until the case has recovered.

People who handle food or drink, child carers or health care workers should advise their doctor of their occupation and not return to work until cleared.

### Can hepatitis A be passed on to other people sharing the same house/flat?

It is possible to pass hepatitis A on to other people sharing the same house/flat. Domestic and sexual contacts should be given a short-acting immunisation (immunoglobulin, which provides up to three months of protection) against hepatitis A. Immunoglobulin is available through local doctors and sexual health clinics.

### Is there a long-lasting vaccine against hepatitis A?

A long-acting vaccine has become available. A course of two or three injections gives good protection against hepatitis A for at least 10 years. The vaccine is recommended for men who have sex with men, workers in child care centres, sewage workers/plumbers and people who travel to places where the incidence of hepatitis A is higher than it is in Australia or New Zealand.

## 4.10. HEPATITIS B

<b>Causative organism</b>	Hepatitis B virus (HBV)
<b>Incubation period</b>	30–180 days (mean 60 days)
<b>How far back to trace</b>	Up to 180 days prior to index case developing symptoms; if asymptomatic according to risk history
<b>Usual testing method</b>	Serology (HBsAg positive)
<b>Common symptoms</b>	Jaundice, malaise, abdominal pain
<b>Likelihood of transmission per act of unprotected intercourse</b>	Unknown
<b>Likelihood of long-term sexual partner being infected</b>	25–75% (higher in the range if HBeAg positive)
<b>Protective effect of condoms</b>	High
<b>Transmission by oral sex</b>	Uncommon
<b>Duration of potential infectivity</b>	One to two months for acute infection; lifelong if chronic infection
<b>Important sequelae</b>	Severe hepatitis, chronic liver disease, cirrhosis and liver cancer
<b>Direct benefit of detection and treatment of contacts</b>	Infection or disease may be averted by vaccination
<b>Usual management of contacts</b>	Counselling and testing (up to 12 weeks after exposure)  Consider active vaccination (3 injections over 6 months), or accelerated regime at 0,1 and 3 months)  If high risk of transmission (index case HBeAg positive, unprotected sex or needle-stick exposure) consider hepatitis B hyperimmune globulin 400 iu imi statim followed by active vaccination beginning at the same time; optimally administer within 24 hours, less optimally up to 7 days
<b>Contact tracing priority</b>	High for sexual contacts, needle-sharing contacts and institutional contacts (e.g. hostel)
<b>Notification</b>	Acute viral hepatitis B is notifiable by doctors in all Australian states, and territories and New Zealand. HBsAg-positive results must be notified by laboratories in NSW. For suspected transmission in an institutional setting, telephone a public health unit within 24 hours.

**Note:** Hepatitis D virus (HDV the delta agent) is a deficient virus that is entirely dependent on concurrent hepatitis B infection. Measures to control hepatitis B should control HDV.

# 4.10. HEPATITIS B

## What causes this infection?

The hepatitis B virus. It can result in inflammation of the liver.

## How does someone catch this infection?

The hepatitis B virus is transmitted by:

- Vaginal, anal or oral sex without a condom;
- Reusing or sharing needles and syringes;
- From an infected woman to her child at or around time of birth;
- By sharing tooth brushes, razors or other personal items that may lead to the exchange of bodily secretions such as blood and saliva; and
- Any form of blood-contaminated sharp injury such as a needlestick injury or unsterile tattooing equipment.

## What are the symptoms?

Symptoms develop usually within 3 months and can range from no symptoms through to a mild flu-like illness that may not be noticed, to nausea, vomiting, abdominal pain and jaundice (yellowing of the skin and whites of the eyes).

Most adults who acquire hepatitis B (95 per cent) recover, and develop lifelong immunity, and are no longer infectious. However, about 5 per cent of adults remain infectious for many years and are called carriers.

## What are the complications of hepatitis B?

Acute hepatitis B is occasionally so severe it can be life threatening. Long-term hepatitis B carriers may suffer chronic hepatitis which may predispose them to cirrhosis, liver failure and cancer of the liver.

## How can someone avoid catching this infection?

- Practise safer sex – use a condom during vaginal, anal or oral sex.
- Do not share needles, syringes or injecting equipment.
- Do not share tooth brushes, razors or other personal items.
- Get vaccinated against hepatitis B.

## Who should be vaccinated?

- Hepatitis B vaccine is part of the National Immunisation Schedule. Therefore every child in theory should now be vaccinated but in practice not all are (adherence is still suboptimal).
- Sexual partners of hepatitis B carriers
- Anyone who is changing sexual partners, particularly men who have sex with men.
- Immunosuppressed adults such as people living with HIV
- People living with hepatitis C or who have chronic liver disease
- People who inject drugs.
- Anyone planning an overseas trip to countries with a high incidence of hepatitis B. This includes countries in south-east Asia, the Pacific Islands, Africa and the Indian sub-continent.
- Partners and long-term household contacts of people who are carriers of the hepatitis B virus.
- Anyone who handles blood or bodily secretions such as health care workers.

## How can someone get vaccinated?

The vaccine is given in a course of 3 injections over 6 months or as an accelerated schedule at 0, 1 and 3 months.

The vaccine is synthetically made and therefore people cannot catch anything from it. The most common side-effect is transient tenderness at the site of the injection. Some people can get free vaccine at sexual health clinics. It is available to everyone at a cost through general practitioners.

## What advice should be given to people who are carriers of hepatitis B?

- Look after their health by having a well-balanced diet. If fatty foods cause discomfort then they should be avoided. Exercise regularly, reduce/avoid alcohol, reduce/stop smoking.
- Make sure they have regular follow-up appointments with their doctor.
- If seeing another doctor who might prescribe some medicine, they should mention their hepatitis B carrier status as many drugs either affect, or are excreted by, the liver.
- Do not donate blood, semen or organs.
- Do not share razors or toothbrushes.
- Do not share needles or syringes.
- Always use condoms with new sexual partners or unvaccinated partners.
- Advise their regular sexual partners to be vaccinated against the hepatitis B and use condoms at least until the vaccine course has been completed.

PATIENT

## 4.11. HEPATITIS C

<b>Causative organism</b>	Hepatitis C virus (HCV)
<b>Incubation period</b>	Up to several months for acute infection
<b>How far back to trace</b>	Up to 180 days prior to index case developing acute symptoms; if asymptomatic according to risk history
<b>Usual testing method</b>	Serology (HCV antibody positive), HCV-PCR test to confirm persistent infection
<b>Common symptoms</b>	Most people experience no symptoms. Some people may have nausea, dark urine, jaundice, abdominal discomfort, fatigue
<b>Likelihood of transmission per act of unprotected intercourse</b>	Exceedingly rare. There are, however, reports of outbreaks of apparent sexual transmission of HCV among HIV-positive homosexual men.
<b>Likelihood of long-term sexual partner being infected</b>	<5 per cent (if no other risk factors)
<b>Protective effect of condoms</b>	Unknown (probably high)
<b>Transmission by oral sex</b>	Unknown (probably rare)
<b>Duration of potential infectivity</b>	Unknown, but possibly lifelong; it may be highest before seroconversion. PCR-negative people appear to be non-infectious
<b>Important sequelae</b>	Severe hepatitis, chronic liver disease, cirrhosis and liver cancer
<b>Direct benefit of detection and treatment of contacts</b>	Contacts with chronic active liver disease may respond to treatment
<b>Usual management of contacts</b>	Counselling and testing (antibodies may take up to 6 months to develop) Contacts with chronic active hepatitis C may benefit from interferon/ribavirin therapy. Advised to minimise alcohol consumption Vaccination against hepatitis A and hepatitis B
<b>Contact tracing priority</b>	High for needle-sharing contacts, blood donors and recipients  High for children born to an infected mother Low for sexual contacts Minimal if PCR negative
<b>Notification</b>	Acute viral hepatitis C is notifiable by all doctors in all states, territories and New Zealand. If the index case has received or donated blood within 6 months of developing symptoms, also advise the relevant blood bank

# 4.11. HEPATITIS C

## What causes this infection?

Hepatitis C is inflammation of the liver caused by the hepatitis C virus (HCV). In 1989 a blood test became available to identify if a person had been in contact with HCV.

## What does a positive hepatitis C antibody test result mean?

A positive result means that a person has developed antibodies to hepatitis C as a result of infection. Research shows that 25% of people with hepatitis C will clear the virus within 2 to 6 months. It is believed that the 75 per cent of people who do not clear the virus will develop ongoing or chronic (long-term) infection. The polymerase chain reaction (PCR) test that is now used routinely is able to differentiate those who are infectious and those who have cleared the infection.

## What are the symptoms?

Symptoms of early or acute hepatitis C infection occur between 2 and 12 weeks after exposure to the virus but most people do not develop symptoms at all.

Acute hepatitis C can range from a mild flu-like illness that may not be noticed, to nausea, vomiting, abdominal pain and jaundice (yellowing of the skin and whites of the eyes). However, most people have no symptoms at all.

## How is hepatitis C transmitted?

Hepatitis C is a blood-borne viral disease. It can result in chronic or long-term infection. Of those who have chronic hepatitis C, some will go on to develop liver disease such as cirrhosis, liver failure and liver cancer.

Hepatitis C is transmitted through blood-to-blood contact. The majority of hepatitis C infections in Australia are due to either sharing or reusing drug-injecting equipment contaminated with infected blood (90%). Prior to 1990 up to 10% of new infections resulted from blood transfusions. Other people may have become infected with hepatitis C through:

- non-sterile medical or dental procedures (in particular for people born in the Middle East, southern Europe, Asia and Africa where the rate of hepatitis C is relatively high);
- non-sterile tattooing or body-piercing procedures;
- needle-stick injuries and accidental exposure to infected blood or blood products;
- some other form of blood-to-blood contact (such as through physical assault);
- mother-to-child transmission during pregnancy and delivery (there is approximately a 5% risk if the mother has chronic hepatitis C).

A history of incarceration is also an independent risk factor for hepatitis C transmission, due to the combination of both high prevalence of hepatitis C infection in jails as well as the prevalence of high-risk behaviours and limited access to harm-reduction opportunities within these institutions.

The risk of transmission of hepatitis C through medical procedures in Australia is also considered a minimal risk, due to the introduction of standard infection-control procedures.

## Can hepatitis C be passed on to a sexual partner?

Hepatitis C is not defined as a sexually transmissible infection, however, sexual transmission is possible and has been documented, especially in men who have sex with men who have HIV. In rare cases where hepatitis C is passed on during sexual contact, it is most likely to be through blood-to-blood

contact such as where cuts, lesions, menstrual blood or other blood is present. Nevertheless, people with hepatitis C having new or casual partners are advised to always use a condom – this will also help protect them from other sexually transmissible diseases.

## Can hepatitis C be passed on to other people sharing the same house/flat?

This is very unlikely. Hepatitis C is not passed on through social contact. Sharing food, drinks, plates, eating utensils, laundry and toilet facilities, or hugging, kissing, sneezing or coughing will not transmit hepatitis C. Toothbrushes, razors or other personal items should not be shared.

## Will chronic hepatitis C develop?

Regular check-ups and blood tests are recommended. On some occasions a doctor may suggest a liver biopsy. This is when a very small piece of tissue is taken from the liver. This test most accurately determines the amount and type of liver damage. A range of factors will contribute to a person's likelihood of developing liver damage. These include body weight, diet, alcohol intake and exercise.

## Is any treatment for hepatitis C available?

Treatment usually involves a combination of pegylated interferon injections, self-administered weekly plus ribavirin capsules taken by mouth twice daily. Treatment usually lasts six or twelve months. This treatment is more effective against some types of the virus than others.

Whether treatment is appropriate depends on the result of overall clinical assessments, liver function tests and liver biopsies. This can only be determined if the person with HCV remains monitored by a doctor. Methadone is not a contraindication to therapy.

## What advice should be given to people with hepatitis C?

- Alcohol should be avoided or reduced as much as possible.
- Look after their health by having a well-balanced diet. Usually, this will not need to be different from that recommended for the general population, i.e. low fat, high fibre. If fatty foods cause them discomfort then avoid them
- Make sure they keep follow-up appointments with their doctor.
- If seeing another doctor who might prescribe some medicine, they should always mention the possibility of liver disease as many drugs either affect or are excreted by the liver.
- Do not donate blood. Organs and tissue may be donated for use by other HCV PCR-positive recipients
- Hepatitis C does not in itself preclude semen donations and paternal transmission of HCV from the father/donor to child is not considered possible. However, routine donor health checks will identify a donor's HCV status and the decision on the use of the semen is usually at the discretion of the individual fertility clinic.
- If injecting drugs use safer injection methods. Do not share or reuse needles, syringes, spoons, filters or other drug-injecting equipment. Use a new fit for every hit.
- Do not share toothbrushes, razors and hair clippers.
- Use condoms with new or casual sexual partners to protect against other STIs.
- For further information, patients may consult their nearest sexual health clinic.

# 4.12. LYMPHOGRANULOMA VENEREUM

<b>Causative organism</b>	<i>Chlamydia trachomatis</i> serovars L1-L3 (a bacterium)
<b>Incubation period</b>	1 week to 3 months
<b>How far back to trace</b>	All sexual contacts since arrival from lymphogranuloma venereum (LGV) endemic area, usually about 30 days
<b>Usual testing method</b>	PCR of anal swab, ulcer or bubo aspirate, confirmed by genotyping at a reference laboratory. Chlamydia antibody testing of blood helpful if severe disease is present
<b>Common symptoms</b>	Transient genital ulcer(s), inguinal abscess(es), or severe procto-colitis
<b>Likelihood of transmission per act of unprotected intercourse</b>	Unknown
<b>Likelihood of long-term sexual partner being infected</b>	Unknown
<b>Protective effect of condoms</b>	Unknown (probably high)
<b>Transmission by oral sex</b>	Rare
<b>Duration of potential infectivity</b>	Months
<b>Important sequelae</b>	Inguinal and pelvic abscesses; Anal stricture
<b>Direct benefit of detection and treatment of contacts</b>	Cure
<b>Usual management of contacts</b>	Counselling, clinical examination and urine or swab tests for Chlamydia (alert the laboratory to the possibility of an LGV strain).  Presumptively treat with:  Doxycycline 100 mg orally bd for 21 days Azithromycin 1g orally once weekly for 3 weeks has been proposed as an alternative in those intolerant of doxycycline or who are pregnant, but the evidence base for this is lacking.
<b>Contact tracing priority</b>	High. As LGV is not endemic in Australasia, specialist support for contact tracing should be sought if local acquisition or transmission is possible
<b>Notification</b>	Notifiable by all doctors in all Australian states and territories. Not notifiable in New Zealand.

## 4.13. MYCOPLASMA GENITALIUM

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Causative organism	<i>Mycoplasma genitalium</i> (a bacterium)
Incubation period	Unknown
How far back to trace	According to sexual history
Usual testing method	Nucleic acid test (PCR) of urine or genital swab
Common symptoms	Urethral discharge or dysuria in men.  Possible cause of PID in women.
Likelihood of transmission per act of unprotected intercourse	Unknown
Likelihood of long-term sexual partner being infected	Unknown
Protective effect of condoms	Unknown (probably high)
Transmission by oral sex	Unknown
Duration of potential infectivity	Unknown
Important sequelae	Possible cause of PID and infertility in women
Direct benefit of detection and treatment of contacts	Cure
Usual management of contacts	Azithromycin 500mg per day for 3 days. Moxifloxacin may be effective for treatment failures.
Contact tracing priority	Until further evidence becomes available, contact tracing is generally limited to regular partners
Notification	Not notifiable

# 4.14. PELVIC INFLAMMATORY DISEASE

<b>Causative organism</b>	<i>Chlamydia trachomatis</i> , <i>Neisseria gonorrhoeae</i> , <i>Mycoplasma genitalium</i> , normal vaginal bacteria  <b>Note:</b> PID in women under the age of 35 years is usually due to sexually transmissible pathogens, while PID in older women may not be sexually transmitted
<b>Incubation period</b>	Often several months
<b>How far back to trace</b>	According to sexual history, up to 6 months
<b>Usual testing method</b>	Clinical diagnosis, may be reinforced by detection of chlamydia, gonorrhoea or <i>M. genitalium</i> in the patient or her contact.
<b>Common symptoms</b>	Highly variable. Pelvic pain, abnormal bleeding and dyspareunia, fever and malaise
<b>Likelihood of transmission per act of unprotected intercourse</b>	Depends on specific cause
<b>Likelihood of long-term sexual partner being infected</b>	>50 per cent (infection often resolved by the time they are traced)
<b>Protective effect of condoms</b>	High (for sexually transmitted causes)
<b>Transmission by oral sex</b>	Relevant for <i>Neisseria gonorrhoeae</i> only
<b>Duration of potential infectivity</b>	Months to years
<b>Important sequelae</b>	Infertility, chronic pelvic pain and ectopic pregnancy, and Fitz-Hugh Curtis Syndrome
<b>Direct benefit of detection and treatment of contacts</b>	Cure of current infection; reduces further tubal damage
<b>Usual management of contacts</b>	Male contact(s) should have urethral specimens collected for testing for <i>N. gonorrhoeae</i> and <i>C. trachomatis</i>  Presumptively treat all male contacts with:  Azithromycin 1g orally statim; and for gonorrhoea if suspected (see Chapter 4.8)
<b>Contact tracing priority</b>	High, especially for younger women
<b>Notification</b>	Not notifiable  (See also: Case studies 4 and 5; Chapter 4.4 Chlamydia and Chapter 4.8 Gonorrhoea)

## 4.15. SYPHILIS

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<b>Causative organism</b>	<i>Treponema pallidum</i> (a bacterium)
<b>Incubation period</b>	9–90 days (mean 30) to primary syphilis; 30–150 days to secondary; Usually 5–35 years to tertiary
<b>How far back to trace</b>	According to sexual history and clinical stage of infection Usual testing method
<b>Usual testing method</b>	Serology. Ulcer swab can be tested by nucleic acid amplification.
<b>Common symptoms</b>	Anogenital or oral ulcers; rash (trunk, palms, soles)
<b>Likelihood of transmission per act of unprotected intercourse</b>	Early (primary, secondary, early latent): >20 % Late latent and tertiary: not infectious
<b>Likelihood of long-term sexual partner being infected</b>	Up to 50 per cent if early syphilis; <1 per cent if no contact during infectious period
<b>Protective effect of condoms</b>	High (if lesions covered by condoms)
<b>Transmission by oral sex</b>	Significant
<b>Duration of potential infectivity</b>	Up to 24 months (rare after 12 months)
<b>Important sequelae</b>	Neurosyphilis, cardiovascular syphilis, and congenital infection. Enhanced HIV transmission
<b>Direct benefit of detection and treatment of contacts</b>	Cure
<b>Usual management of contacts</b>	Consultation with sexual health physician in all cases is suggested 1. Presumptively treat all sexual contacts of patients with primary or secondary syphilis regardless of serology with: benzathine penicillin G 1.8g (2.4 mU) IMI stat or procaine penicillin 1.0g IMI for 10 days. 2. If the exposure was greater than 12 months ago and the patient has positive serology, treat as for late infection: benzathine penicillin 1.8g IMI once weekly for 3 weeks. 3. Doxycycline 100mg bd orally for 14 days (possible recent infection) or 28 days (late infection) is an alternative if the contact is penicillin allergic or needle-phobic.
<b>Contact tracing priority</b>	High
<b>Notification</b>	Notifiable by doctors in all Australian states and territories, and in New Zealand; as well as laboratories in some states

## 4.15. SYPHILIS

### What causes this infection?

Syphilis is caused by a bacterial infection.

### How does someone get infected?

Syphilis is usually contracted during vaginal, anal or oral intercourse without a condom with someone who has the infection. It can also be transmitted during pregnancy from an infected woman to the developing foetus.

### What are the symptoms?

In primary syphilis a chancre (ulcer) appears at the site of infection approximately 10–90 days after contact. The chancre is usually painless and, because it can vary in size (from a small chafe to a large sore), it is often unnoticed. The chancre heals spontaneously within 2–6 weeks. Secondary syphilis develops in some people approximately 7–10 weeks after the initial infection. During this time a person may feel unwell with flu-like symptoms and a general rash which may include the palms of the hands, soles of the feet or face. These symptoms are usually mild and transitory and again may go unnoticed. The infection then becomes latent. In latent syphilis there are no physical symptoms and the infection can remain in this stage for years to life. Between 5 and 35 years later some people may develop tertiary syphilis. Tertiary syphilis is a result of damage to internal organs that may include the brain, spinal cord and heart.

The presence of any infection that causes ulcers can increase the risk of HIV transmission.

### Is there any treatment?

Once detected, syphilis is relatively easily cured by antibiotic injections or tablets. The duration of treatment depends on the stage of infection.

### Will sexual partners need treatment?

This will depend on the stage of the infection and how it was acquired. If a person is determined to be infectious, it is very important partners are contacted, tested and treated appropriately. These issues will be discussed by the doctor.

### What advice should be given to people with syphilis?

- Make sure treatment is completed.
- Flu-like symptoms are a normal reaction during the first days of treatment. These symptoms do not imply the person has an allergy to the antibiotic.
- If a body rash or any other symptoms develop after the first day of treatment the patient should inform the nurse or doctor. These symptoms may indicate an allergic reaction to the treatment.
- Once the treatment is completed follow-up blood tests are recommended. These are to ensure the infection has been adequately treated.
- Sexual contact should be avoided until treatment is complete.
- The opportunity should be taken to educate the patient about safer-sex practices in order to reduce the risk of syphilis and other STIs in the future.

### Will the follow-up blood test be negative after the treatment has been completed?

Syphilis is diagnosed by the interpretation of several antibody tests which are performed on a single blood sample. Some of these tests will usually remain positive for life. Unfortunately these antibodies do not offer protection against reinfection with syphilis.

PATIENT

## 4.16. TRICHOMONIASIS

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Causative organism	<i>Trichomonas vaginalis</i> (a protozoan)
Incubation period	Days to weeks. May remain asymptomatic indefinitely
How far back to trace	Recent months: easily contactable partners only
Usual testing method	Microscopy or specific culture of vaginal swab. Nucleic acid amplification testing becoming available.
Common symptoms	Most women are asymptomatic but they may report vaginal discharge, itch or odour. Men are usually asymptomatic but they may have low-grade urethritis
Likelihood of transmission per act of unprotected intercourse	Low–moderate
Likelihood of long-term sexual partner being infected	Unknown (probably moderate to high)
Protective effect of condoms	Unknown (probably high)
Transmission by oral sex	Nil
Duration of potential infectivity	Indefinite
Important sequelae	Preterm birth Enhanced HIV transmission
Direct benefit of detection and treatment of contacts	Cure
Usual management of contacts	Counselling, clinical examination, and testing for other STIs.  As <i>T. vaginalis</i> cannot be excluded in male partners, presumptively treat with:  Metronidazole or tinidazole 2g orally statim.
Contact tracing priority	Medium (easily contactable partners only)
Notification	Not notifiable

## 4.16. TRICHOMONIASIS

### What causes trichomoniasis?

Trichomoniasis is caused by a parasite called *Trichomonas vaginalis* that lives in the female and male genital tract.

### What are the symptoms of this infection?

Most women have no symptoms; some may have a frothy, yellowish vaginal discharge and/or notice a change in their vaginal odour. Symptoms in men are rare but if present include a slight discharge from the penis or discomfort when passing urine.

### How does someone get infected?

Trichomoniasis is usually transmitted by vaginal sex without using condoms with someone who has the infection. Transmission from woman to woman is also common – possibly by transferring vaginal discharge on hands or sex toys. Sometimes a long-standing infection is made more obvious because antibiotics were taken for another purpose or because of immune changes in the woman.

### Are there any complications?

Trichomoniasis infection can be associated with premature labour and increases the risk of HIV infection.

### What is the treatment?

Trichomoniasis is usually cured by taking a single dose of antibiotics. Though partners usually have no symptoms they should be treated as well to avoid reinfection.

### What advice should be given to people with trichomoniasis?

- Do not have unprotected intercourse until sexual partners are treated.
- It is essential to avoid alcohol until 24 hours after the treatment as the combination of the antibiotics and alcohol may make the person very sick.
- If the symptoms persist after the treatment, another test may be required to see if the infection persists or if the treatment has caused thrush.
- The opportunity should be taken to educate the patient about safer-sex practices in order to reduce the risk of trichomonal infection and other STIs in the future.

Women should advise the doctor if they could be pregnant as this could alter the management.

PATIENT

# 4.17. TUBERCULOSIS

Tuberculosis (TB) is primarily an airborne infection spread as a result of an infected person coughing the organism into the environment. It is not associated with sexual or blood transmission. The likelihood of a contact being infected with TB is a combination of the index case's infectivity together with contact's physical proximity, duration of exposure, and vulnerability to infection. People with HIV infection are at increased risk of both acquiring and spreading TB as a result of their immune suppression and social contact with people with TB. All HIV-positive people should be assessed and screened for TB.

**Causative organism** *Mycobacterium tuberculosis* (a bacterium)

**Incubation period** Variable and dependent on immune status

Infection with TB results in disease in approximately 5 to 10% of people – half develop active TB within the first 2 years following infection and the rest later, usually with immune compromise or ageing. Among people infected with HIV that figure is much higher – 10% per year at least. On a world scale, wherever TB prevalence is high, TB is the most common complication of HIV infection.

People with HIV infection are at increased risk of disease following infection, reactivation of infection acquired in the past and spreading TB to others. Progression from latent infection to active disease in the immune-suppressed is more rapid. Disease in the immune-suppressed is often disseminated and does not follow the usual clinical pattern. Contact with other HIV-infected and immune-suppressed people socially and clinically makes spread more likely.

All HIV-positive people should be assessed for TB.

All people with suspected active TB should be referred to TB-treating physicians. All treatment needs to be according to the guidelines issued by Health Departments and supervised therapy is an important principle of care. Important drug interactions with antiretroviral agents are recognised and HIV treatments sometimes need to be ceased or modified during the standard 6-month TB treatment regimens. HIV control can be recaptured after TB treatment if necessary, rather than jeopardise TB treatment and risk the development of drug-resistant TB.

**Who should contact trace?** For all active disease, confirmed and suspected, public health authorities must be notified and contact tracing procedures followed through the local chest clinic. Chest clinics will advise and carry out contact tracing procedures according to standard protocols and with deference to the needs of the individual and their situation. Because of the emotive and irrational fears that can surround TB, chest clinic staff have long dealt with all the issues of confidentiality and discretion.

**Likelihood of transmission** The index case is categorised according to the likely degree of infectiousness.

- **High:** direct sputum smear positive and/or chest x-ray cavitation or evidence of transmission of TB to other contacts
- **Medium:** sputum culture positive, nucleic acid detection positive and direct smear negative, bronchial washings smear positive and no chest x-ray cavitation
- **Low:** sputum culture and direct smear negative and clinically unlikely to be TB disease
- **Negligible:** Mycobacteria other than TB (MOTT) Previously known as 'atypical' or NTM

Extrapulmonary TB is thought to be of low infectivity except where there is a discharging TB lesion in which case an individual assessment of risk needs to occur.

As culture and identification results are not routinely available for some weeks, initially cases of medium and low infectiousness will not be distinguishable. MOTT will not have been identified until cultures are known – clinical context, PCR and early culture characteristics can be a guide to likely non-tuberculous organisms.

**Direct benefit of detection and treatment of contacts** Early treatment of disease or prevention of disease following infection. The aim is to prevent disease and minimise the potential for further spread within the community.

The concepts outlined below are intended to act only as a guide to health care providers assisting the chest clinic staff.

# 4.17. TUBERCULOSIS

**Usual management of contacts** Interpretation of TB screening takes into account the likelihood of past infection, past contact with TB and travel/residence in high-prevalence countries. Details of prior BCG, Tuberculin Skin Test (TST or Mantoux test) status and x-ray are sought. Clinical indications of disease are pursued.

Clinical review, TST and chest x-rays are the basis of screening – initially and at defined intervals thereafter as clinically required.

Active disease is identified and treated.

Infection prior to the development of disease is identified and preventative therapy is offered. Infection is usually identified by increased TST reactivity – in accordance with standard TB screening guidelines.

Sometimes close contacts of highly infectious cases are offered preventative therapy without waiting for TST conversion – in the very young and where immune compromise is significant and progression to disease is high and TST is unreliable.

REMEMBER – TST reactivity in the immune compromised can be unreliable. The TST response is dependent on cell-mediated immunity which can be lost in advancing HIV infection and in advanced TB disease. Other conditions and immune-suppressive therapy can also interfere with a TST response.

**Contact tracing priorities** The contacts are categorised according to their estimated risk.

A list of close contacts, including names and addresses, should be compiled first in consultation with chest clinic. Contacts should be categorised into:

**High-risk group:** frequent, prolonged and close contact within last three months (or as far back as a clear history of active TB disease). This group includes:

- all people living in the same household or dwelling;
- relatives and friends who have frequent, prolonged and close contact; and
- any others who have spent 8 hours or more with the case in a closed environment (office, etc)

**Medium-risk group:** frequent but less intense contact. This group includes:

- other close relatives
- friends, school mates and work colleagues
- neighbours, relatives who frequently visit the case's home)

**Low-risk group:** this group includes:

- other contacts at school, in the workplace or in social environments

'Low-risk' contacts need be screened only if there is evidence of transmission in the 'high-risk' and 'medium-risk' groups.

High-risk contacts are assessed initially within 7 days of diagnosis. Whether medium- or low-risk contacts are traced depends, in part, on the findings in the high-risk group.

Cases of transmission have been identified with only transient contact – particularly amongst the immune-suppressed. As always in the HIV-infected, vigilance for what might be TB must be maintained. Think of the possibility and always pursue a diagnosis when symptoms and signs dictate, remembering that TB in the HIV-infected can be an unusual clinical presentation. Early diagnosis and treatment prevents spread of TB.

**Notification** Notification of active TB is a requirement under public health legislation in all jurisdictions (legislation may vary between jurisdictions).

## 4.18. VAGINAL CANDIDIASIS

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Causative organism	<i>Candida albicans</i> (a yeast). Occasionally other candida species
Incubation period	Indefinite. <i>C. albicans</i> is usually normal flora
Usual testing method	Microscopy or culture of vaginal swab
Common symptoms	Vaginal discharge or itch; Balanitis (men)
Likelihood of transmission per act of unprotected intercourse	Unknown
Likelihood of long-term sexual partner being infected	Unknown
Protective effect of condoms	Unknown (usually not relevant)
Transmission by oral sex	Controversial
Duration of potential infectivity	Indefinite
Important sequelae	Nil
Direct benefit of detection and treatment of contacts	Management of balanitis
Usual management of contacts	Contacts are treated only if they are suffering symptoms.  Treat balanitis with:  Imidazole cream (econazole, clotrimazole, miconazole) twice a day for one week  Treat vaginitis with: Imidazole cream or pessaries, or fluconazole 105mg orally statim.
Contact tracing priority	Low (regular partners only if recurrent)
Notification	Not notifiable

# 4.18. VAGINAL CANDIDIASIS/THRUSH

## What causes thrush?

This infection is caused by an overgrowth of, or a hypersensitive reaction to, yeast called *Candida albicans*. This yeast is usually found in many areas of the body. A range of factors such as antibiotics or physiological change may cause the body to lose control of the yeast and symptoms can then develop. These factors include:

## Factors which kill off bacteria which normally compete with candida for food:

- broad spectrum antibiotics
- excessive washing with soap

## Factors which increase sugar levels in body secretions:

- diabetes
- pregnancy

## Factors which alter the immune response to candida:

- pregnancy
- premenstrual changes
- severe viral infections (especially HIV infection) or certain systemic conditions
- hypersensitivity (allergy)

## Factors which make it easier for candida to invade body surfaces:

- underlying dermatitis or ulcers
- scratching
- tight or impervious clothing which promotes excessive sweating, e.g. wetsuits, synthetic underwear
- presence of a male foreskin

## What are the symptoms of this condition?

For women symptoms may include vaginal and/or vulval itching and are sometimes associated with a thick, white vaginal discharge. The vulval area can also look inflamed. Men have an itch and redness, particularly on the head of the penis (balanitis). Sometimes, the itch is located in the groin or any other body crevice.

## What is the treatment?

Candida may be treated with antifungal creams or pessaries (tablets which are inserted into the vagina) or oral tablets. Chronic candida may require ongoing therapy and avoidance of trigger factors.

## Will sexual partners need treatment?

Candida is not usually sexually transmitted, so partners don't normally require treatment. However, if a partner has symptoms both should be treated.

## How can a person help prevent recurrent thrush?

Some people appear to be more susceptible to thrush. One way to avoid recurrences is to identify what triggers the condition. The problem should be discussed with a doctor who may investigate and manage any underlying condition. Some of the following suggestions may be helpful:

- Wear loose fitting underwear made from breathable fabric such as cotton. For some women pantyhose or tights act as a trigger.
- Uncircumcised men should wash (with water only) and dry under their foreskin daily.
- Avoid excessive use of soap, vaginal deodorants, deodorised panty shields or bubble bath solutions.
- Minimise the use of antibiotics or request candida treatment when prescribed antibiotics.
- Keep healthy. When people are stressed or run down they are more prone to infections.
- People prone to excess sweating should take extra care drying body creases before dressing and apply Prantal powder.

# 5. SPECIAL NEEDS POPULATIONS

Most of the concerns of index patients, such as confidentiality and fear of reprisal, are shared regardless of the setting. However, it is important to be aware that there are also special concerns and cultural contexts which tend to vary for different sections of the community. These, often unique circumstances, need to be accommodated in the process of contact tracing. Where HIV infection may have resulted from illegal or stigmatised activities, fear of disclosure or prosecution is of particular concern not only for the index case but also for contact(s).

Those conducting contact tracing within any of these populations should recognise these difficulties and the resulting limitations. Moreover, it is essential that contact tracing initiatives not be implemented at the expense of safe(r) sex and safe(r) drug use programs and targeted campaigns to encourage early diagnosis and treatment for some of these populations.

## 5.1. People living with HIV/AIDS

People with HIV infection may be ill at the time of presentation, particularly individuals who thought they were at low risk. They are typically very concerned about confidentiality. They face significant discrimination and stigmatisation from the broader community including, in some instances, the health care sector. There are also serious implications for employment, insurance and immigration. Where contacts are anonymous, multiple or in the distant past they may be difficult or impractical to trace.

## 5.2. Men who have sex with men (including bisexual men)

Within the gay-identified community there have been personal initiatives to contact trace, with or without the involvement of the health care system. The issues of multiple loss and grief needs to be considered.

Access to other men who have sex with men (MSM) may be difficult because their homosexual activity is often hidden. Such men may feel isolated, blamed and fear discovery. Issues arising out of an HIV or STI positive result are complex and include disclosure, fidelity, honesty and responsibility to families.

For MSM who acquire infections from anonymous partners, contact tracing is generally inappropriate. Instead, such cases may trigger enhanced targeted interventions at, say, sex-on-premises venues.

## 5.3. Women

Women often see themselves as being at low risk of HIV and are more likely to be asymptomatic with other STIs. They may have dependent children and in some instances their children may also be HIV-infected. Other issues of concern include confidentiality, social isolation, lack of peer-support organisations, pregnancy, fertility, breastfeeding and reproductive choices.

Special concerns of women who have sex with women (who may or may not identify as lesbian) include how to protect and notify female partners. Sexual contact with (often high-risk) men and injecting drug users are commonplace among inner-city women who have sex with women, though this may not be condoned by their peers.

## 5.4. Injecting drug users (IDUs)

IDUs are open to legal prosecution and are disadvantaged due to the social consequences of drug use. The outcome is often distrust, difficult access, fluctuating social networks and lack of names and addresses of contacts. IDU individuals can be transitory, homeless, financially insecure and generally without supports. Informing about others is unacceptable within this population and may result in retribution including violence.

## 5.5. People from culturally and linguistically diverse backgrounds

Cultural taboos, shame, guilt, gender inequality and lack of knowledge around safe(r) sex and drug use can compound the difficulties of gaining trust, cooperation and access. Other issues include language barriers; an interpreter from their own culture may be an additional concern for confidentiality. Confidentiality is a particular concern for small communities as it is easier for it to be breached inadvertently. Difficult situations can be eased by using interpreters who are experienced in sexual health. If uncertain about the cultural appropriateness of contact tracing strategies, consult a colleague with experience of the culture concerned.

## 5.6. Aboriginal and Torres Strait Islander people

In Aboriginal and Torres Strait Islander communities, effective health care service delivery of any kind requires practitioners to be aware both of Indigenous cultural issues generally but also the cultural diversity within and between Aboriginal and Torres Strait Islander communities. This is especially the case with issues of sexual health and contact tracing. For this reason, generalisations about how to work within these distinctive cultural frameworks are difficult to make. Although, it is fairly universal that Aboriginal men and women would prefer to deal with workers of their own gender on matters such as this.

Rather than seeking to provide guidance to workers on issues of contact tracing by providing 'national' guidelines, it is recommended that workers in the field establish local relationships that can provide effective feedback and guidance on how to proceed. These

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relationships need to be built up over time. Key to establishing such relationships are the roles played by Aboriginal primary health services in general and Aboriginal health workers in particular. These workers and organisations have established expertise in the delivery of Indigenous health care. They can provide local-level advice on particularly difficult and sensitive issues such as contact tracing. Of particular importance will be the question of who does the actual contact tracing. As well as the issue of gender, there are other issues such as kinship relationships that need to be taken into account. Care should be taken in all circumstances to establish and maintain a rigorous approach to confidentiality.

### **5.7. Blood product and tissue recipients**

Specialist contact tracing is required because of the legal context and special features of the blood and organ donation system. Contact the central blood bank in the relevant Australian state and territory and in New Zealand.

### **5.8. Sex workers and their clients**

There is a strict code of ethics whereby sex workers do not disclose the identity of the clients that are known to them. The safety or otherwise of any exposure should be established prior to the initiation of contact tracing, as safe(r) sex is practised almost universally within the sex industry. Often the sex worker is accessible only through his/her workplace, making provider referral by sexual health service staff (Appendix B) the preferred contact tracing strategy. In some instances, direct contact with the worker by mobile phone may be possible.

### **5.9. Prisoners**

Prisons can play an important role in disease control through the promotion of testing for sexually transmissible infections and blood-borne viruses. While testing policies differ across jurisdictions, it is agreed that the process of testing is conducted in accordance with both the national and state and territory policies balanced against the need for security and good order in custodial settings. Contact tracing within prisons is a sensitive issue, and appropriate strategies need to be developed and acknowledge the culture of both prisons and prisoners. Through the strengthening of the relationships between the community contact tracers and prison-based health professionals and staff, contact tracing can be effectively conducted between prisons and community.

### **5.10. Homeless youth**

Specific issues for homeless youth include: low education, poor social/coping skills, poor self-esteem, lack of income, isolation, and lack of trust of the health/welfare sector. They have little or no family contact and rely on peers for support. Access can be difficult due to homelessness, transience and limited access to Medicare cover (in Australia). Young people with poor social skills will obviously have difficulty with index case referral and will need a great deal of support and time. Emphasis should be placed on ensuring a young person can cope with the result and is supported before wide contact tracing is initiated.

### **5.11. People with no apparent risk factors**

Clusters of transmission of HIV or hepatitis C through artificial insemination, the blood supply and through minor surgical procedures have been identified through meticulous contact tracing in Australia.

The management of these cases required:

1. exclusion of sexual partners as sources of infection for the index cases;
2. expert reassessment of the risk history of the index cases;
3. pooling of data on all cases;
4. systematic review of the investigation and
5. specialised techniques of characterising viral isolates.

Given the organisational, medico-legal and social complexity of these investigations such patients should be referred to specialist services for contact tracing.

### **5.12. Children**

Any STI in a child suggests sexual abuse. Because of the need for rigorous clinical and laboratory assessment, as well as assessment of adults in the child's environment, specialist (paediatric or sexual health) services should be involved wherever possible.

# 6. PRIVACY, CONFIDENTIALITY AND PUBLIC HEALTH LAW

## Australia

There are no nationally agreed laws or guidelines specifically for the diagnosis, treatment and tracing of contacts of patients with sexually transmissible infections or other notifiable diseases. Each state and territory has approached the issue differently – please refer to Appendix C. Some have gone to great lengths to develop specific, targeted laws and policies. Others have relied on more general laws and policies which are sometimes more and sometimes less targeted.

This chapter refers to a number of key Australian laws and policies relating to privacy, confidentiality and duty of care including a summary of leading legal cases. Although addressing some important questions, this information does not constitute legal advice. Practitioners faced with uncertainty in this area are strongly advised to contact their local health department, applicable privacy office or seek independent legal advice.

A list of relevant resources and professional guidelines can be found on the Australian Models of Care database available on the ASHM website. Please refer to Appendix C.

## 6.1 Why is privacy and confidentiality important?

The protection of health-related information has attracted special treatment, partly as a response to the fact that many people consider it to be extremely sensitive. This point cannot be overemphasised.

While the terms privacy and confidentiality are commonly used interchangeably, they are not identical concepts. Privacy laws regulate the handling of personal information (including health information) through enforceable privacy principles. On the other hand, the legal duty of confidentiality obliges health care practitioners to protect their patients against inappropriate disclosure of personal health information. It is important to maintain privacy and confidentiality because:

- patients are concerned about the stigma and discrimination associated with the status of patients HIV and related conditions
- patients want to know that they can choose who has access to information about them;
- patients are far more likely to seek medical care and give full and honest accounts of their symptoms if they feel comfortable, respected and secure; and
- a health system with strong privacy mechanisms will promote public confidence and trust in healthcare services generally.

## 6.2 The privacy quagmire

The Australian Medical Association (AMA) Code of Ethics requires that a medical practitioner maintain a patient's confidentiality. 'Exceptions to this must be taken very seriously. They may include where there is a serious risk to the patient or another person, where required by law . . . or where there are overwhelming societal interests.'

The issue of privacy is complicated by the different, and at times contradictory, layers of regulation implemented in the Commonwealth, State and Territory jurisdictions. Most states have laws severely restricting the transfer of information in the health sector. In some states, breaches of confidentiality amount to a criminal offence. Health service providers in those states without specific privacy laws are covered by the Commonwealth *Privacy Act*, which includes all public and private sector health service providers. In addition to these intersecting laws, many states now have multiple layers of regulation. For example, Queensland Health's Privacy Plan points out that in addition to any relevant Commonwealth and Queensland laws, 'Queensland Health has developed a number of policies related to the management of information . . . at Corporate Office, Directorate, District, facility and unit levels.'

The Commonwealth Privacy Commissioner recently released a detailed report entitled, *Getting in on the Act: The Review of the Private Sector Provisions of the Privacy Act 1988*. This Review confirms what has long been supposed: that health services are one of the sectors most affected by the introduction of privacy legislation. Most enquiries to the Office of the Privacy Commissioner are from the health sector, and the health sector is second only to the finance sector in the number of complaints received.

One of the main points made in the Review is that there should be a single national scheme for privacy regulation. This argument has also been clearly articulated by the AMA. The inconsistencies between the Privacy Act's Information Privacy Principles (which apply to government agencies) and the Privacy Act's National Privacy Principles (which apply to the private sector), combined with inconsistent state and federal privacy regimes, cause considerable confusion and have major consequences for business efficiency - not to mention the potential liability for individuals and businesses.

## 6.3 Privacy Issues

There are a number of broad privacy-related issues which face general practitioners. These include:

### ➤ Collecting information

Generally, practitioners should only collect health information about a patient with their consent. It is usually reasonable to assume that consent is implied if the information is noted from information provided by the patient during a consultation, as long as it is clear

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that the patient understands what information is being recorded and why. It is also vital to ensure that record keeping is thorough and accurate; both to ensure the best-possible ongoing treatment of a patient and, in the worst-case scenario, to be used as defence if a case is made against a treating doctor (see case of *PD v Y* below).

### ➤ **Ensuring consent is 'informed'**

All medical procedures require informed consent. In some states, pre-test discussion/counselling is explicitly required by law. Given that the consequences of being tested may be enormous, it is important to realise that, while running tests may be standard for the practitioner, receiving the results may be anything but routine for the patient.

### ➤ **Advising use**

Clearly, a patient is not able to consent to the use of their information if they are unclear as to where the information will go and why. If possible, patients should be advised of the use of their information when it is collected, which can occur through usual communication during a regular consultation. This point also relates to instances when personal information cannot be shared or disclosed. In the case of *PD v Y* the doctor failed to inform two patients attending a joint consultation that the results of each person's test could not be disclosed to the other person, and consequently failed to seek either their understanding of that situation or consent for their test results to be shared (see case summary below).

### ➤ **Notification**

It might be argued that reporting details of an individual's health status involves breaching their privacy, however, this practice is legal because there is no 'absolute' right to privacy under Australian or international law. In developing Australian privacy laws, the right to individual privacy has been weighed against the rights of others and against matters that benefit society as a whole.

Notifiable diseases differ from state to state (please refer to Appendix C). Legal duties around notification are mandated by state laws which define a medical practitioner's duty to notify their respective health departments of a notifiable disease. In some states, stricter privacy guidelines/laws apply to HIV/AIDS. In NSW, South Australia, Victoria and Tasmania, notification of HIV/AIDS cases must be in coded form. In Queensland, information may be coded but the chief executive of the health department may then require a practitioner to provide information including a person's name and address.

### ➤ **Accessing personal records**

Patients are entitled to access their health records, except to the extent that the record-keeper is required or authorised to refuse that access by law. Patients, including an index case or a contact, are not entitled to any information that relates to their contact's identity, behaviour or diagnosis without that person's consent, even if that information is in the patient's records. Should a patient wish to access their own record, details of the identity of any contacts contained in their record should be deleted.

### ➤ **Security/storage of health information**

A range of laws apply to the storage of health information. Health agencies should have in place:

- procedures to give access to the information only to those people who are authorised to have access in order to use or disclose the information;
- security measures to prevent unauthorised access to the records;
- where practicable, procedures for storing the information in a way that the identity of the person is not readily apparent from the face of the record, for example by the use of identification codes; and
- where the record is not to be retained, procedures for destroying the records that protect the privacy of the information.

Electronic records pose new challenges. While they offer greater convenience of data retrieval and transfer, electronic record systems also create greater risks of data leakage, access by unauthorised staff and 'browsing'. Agencies and businesses, including medical practices need to consider the security of their data storage/transfer systems and the problem of staff intentionally or inadvertently accessing prohibited electronic records. This issue is currently being tackled by the Commonwealth and a number of states in the development of their ambitious electronic health records systems, and has proven enormously complex to date.

### ➤ **Information for teams**

Multidisciplinary treating teams are common practice in Australian health care. Practitioners work together and share necessary information to deliver optimum health care. All transfers of information without the knowledge of the patient require careful ethical consideration. There is a need for doctors in group practices to formulate clear internal communication practices in order to exercise reasonable care, for example, when communicating test results or considering contact tracing issues. The cross-referencing of files will generally not breach statutory confidentiality because results need to be checked, though information should not be disclosed without explicit permission (see the *PD v Y* case summary below). If the patient is to be treated by a multidisciplinary team, it is advisable to tell the patient how this will affect the handling of their health information and gain their consent so that implied consent is not relied upon.

It is vital that all staff are aware of their obligations, and that systems are in place for protecting patients' privacy.

## 6.4 Exemptions to Privacy and Confidentiality Obligations

In short, health care workers must not breach a person's privacy or confidentiality except in a very limited number of circumstances. These exemptions are broadly described and may not apply to all persons in all states (e.g. the definition of 'professional' in cases of needle-stick injury is not uniform Australia-wide). Practitioners are advised to seek further clarification of the situation in their jurisdiction. These may generally be summarised as:

- communicating information to others directly involved in the treatment of a patient during a particular episode of care;
- cases of needle-stick injury where a professional is aware of a patient's positive status and a health care worker has been exposed in circumstances where there is a real risk of transmission and it is not possible to conceal the identity of the source patient who has refused to consent to disclosure;
- provision of medical services in a particular instance of care where there is a need to know the infection status for treatment purposes of benefit to the patient (e.g. in an emergency or if the patient is unconscious). This should not, however, detract from the observance of standard infection-control precautions.

## 6.5 Duty of Care to Third Parties

The practice of contact tracing raises the question of potential conflict between breaching a patient's privacy and confidentiality, and alerting a third party to the fact that they may be at risk of infection or have contracted a disease. Although a case on this specific point is yet to be heard in Australia, it seems likely that a health practitioner could be found negligent to a third party if they did not warn the third party that they were at risk or may have been infected. This potential conflict may be further complicated by a statutory obligation to counsel patients regarding sexually transmissible medical conditions (see *PD v Y* below).

Fortunately, public health services afford practitioners expert guidance to resolve the conflict between the duties to maintain confidentiality and privacy, with a possible duty of care owed to third parties. Sexual health clinics and public health units can provide skilled services and advice. In instances where practitioners suspect a person may be putting others at risk, the practitioner should notify their health department using the methods prescribed in their state or territory. Public health authorities then become responsible for making decisions around contact tracing, including management of privacy issues.

## 6.6 Legal cases

There has been very little case law relating to legal obligations around contact tracing. A summary of key Australian case law is outlined below.

### ➤ Duty of care to a sexual partner

In a NSW case, *BT v Oei* [1999] NSWSC 082, the defendant doctor was found to have a duty of care to a patient's sexual partner, even though the partner was not herself a patient of the doctor. The case involved a man (AT) who reported a flu-like illness in late 1991 and developed acute hepatitis B and a urinary tract infection in early 1992. A woman called BT subsequently formed a sexual relationship with AT and became infected with HIV.

Despite Dr Oei's testimony to the contrary, the court found that Dr Oei did not recommend HIV testing. As a result, AT was unaware of his HIV status and subsequently passed the virus to BT. BT sued the doctor claiming that his failure to diagnose AT's HIV infection was negligent. BT asserted, and the court agreed, that the doctor should have advised AT to have a HIV test when AT first presented. The doctor certainly owed a duty of care to AT. The question asked of the court, and answered in the affirmative, was whether he also owed a duty of care to BT. Justice Bell, in finding for BT, took note of the provisions of the *Public Health Act 1991* (NSW), which requires a doctor who believes a patient is HIV-infected to inform that patient of the danger he/she poses to others and to advise the measures he/she should take to protect others from cross-infection. Justice Bell found the doctor negligent in not suspecting the presence of HIV infection. If he had suspected HIV infection and had followed the dictates of the Public Health Act then, on the balance of probabilities, AT's HIV status would have been diagnosed early enough for him to have practised safe sex with BT and BT, again on the balance of probabilities, would not have contracted HIV infection. Thus, Dr Oei was found negligent and in breach of the duty of care owed to his patient's sexual partner.

### ➤ Failure to follow-up positive test results

In *Kite v Malycha* (1998) 71 SASR 321, Justice Perry found a surgeon negligent for not informing a patient that a fine-needle aspiration biopsy of a breast lump showed cancer cells. The surgeon did not have a system for detecting that the patient had not received the test result. Part of his defence was that the patient did not follow his advice to phone for the result in a few days and return for review in a few weeks. However, Justice Perry stated in his judgement that: '[Mrs Kite] was entitled to assume that if the outcome of the testing of the biopsy gave cause for concern, she would be informed.' Thus he rejected an argument that Mrs Kite contributed to or caused her own damage through her failure to carry out the surgeon's advice regarding follow-up.

Because testing for HIV antibody status is largely anonymous (that is, the blood sample is often sent without patient identification but with a code assigned by the referring doctor), the judgement in *Kite v Malycha* makes it probable that a doctor who does not have a system to check that results are received for all requested/referred tests and that those results are communicated to the relevant patient, will be held to be negligent.

If the finding in *BT v Oei* is applied to the *Kite v Malycha* case, it is possible that the doctor's liability in negligence could extend both to the patient and to anyone else unwittingly infected by that patient.

### ➤ **Counselling obligations and duty of care to a sexual partner**

In *PD v Dr Y & Dr X* [2003] NSWSC 487, PD asked her future husband (FH) to attend a medical practice for testing of HIV and other diseases. Her future husband came from an area in Africa with a high incidence of HIV infection. They jointly attended Dr Y, a general practitioner, who was told that the couple were having a sexual relationship, but taking precautions. PD wanted to ensure it was safe to practice unsafe sexual intercourse with FH. Blood tests were performed and Dr Y told them to return to the practice when the test results would be available. Dr Y did not inform either of them that in the absence of consent, he would not be able to disclose any information about one person's HIV status to the other. He did not record that they had had a joint consultation or that she was considering having unsafe sex based on the test results.

PD was informed that her results were negative. She asked a member of the practice's staff the status of FH's results but was told the results were confidential. FH's results were positive for HIV and hepatitis B. Dr Y rang FH and advised that he had tested positive and made him a follow-up appointment at the practice. Dr Y neither raised any issue arising from the joint consultation nor asked whether he was proposing to tell PD. FH visited the practice and saw the medical director, Dr X, who was unaware of FH's relationship with PD. Dr X referred FH to an immunology clinic. There is no record of FH having attended the follow-up appointment.

When PD telephoned FH to communicate her negative result, FH lied and told her his result was also negative. He later showed her a forged document which confirmed the negative result.

Within five weeks PD returned to the practice for a contraceptive pill and in February of 1999 she attended for vaccines to travel to Ghana. The joint consultation and the results of the tests were not referred to directly or indirectly on either occasion (note – she did not see Dr Y). PD did not engage in unprotected sex until around March/April 1999.

Sometime in May 1999, Dr Y received a questionnaire from the Department of Health seeking information concerning FH's HIV status which had been notified to the Department by the serum laboratory. Although PD and FH were living together at this time, neither was contacted by Dr Y.

The practice then received a letter from the specialist advising it had no information that FH had ever attended despite the record of an appointment. Again no attempt was made to contact PD or FH as the members of the practice believed they had no further obligation to either of them.

FH and PD were married and, on the basis of her belief that FH was negative, the woman commenced having unsafe sexual intercourse. PD became infected with HIV in late 1999. She discovered her status after becoming pregnant with their child. By that time, the relationship had ended and the man had left Australia.

PD sued the doctors who had seen her, alleging that they had a duty to prevent her from foreseeable harm. The Court found for her but for different reasons. The judge found that they had failed to:

- provide proper pre-test counselling, which was required to meet health department guidelines;
- contact FH to tell him that, unless he attended the HIV clinic and demonstrated to them that he had informed his fiancée of his HIV status, they were legally required by legislation to refer him to the Director-General of the Department of Health as a person known to be HIV positive who was not attending for review and was putting others at risk; and
- comply with legislation by not reporting him to the health department.

In fact, it would not have been necessary for the doctors to breach their common law duty of confidentiality to the man to prevent foreseeable harm to the woman, because they had a statutory duty (and immunity from civil action for breach of confidentiality) to report the man to the health department, officers of which would have performed the necessary contact tracing and notification.

Many of the judge's findings were based on the inadequacy or absence of Dr X's clinical records (i.e. he did not believe the doctor's assertions). Dr X was found to be vicariously liable for the omissions of Dr Y. Had the notes been cross-referenced, the doctors may have realised the full extent of the situation and contacted PD before she contracted HIV.

### **New Zealand**

A list of relevant New Zealand laws and regulations can be found on the Australian Models of Care database available on the ASHM website. Please refer to Appendix C.

# 7. EVALUATION AND QUALITY ASSURANCE

## 7.1 Clinical feedback

One of the advantages of provider referral is that the health care provider knows from first-hand experience that the contacts have been notified. Thereafter the contacts may attend the same service – thus facilitating information gathering – or elect to attend another service, often their local general practitioner. In the latter event, the initial health care provider is not entitled to further information on the contact(s) without permission. However, all ethical obligations of the initial health care provider have been fulfilled.

Confirming that patient (index case) referral has occurred is often more difficult. This is usually one of the major objectives of the subsequent 'test-of-cure' or post-test counselling consultations. Confirming that contact(s) have been appropriately assessed is facilitated by the contact(s) attending the same agency. If the contact(s) have attended another agency, this may be reasonably established by making enquiries of the index case including the details of the subsequent management of the contact(s), e.g. tests performed, results, treatment. If the index case appears evasive or uncomfortable with such questioning, this may suggest that the contact(s) have not been informed. The health care provider may wish to offer further support to the patient including further counselling or provider referral.

If known, the outcome for all identified contacts should be entered into the index patient's record, including the source of this information, e.g. patient, contact slip, other agency. All health care providers should be responsive to complaints about the contact tracing process made either by index cases or their contacts.

The following two sections are directed primarily at specialist services that should have formal evaluation of their contact tracing programs.

## 7.2 Program evaluation

While the value of contact tracing in the prevention of the major bacterial STIs has been demonstrated, the risks and benefits of contact tracing and its effectiveness in decreasing the incidence of HIV infection in any given population have not been clearly established. Though direct measurement of the risks and benefits in a properly controlled intervention trial will rarely be feasible, the World Health Organization (WHO, 1989) has identified direct and indirect indicators of the value of contact tracing programs. The evaluation of any program requires the following measures:

### a) Quantitative measures:

- number of index cases;
- number of contacts identified;
- proportion of contacts traced and managed;
- prevalence of infection amongst contacts;
- cost of program (time and financial cost); and
- speed of contact tracing (e.g. contacts assessed within 24 hrs, 10 days, 30 days)

### b) Qualitative measures:

- how index cases perceived the intervention (acceptability or otherwise);
- how contacts perceived the intervention;
- how the service staff perceived the intervention;
- compliance of participants; and
- community perception, particularly in relation to confidentiality.

Contact tracing has the potential to artificially inflate the apparent prevalence of an infection in the population attending a service. Care should be taken to separately report cases detected by investigating symptoms or by screening from those detected by contact tracing.

## 7.3 Quality assurance

Quality assurance is a system whereby the quality of a program is regularly monitored and checked. This involves an assessment of structure (including policy, procedures, training and resources) and an assessment of 'process' (including service delivery and outcomes).

A checklist can be developed to assess the quality of structural aspects of a program. The following questions are examples:

- Are staff informed of current policies and procedures?
- Are policies and procedures developed in consultation with relevant staff?
- Do staff attend continuing education programs?
- Is there an orientation program?
- Is there a mechanism for identifying staff development needs?
- Are professional staff assisted to attend relevant programs/courses conducted by their respective professional associations/institutions?
- Is there adequate space and equipment to enable staff to carry out their functions?
- How secure is the filing system, particularly personal details of client/patients? Who has access to these files?
- Are all staff, including clerical/administrative staff, informed of the code of confidentiality of the service?

Quality can be assured through a process of peer review that is supportive rather than punitive. Regular workshops where cases are presented and discussed would assure standards of service delivery, identify areas of need and provide ongoing training.

**Appendix A** Manual reference group

**Appendix B** Contact directory

- AIDS Councils
- Australian Government Department of Health and Ageing
- Central Red Cross Blood Services
- Central Chest Clinics
- Hepatitis Councils
- IDU Organisations
- New Zealand Ministry of Health
- People Living with HIV/AIDS (PLWHA) Organisations
- Public Sexual Health Services
- State and Territory Health Departments

**Appendix C** References and further reading

**Appendix D** Useful resources and websites

**Appendix E** Sample Contact Tracing Letters



# APPENDIX A MANUAL REFERENCE GROUP

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We are also grateful to the sector organisations who have contributed to this Third Edition and the Chapter Committee of the Australasian Chapter of Sexual Health Medicine for their review.

# APPENDIX B CONTACT DIRECTORY

This appendix contains a list of contacts for health care providers, patients and contacts.

The list includes: AIDS Councils, Australian Government Department of Health and Ageing, central Red Cross blood services, central chest clinics, hepatitis councils, IDU organisations, New Zealand Ministry of Health offices, PLWHA organisations, public sexual health services, state and territory health departments.

The directory is up to date at the time of publication. The current *ASHM Directory* is available online and contains a list of HIV, hepatitis and related services. It may be accessed at <http://www.ashm.org.au/ashm-directory/>.

## AIDS COUNCILS

AIDS Councils maintain comprehensive registers of community support agencies and programs and are able to identify regional offices and related organisations including PLWHA organisations and peer-support groups and sex worker organisations.

### NATIONAL ORGANISATION

#### **Australian Federation of AIDS Organisations**

Tel: 02 9557 9399

### QUEENSLAND

#### **Queensland Association for Healthy Communities (QAHC)**

Tel: 07 3017 1777

### VICTORIA

#### **Victorian AIDS Council/Gay Men's Health Centre**

Tel: 03 9865 6700

### AUSTRALIAN CAPITAL TERRITORY

#### **AIDS Action Council ACT**

Tel: 02 6257 2855

### SOUTH AUSTRALIA

#### **AIDS Council of SA**

Tel: 08 8334 1611

### WESTERN AUSTRALIA

#### **Western Australian AIDS Council**

Tel: 08 9482 0000

### NEW SOUTH WALES

#### **AIDS Council of NSW**

Tel: 02 9206 2000

### TASMANIA

#### **Tasmanian Council on AIDS Hepatitis & Related Diseases**

Tel: 03 6234 1242

### NEW ZEALAND

#### **New Zealand AIDS Foundation**

Tel: 09 303 3124

### NORTHERN TERRITORY

#### **Northern Territory AIDS & Hepatitis Council**

Tel: 08 8941 1711

## AUSTRALIAN GOVERNMENT DEPARTMENT OF HEALTH AND AGEING

### **Central Office**

Switchboard: 02 6289 1555

General Fax: 02 6281 6946

### **Queensland State Office**

Switchboard: 07 3360 2555

General Fax: 07 3360 2999

### **Victoria State Office**

Switchboard: 03 9665 8888

General Fax: 03 9665 8181

### **Australian Capital Territory Office**

Switchboard: 02 6289 1555

General Fax: 02 6289 3388

### **North Queensland Office**

Switchboard: 07 4727 2289

General Fax: 07 4727 2245

### **Western Australia State Office**

Switchboard: 08 9346 5111

General Fax: 08 9346 5222

### **New South Wales State Office**

Switchboard: 02 9263 3555

General Fax: 02 9263 3509

### **South Australia State Office**

Switchboard: 08 8237 8111

General Fax: 08 8237 8000

### **Northern Territory Office**

Switchboard: 08 8946 3444

General Fax: 08 8946 3400

### **Tasmania State Office**

Switchboard: 03 6221 1411

General Fax: 03 6221 1412

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## CENTRAL RED CROSS BLOOD SERVICES

These services are able to direct health care providers to local services.

### AUSTRALIA

#### **Australian Red Cross Blood Service**

www.arcbs.redcross.org.au/  
National Call Number: 13 14 95

#### **Australian National Headquarters**

Tel: 03 9863 1600

### NEW ZEALAND

#### **New Zealand Blood Service**

www.nzblood.co.nz/  
Tel: 09 523 5744

#### **New Zealand National Office**

Tel: 09 638 7800

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## CENTRAL CHEST CLINICS

These services are able to direct health care providers to local services.

### AUSTRALIA

#### **AUSTRALIAN CAPITAL TERRITORY**

##### **Department of Thoracic Medicine**

Tel: 02 6244 2066

#### **NEW SOUTH WALES**

##### **NSW TB Program Manager**

Tel: 02 9391 9277

#### **NORTHERN TERRITORY**

##### **Royal Darwin Hospital**

Tel: 08 8922 8804

### QUEENSLAND

#### **QLD TB Control Centre**

Tel: 07 3896 3963

### SOUTH AUSTRALIA

#### **Royal Adelaide Hospital**

Tel: 08 8222 5286

### TASMANIA

#### **Royal Hobart Hospital**

Tel: 03 6222 8636

### VICTORIA

#### **TB Control Program**

Tel: 03 9096 5144

### WESTERN AUSTRALIA

#### **Western Australia Diseases Control Branch**

Tel: 08 9325 3922

### NEW ZEALAND

#### **Auckland City Hospital**

Tel: 09 367 000

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## HEPATITIS COUNCILS

Hepatitis Councils provide information, referrals and support services to people affected by hepatitis C, and support agencies to reduce hepatitis C transmission.

Every state and territory, except Tasmania and the Northern Territory, has an independent Hepatitis Council.

### AUSTRALIA

#### **Australian Hepatitis Council (National)**

Tel: 02 6232 4257

#### **Australian Capital Territory Hepatitis C Council**

Tel: 02 6257 2911

#### **Hepatitis C Council of NSW**

Tel: 02 9332 1853

#### **Hepatitis C Council of Victoria**

Tel: 03 9380 4644

#### **Tasmanian Council on AIDS, Hepatitis and Related Diseases**

Tel: 03 6234 1242

#### **Hepatitis C Council of Queensland**

Tel: 07 3236 0610

#### **Hepatitis C Council of South Australia**

Tel: 08 8362 8443

#### **Hepatitis C Council of Western Australia**

Tel: 08 9227 9800

#### **Northern Territory AIDS & Hepatitis Council – Darwin**

Tel: 08 941 1711

(Alice Springs: 08 8953 3172)

### NEW ZEALAND

#### **The Hepatitis Foundation of New Zealand**

Tel: 07 307 1259

#### **NZ Hepatitis C Resource Centre**

Tel: 09 377 8500

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## IDU ORGANISATIONS

### AUSTRALIA NATIONAL

#### **Australian Injecting and Illicit Drug Users' League (AIVL)**

Tel: 02 6279 1600

### ACT

#### **Directions**

Tel: 02 6248 7677

### NEW SOUTH WALES

#### **NUAA**

#### **NSW Users and AIDS Association**

Tel: 02 8354 7300

### QUEENSLAND

#### **Queensland Injectors Health Network (QulHN)**

Tel: 07 5520 7900

### SOUTH AUSTRALIA

#### **SAVIVE**

#### **SA Voice of IV Education**

Tel: 08 8334 1699

### NORTHERN TERRITORY

#### **Needle Syringe Project (NTAHC)**

Tel: 08 8941 1711

### VICTORIA

#### **VIVAIDS**

#### **Victorian Drug User Group**

Tel: 03 9329 1500

### WESTERN AUSTRALIA

#### **WASUA**

#### **WA Substance Users**

Tel: 08 9227 7866

### TASMANIA

#### **Tasmania does not currently have an IDU organisation.**

Please contact TASCARHD

Tel: 03 6234 1242

### NEW ZEALAND

#### **ADIO Trust**

Tel: 09 356 7373

#### **Needle Exchange Programme**

Tel: 03 366 9403

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## NEW ZEALAND MINISTRY OF HEALTH

### **Head Office**

Tel: 04 496 2000

Fax: 04 496 2340

### **Christchurch**

Tel: 03 372 1000

Fax: 03 372 1015

### **Hamilton**

Tel: 07 858 7000

Fax: 07 858 7070

### **District Offices**

#### **Auckland**

Tel: 09 580 9000

Fax: 09 580 9001

#### **Dunedin**

Tel: 03 474 8040

Fax: 03 474 858

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## PEOPLE LIVING WITH HIV/AIDS (PLWHA) ORGANISATIONS

### AUSTRALIA NATIONAL

#### **National Association of People Living with HIV/AIDS (NAPWA)**

Tel: 02 8568 0300

### NEW SOUTH WALES

#### **PLHWA (NSW)**

Tel: 02 9361 6011

### VICTORIA

#### **PLWHA (VIC)**

Tel: 03 9865 6772

### QUEENSLAND

#### **Queensland Positive People**

Tel: 07 3013 5555

### TASMANIA

Currently no PLWHA organisation

### AUSTRALIAN CAPITAL TERRITORY

#### **PLWHA (ACT)**

Tel: 02 6257 4985

### WESTERN AUSTRALIA

#### **HIV AIDS PEER Advisory Network (HAPAN)**

Tel: 08 9482 0000

### NORTHERN TERRITORY

#### **Care & support person at the AIDS & Hepatitis Council**

Tel: 08 8941 1711

### SOUTH AUSTRALIA

#### **PLWHA (SA)**

Tel: 08 8293 3700

### NEW ZEALAND

#### **Body Positive**

Tel: 09 309 3989

# PUBLIC SEXUAL HEALTH SERVICES

A current contact list for the Public Sexual Health Centres can be accessed via The Australasian College of Sexual Health Physicians website: [www.racp.edu.au/public/sexualhealth.htm](http://www.racp.edu.au/public/sexualhealth.htm)

## AUSTRALIAN CAPITAL TERRITORY

### CANBERRA

#### Canberra Sexual Health Centre

Tel: 02 6244 2184

Fax: 02 6285 3395

## NEW SOUTH WALES

### SYDNEY CITY / METROPOLITAN AREA

#### CAMPERDOWN\*

##### RPAH Women & Babies

Tel: 02 9560 3057

\*Outreach clinic from Livingstone Road Centre

#### DARLINGHURST

##### Kirketon Road Centre

Tel: 02 9360 2766

Fax: 02 9360 5154

#### KOGARAH

##### Short Street Centre

##### Sexual Health Clinic

Tel: 02 9350 2742

Fax: 02 9588 7521

#### LIVERPOOL

##### Liverpool Sexual Health Clinic

Tel: 02 9827 8022

Fax: 02 9602 4352

#### MARRICKVILLE

##### Livingstone Road Centre\*

Tel: 02 9560 3057

Fax: 02 9568 3335

#### MANLY

##### Manly Sexual Health Service

Tel: 02 9977 3288

Fax: 02 9977 3347

#### MT. DRUITT

##### Luxford Road Sexual Health Clinic

Tel: 02 9881 1733

Fax: 02 9881 1867

#### NEWTOWN\*

##### The Sanctuary

Tel: 02 9650 3057

Fax: 02 9568 3335

\*Outreach clinic from Livingstone Road Centre, Wednesdays

#### PARRAMATTA

##### Parramatta Sexual Health Clinic

Tel: 02 9843 3124

Fax: 02 9893 7103

#### ROZELLE\*

##### Rozelle Hospital

Tel: 02 9650 3057

\*Outreach clinic from Livingstone Road Centre

#### SUTHERLAND

##### Sutherland Sexual Health Clinic

Tel: 02 9350 2742

Fax: 02 9588 7521

#### ST. LEONARDS

##### Clinic 16

Tel: 02 9926 7414/5

Fax: 02 9926 5582

#### SURRY HILLS

##### Albion Street Centre

Tel: 02 9332 9600

Fax: 02 9331 6519

#### SYDNEY

##### Sydney Sexual Health Centre

Tel: 02 9382 7440

Fax: 02 9382 7475

#### SYDNEY OUTER METROPOLITAN AREA

#### CAMPBELLTOWN

##### Campbelltown Community Health

##### Centre

Tel: 02 4629 2111

#### KATOOMBA

##### Blue Mountains Sexual Health/HIV

##### Clinic

Tel: 02 4784 6560

Fax: 02 4782 4659

#### PENRITH

##### Nepean Sexual Health & HIV Clinic

Tel: 02 4734 2507

Fax: 02 4734 2620

#### RICHMOND

##### Hawkesbury Sexual Health & HIV Clinic

Tel: 02 4578 1622

Fax: 02 4588 5085

#### NSW RURAL AREAS

#### ALBURY

##### Albury Sexual Health Service

##### Albury Community Health Service &

##### Aboriginal Sexual Health

Tel: 02 6058 1800

#### ARMIDALE

##### Armidale Community Health Centre

Tel: 02 6776 9600

#### BOURKE

##### Bourke Sexual Health Service

Tel: 02 6870 8883

Fax: 02 6870 8898

#### BROKEN HILL

##### Broken Hill Sexual Health

Tel: 08 8080 1556/8080 1609

Fax: 08 8080 1611

#### COFFS HARBOUR

##### Sexual Health Clinic (Clinic 916)

Tel: 02 6656 7865

Fax: 02 6656 7817

#### COOMA

##### Cooma Community Health Centre

Tel: 02 6455 3201

Fax: 02 6455 3360

#### DARETON

##### Wentworth/Balranald Sexual Health Service

Tel: 02 5021 7200

Fax: 02 5027 4109

#### DUBBO

##### Greater Western Area Health – Dubbo

##### Sexual Health

Tel: 02 6841 2480

Fax: 02 6841 2490

#### FORSTER/TUNCURRY

##### The Lakes Clinic

Tel: 02 6555 1800

Fax: 02 6554 8874

#### GOSFORD

##### Holden Street Clinic

Tel: 02 4320 2114

Fax: 02 4320 2020

#### GOULBURN

##### Goulburn Community Health Centre

Tel: 02 4827 3913

Fax: 02 4827 3943

## PUBLIC SEXUAL HEALTH SERVICES

### GRAFTON

#### #Outreach clinic from Coffs Harbour

Tel: 02 6656 7865

### GRIFFITH

#### Griffith Community Health Centre

Tel: 02 6966 9900

Fax: 02 6964 1743

### HUNTER AREA outreach clinics

#### Outreach Clinic Cessnock

Tel: 02 4991 0438

#### Outreach Clinic FPA Health

##### Cooks Hill

Tel: 02 4929 4485

#### Outreach Clinic

##### Methadone Service

Newcastle 2300

Tel: 02 4923 6909

### LISMORE

#### Lismore Sexual Health Service

Tel: 02 6620 2980

Fax: 02 6620 2985

### LIGHTNING RIDGE

#### Lightning Ridge

##### Sexual Health Service

Tel: 02 6829 9900

Fax: 02 6829 9918

### NAROOMA

#### Narooma Community Health Centre

Tel: 02 4476 2344

### NEWCASTLE

#### Hunter Sexual Health Service

Tel: 02 4923 6909

Fax: 02 4923 6572

### NOWRA

#### Sexual Health Clinic

Tel: 02 4423 9353

Fax: 02 4423 9392

### ORANGE

#### Orange Sexual Health Clinic

Tel: 02 6392 8600

Fax: 02 6392 8624

### QUEANBEYAN

#### Queanbeyan

##### Community Health Centre

Tel: 02 6298 9233

Fax: 02 6299 6920

### TAMWORTH

#### Bligh Street Clinic

Tel: 02 6766 3095

02 6766 2226

Fax: 02 6766 6835

### TAREE

#### Manning Clinic

Tel: 02 6592 9315

Fax: 02 6592 9775

### TWEED HEADS

#### Clinic 145

Tel: 02 5506 6850

Fax: 07 5506 6866

### WAGGA WAGGA

#### Wagga Wagga Sexual Health Service

Tel: 02 6938 6492

Fax: 02 6925 0617

### WOLLONGONG

#### Illawarra Sexual Health Service

Tel: 02 4276 2399

Fax: 02 4276 2521

### NORTHERN TERRITORY

#### ALICE SPRINGS

##### Clinic 34, Sexual Health Unit

Tel: 08 8951 7549

Fax: 08 8951 7555

### DARWIN

#### Clinic 34

Tel: 08 8999 2678

Fax: 08 8999 2688

### KATHERINE

#### Clinic 34

Tel: 08 8973 9049

Fax: 08 8973 9048

### NHULUNBUY

#### Centre for Disease Control

Tel: 08 8987 0358/6

Fax: 08 8987 0355

### TENNANT CREEK

#### Clinic 34

Tel: 08 8962 4250

Fax: 08 8962 4420

### QUEENSLAND

#### BRISBANE CITY / METROPOLITAN AREA

##### BRISBANE

##### Brisbane Sexual Health Clinic

Tel: 07 3837 5611

Fax: 07 3837 5640

### AIDS Medical Unit

Tel: 07 3837 5622

Fax: 07 3837 5672

### REDCLIFFE

#### Redcliffe Sexual Health

Tel: 07 3897 6300

Fax: 07 3897 6311

### WOOLLOONGABBA

#### Sexual Health

Tel: 07 3240 5881

Fax: 07 3240 5540

### OUTER METROPOLITAN / RURAL AREAS

#### BAMAGA

##### Men's & Women's Health

##### C/- Hospital

Tel: 07 4090 4219/35

Fax: 07 4090 4251

### BUNDABERG

#### Q Clinic

Tel: 07 4150 2754

Fax: 07 4150 2769

### CAIRNS

#### Dolls House Sexual Health Clinic

Tel: 07 4050 6205

Fax: 07 4050 6359

### IPSWICH

#### West Morton/Ipswich

##### Sexual Health Service

Tel: 07 3817 2428

Fax: 07 3281 0565

### MIAMI

#### Gold Coast Sexual Health Clinic

Tel: 07 5576 9033

Fax: 07 5576 9030

### MACKAY

#### Sexual Health &

##### Sexual Assault Services

Tel: 07 4968 3919

Fax: 07 4968 3885

### MOUNT ISA

#### Mt Isa District Sexual Health Services

Tel: 07 4744 4805

Fax: 07 4745 4590

### NAMBOUR

#### Clinic 87

Tel: 07 5441 2459 or

Fax: 07 5476 2491

**PALM ISLAND****Men's & Women's Business**

Tel: 07 4752 5165

Fax: 07 4752 5291

**ROCKHAMPTON****Rockhampton Sexual Health, HIV and Hepatitis C Services**

Tel: 07 4920 6262

Fax: 07 4920 6337

**THURSDAY ISLAND****Men's & Women's Health**

Tel: 07 4069 0413

Fax: 07 4069 2235

**TOOWOOMBA****Sexual Health Service**

Tel: 07 4616 6446

Fax: 07 4616 6456

**TOWNSVILLE****Townsville Sexual Health Service**

Tel: 07 4778 9600

Fax: 07 4778 9641

**WEIPA****Sexual Health Program**

Tel: 07 4090 6206

Fax: 07 4069 7405

**SOUTH AUSTRALIA****ADELAIDE****Clinic 275**

Tel: 08 8222 5075

Fax: 08 8232 3504

**TASMANIA****BURNIE****Sexual Health Service**

Tel: 03 6434 6315

Fax: 03 6431 7851

**DEVONPORT****Sexual Health Service**

Tel: 03 6421 7759

Fax: 03 6421 7767

**HOBART****Sexual Health Service**

Tel: 03 6233 3557

Fax: 03 6231 2944

**LAUNCESTON****Sexual Health Service**

Tel: 03 6336 2216

Fax: 03 6331 3454

**VICTORIA**

(\* Medicare card required)

MELBOURNE CITY / METROPOLITAN AREA

**CARLTON****Communicable Diseases Clinic****Royal Women's Hospital**

Tel: 03 9344 2183 (apts)

Fax: 03 9344 2055

**Melbourne Sexual Health Centre**

Tel: 03 9347 0244

Fax: 03 9347 2230

**FRANKSTON****Sexual Health Clinic\***

Tel: 03 9784 7650

Fax: 03 9784 7319

**PRAHRAN****Victorian HIV Service & ID Clinic****Alfred Hospital**

Tel: 03 9276 6081

Fax: 03 9276 6528

OUTER METROPOLITAN / RURAL AREAS

**BALLARAT****Ballarat Community Health Centre\*****Sexual Health Clinic**

Tel: 03 5320 7500

Fax: 03 5332 6617

**EAGLEHAWK****STI/BBV Service\***

Tel: 03 5434 4300

Fax: 03 5434 4366

**GEELONG****Sexual Health Clinic\***

Tel: 03 5226 7802

Fax: 03 5226 7254

**TRARALGON****AIDS/STD Clinic\***

Tel: 03 5173 8111

Fax: 03 5173 8097

**WODONGA****Vermont Street Health Clinic\***

Tel: 02 6051 7535

Fax: 02 6051 7536

**WESTERN AUSTRALIA****PERTH****Sexual Health Clinic****Royal Perth Hospital**

Tel: 08 9224 2178

Fax: 08 9224 3557

**SUBIACO****Sexual Health Clinic**

Tel: 08 9340 1383/1014

Fax: 08 9340 1016

**FREMANTLE****Sexual Health Clinic B2**

Tel: 08 9431 2149

Fax: 08 9431 2035

**Mainly Men Clinic**

Tel: 08 9430 4544

**KALGOORLIE****STD Clinic**

Tel: 08 9080 8200

Fax: 08 9021 8188

**MANDURAH****Haven Clinic**

Tel: 08 9534 8943

**ROCKINGHAM****Rockingham Clinic**

Tel: 08 9527 7464

**NEW ZEALAND****AUCKLAND****Auckland Central Sexual Health Clinic**

Tel: 09 630 9770

Fax: 09 630 9783

**Auckland North Sexual Health Clinic**

Tel: 09 443 2544

Fax: 09 443 2554

**Auckland West Sexual Health Clinic**

Tel: 09 836 0838

Fax: 09 836 0839

**Auckland South Sexual Health Clinic**

Tel: 09 255 5172

Fax: 09 255 5178

**ASHBURTON****Ashburton STD Clinic**

Tel: 03 307 8453

Fax: 03 307 8472

**BLenheim****Blenheim Sexual Health Clinic**

Tel: 03 578 3044

Fax: 03 578 3047

**CHRISTCHURCH****Christchurch Sexual Health Centre**

Tel: 03 364 0485

Fax: 03 379 8373

**DUNEDIN****Dunedin Sexual Health Clinic**

Tel: 03 479 9565

Fax: 03 474 0221

## PUBLIC SEXUAL HEALTH SERVICES

### DANNEVIRKE

#### Dannevirke Outreach Clinic

Tel: 06 350 8602

Fax: 06 350 8609

### GISBORNE

#### GISBORNE Sexual Health Centre

Tel: 06 868 9005

Fax: 06 863 1373

### GORE

#### Gore Sexual Health Clinic

Tel: 03 214 5768

Fax: 03 214 7276

### GREYMOUTH

#### Westcoast Sexual Health Centre

Tel: 03 768 0499 ext. 2751

Fax: 03 768 2793

### HAMILTON

#### Hamilton Sexual Health Service

Tel: 07 839 8732

Fax: 07 839 8892

### INVERCARGILL

#### Invercargill Sexual Health Service

Tel: 03 214 5768

Fax: 03 214 7276

### LEVIN

#### Horowhenua STD Clinic

Tel: 06 350 8602

Fax: 06 350 8609

### LOWER HUT

#### Lower Hutt Outreach Clinic

Tel: 04 385 9879

Fax: 04 384 4840

#### Vibe Youth Health Service

Tel: 04 566 0525

Fax: 04 586 2054

### MASTERTON

#### Wairarapa Sexual Health Service

Tel: 06 370 5020

### NAPIER

#### Napier Sexual Health Centre

Tel: 06 834 1878

Fax: 06 835 4813

### NELSON

#### Nelson STD Clinic

Tel: 03 546 5255

Fax: 03 546 1993

### NEW PLYMOUTH

#### New Plymouth

#### Sexual Health Clinic

Tel: 06 759 8269

Fax: 06 759 8369

### PALMERSTON NORTH

#### Palmerston North

#### Sexual Health Centre

Tel: 06 350 8602

Fax: 06 350 8609

### PORIRUA

#### Porirua Outreach Clinic

Tel: 04 385 9879

Fax: 04 384 4840

### ROTORUA

#### Rotorua STI Clinic

Tel: 07 349 7918

Fax: 07 349 7922

### QUEENSTOWN

#### Wakatipu Sexual Health &

#### Family Planning Clinic

Tel: 03 441 0565/0514

Fax: 03 441 0501

### TAUPO

#### Taupo STI Clinic

Tel: 07 378 3895

Fax: 07 378 3890

### TAURANGA

#### Tauranga STI Clinic

Tel: 07 579 8157

Fax: 07 579 8158

### TIMARU

#### Timaru STD Clinic

Tel: 03 684 4000 ext. 8762

### WANAKA

#### Wanaka Sexual Health &

#### Family Planning Clinic

Tel: 03 443 1226

Fax: 03 443 1472

### WANGANUI

#### Wanganui STD Clinic

Tel: 06 348 1234 ext. 8334

Fax: 06 348 1780

### WELLINGTON

#### Wellington

#### Sexual Health Service (WIPA)

Tel: 04 385 9879

Fax: 04 384 4840

### Willis Street Outreach Clinic

Tel: 04 382 8791

Fax: 04 801 5690

### WHAKATANE

#### Whakatane STI Clinic

Tel: 07 306 0804

Fax: 07 307 8761

### WHANGAREI

#### Whangarei Sexual Health Clinic

Tel: 09 438 6123

Fax: 09 438 6124

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# STATE AND TERRITORY HEALTH DEPARTMENTS

## AUSTRALIAN CAPITAL TERRITORY

### Health Protection Services

#### ACT Health

Tel: 02 6205 1700

Fax: 02 6205 1705

## NEW SOUTH WALES

### NSW Health

Tel: 02 9391 9000

Fax: 02 9391 9848

## NORTHERN TERRITORY

### Northern Territory Department of Health and Community Services Centre for Disease Control

Tel: 08 8922 8044

Fax: 08 8922 8310

## QUEENSLAND

### Queensland Health

#### Communicable Diseases Unit

Tel: 07 3234 1155

Fax: 07 3234 0057

## SOUTH AUSTRALIA

### Communicable Disease

#### Control Branch

Tel: 08 8226 7177

Fax: 08 8226 7197

## TASMANIA

### The Department of Health & Human Services

#### Sexual Health Branch

Tel: 03 6233 3557

Fax: 03 6231 2944

## VICTORIA

### Department of Human Services

#### Communicable Disease

#### Control Section

Tel: 03 9096 5354

Fax: 03 9096 9174

Contact Tracers

Tel: 03 9347 1899

## WESTERN AUSTRALIA

### Department of Health

#### Sexual Health and Blood Borne Virus Program

#### Communicable Disease Control Directorate

Tel: 08 9388 4999/08 9388 4841

Fax: 08 9388 4877

# APPENDIX C REFERENCES AND FURTHER READING

The following publications are recommended as additional resource materials for persons with a specific interest in contact tracing.

- Australasian Society for HIV Medicine. *HIV and Hepatitis C: Policy, Discrimination, Legal and Ethical Issues*. Sydney: ASHM, 2005
- Australasian Society for HIV Medicine (revised edition). *HIV/Viral hepatitis – a guide for primary care*. Sydney: ASHM, 2004.
- Australasian Society for HIV Medicine Inc. Models of Care [www.ashm.org.au/moc](http://www.ashm.org.au/moc)
- Australian National Council on AIDS, Hepatitis C and Related Diseases. *A Model of Care for the Management of Hepatitis C Infection in Adults*. Canberra: ANCAHRD, 2003 - available at [www.ashm.org.au](http://www.ashm.org.au)
- Baggaley RF, Boily M-C, White RG, Alary M. Risk of HIV transmission for parenteral exposure and blood transfusion: a systematic review and meta-analysis. *AIDS* 2006; 20: 805-12.
- Bayer R, Toomey KE. HIV prevention and the two faces of partner notification, *American Journal of Public Health* 1992; 82: 1158-1164.
- Bradford D, Russell D. *Talking with Clients about Sex*. Melbourne: IP Communications, 2006.
- Cameron S. Groundbreaking New Zealand case on disclosure. *HIV Australia* 2006; 5(1): 34-7 – available at [www.afao.org.au](http://www.afao.org.au)
- Cowan FM, French R, Johnson AM. The role and effectiveness of partner notification in STD control: A review. *Genitourinary Medicine* 1996; 72: 247-252.
- Crofts N et al. Heterosexual transmission of HIV in Victoria: implications for contact tracing and sex tourism. *Medical Journal of Australia* 1992 156(2) 137.
- England DO, Currie MJ, Bowden FJ. An audit of contact tracing for cases of chlamydia in the Australian Capital Territory. *Sexual Health* 2005; 2: 255-8.
- Fagan P. Sexual health service provision in remote Aboriginal and Torres Strait Islander settings in Far North Queensland: sexual health symptoms and some outcomes of partner notification. *Venereology* 2001; 14: 55-62.
- Gilleece YC, Browne RE, Asboe D, Atkins M, Mandalia S, Bower M, Gazzard BG, Nelson MR. Transmission of hepatitis C virus among HIV-positive homosexual men and response to a 24-week course of pegylated interferon and ribavirin. [Clinical Trial. Journal Article. Randomized Controlled Trial] *Journal of Acquired Immune Deficiency Syndromes: JAIDS*. 40(1):41-6, 2005 Sep 1.
- Golden MR. Expedited partner treatment for sexually transmitted diseases. *Clinical Infectious Diseases* 2005; 41: 630-2.
- Low N, Welch J, Radcliffe K., Developing national outcome standards for the management of gonorrhoea and genital chlamydia in genitourinary medicine clinics, *Sexually Transmitted Infections*, 80: 223-229, 2004.
- McClean HL, Joshi UY, Clark A. An evaluation of the applicability of quantitative clinical standards for the management of genital chlamydial infection using an electronic database, *International Journal of STD & AIDS*, 2002;13: 378-383.
- Oxman AD, Scott EAF, Sellors JW et al. Partner notification for sexually transmitted diseases: an overview of the evidence. *Canadian Journal of Public Health* 1994, 85 (suppl.): 541-547.
- Potterat JJ, Meheus A, Gallwey J. Partner notification: operational considerations. *International Journal of STD & AIDS* 1991; 2: 411-415.
- Ross MW, Channon-Little LD, Rosser BRS. *Sexual Health Concerns: Interviewing and History Taking for Health Practitioners*. Sydney, McLennan & Petty, 2000.
- Serpaggi et.al. Sexually transmitted acute infection with a clustered genotype 4 hepatitis C virus in HIV-1-infected men and inefficacy of early antiviral therapy. *AIDS*. 20(2):233-240, 2006
- World Health Organization (Global Programme on AIDS and Programme of STD). Consensus Statement from Consultation on Partner Notification for Preventing HIV Transmission. Geneva, 1989.

# APPENDIX D USEFUL RESOURCES & WEBSITES

## **Australian Government Department of Health and Ageing**

Download Australian national initiatives from:

[www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pubhlth-strateg-hiv\\_hepc-hiv-index.htm](http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pubhlth-strateg-hiv_hepc-hiv-index.htm)

- National Sexually Transmissible Infections Strategy 2005-2008
- National HIV/AIDS Strategy 2005-2008: Revitalising Australia's Response
- National Hepatitis C Strategy 2005-2008
- National Aboriginal and Torres Strait Islander Sexual Health and Blood Borne Virus Strategy 2005-2008
- National Communicable Diseases Surveillance Strategy (PDF 150KB)
- National Drug Strategy

**Auckland Sexual Health Service** [www.sexfiles.co.nz/](http://www.sexfiles.co.nz/)

## **Australasian Chapter of Sexual Health Medicine, RACP**

Includes clinical services and training. [www.racp.edu.au/public/sexualhealth.htm](http://www.racp.edu.au/public/sexualhealth.htm)

## **Australasian Society for HIV Medicine (ASHM)**

Provides clinical guidelines, resources and training.

[www.ashm.org.au](http://www.ashm.org.au)

## **Australian Federation of AIDS Organisations (AFAO)**

Provides education, policy and advocacy

[www.afo.org.au/](http://www.afo.org.au/)

**Australian Injecting and Illicit Drug Users League (AIVL)** [www.aivl.org.au/default.asp](http://www.aivl.org.au/default.asp)

**Federal Privacy Commissioner** [www.privacy.gov.au](http://www.privacy.gov.au)

**FPA Pre-test & Post-test Counselling Guide for GPs** <http://www.ashm.org.au/uploads/File/fpa-counselling-guide.pdf>

**Gold Coast Sexual Health Clinic** [www.health.qld.gov.au/sexhealth/help/Gold\\_Coast.shtml](http://www.health.qld.gov.au/sexhealth/help/Gold_Coast.shtml)

## **HIV, Hepatitis & STI Education and Resource Centre**

online resources and factsheets [www.accessinfo.org.au](http://www.accessinfo.org.au)

**Melbourne Sexual Health Centre** [www.mshc.org.au/](http://www.mshc.org.au/)

**Multicultural HIV/AIDS and Hepatitis C Service (MHAHS)** [www.multiculturalhivhepc.net.au/](http://www.multiculturalhivhepc.net.au/)

## **National Aboriginal Community Controlled Health Organisation (NACCHO) GP Network**

[www.naccho.org.au/gphome.html](http://www.naccho.org.au/gphome.html)

**National Association of People Living with HIV/AIDS (NAPWA)** [www.napwa.org.au/](http://www.napwa.org.au/)

## **National Centre in HIV Epidemiology and Clinical Research**

(up-to-date surveillance data and reports) [www.med.unsw.edu.au/nchechr](http://www.med.unsw.edu.au/nchechr)

## **Notifiable diseases**

For information on nationally notifiable diseases (nndss):

[http://www.health.gov.au/internet/wcms/publishing.nsf/content/nationally%20notifiable%20diseases%20\(nndss\)-2](http://www.health.gov.au/internet/wcms/publishing.nsf/content/nationally%20notifiable%20diseases%20(nndss)-2)

**RACGP & NACCHO GP Network article** [www.racgp.org.au](http://www.racgp.org.au)

**SHine SA - Sexual Health information networking and education:** [www.shinesa.org.au/](http://www.shinesa.org.au/)

**South Australia STD Services / Clinic 275** [www.stdservices.on.net/](http://www.stdservices.on.net/)

**Sydney Sexual Health Centre** [www.sesahs.nsw.gov.au/sydhosp/SSHC.asp](http://www.sesahs.nsw.gov.au/sydhosp/SSHC.asp)

# APPENDIX E SAMPLE CONTACT TRACING LETTERS

These samples should be modified to suit the needs of your particular patients and your organisation.

## BASIC CONTACT TRACING LETTER

Date: .....

The bearer is a contact of patient No: .....

Suffering from .....

and was treated with .....

.....

Thank you

.....

Sexual Health Service Provider (sign and print name)

SAMPLE

## MORE DETAILED CONTACT TRACING LETTER

Date: .....

Dear Doctor,

The bearer of this letter is a contact of patient No. .... who has been diagnosed with .....

May we suggest that you make an assessment for other sexually transmissible diseases, including urethral and/or rectal and/or pharyngeal swabs for gonorrhoea, genital and/or urine tests for *Chlamydia trachomatis*, other swabs as appropriate, and serology for syphilis, HIV and hepatitis B as indicated?

Our standard treatment protocol for this condition is: .....

.....

For this condition treatment of the sexual partner is/is not recommended irrespective of the results of tests. Abstinence from sexual intercourse is recommended until both partners have finished treatment. Condoms should be recommended with all new partners.

If you have any queries please don't hesitate to contact me.

Thank you

.....

Sexual Health Service Provider (sign and print name)

SAMPLE

## CHLAMYDIA CONTACT TRACING LETTER

Date: .....

Dear Doctor,

The bearer of this letter is a contact of patient No ..... who has been diagnosed with a

Chlamydia-associated condition, specifically: .....

Our patient has been treated with:

- Azithromycin 1g p.o. statim
- Doxycycline 100mg bd for 10 days
- Other regimen: .....

May we request that you make an assessment for sexually transmissible diseases, including genital, anal or urine tests for *Chlamydia trachomatis* and tests for gonorrhoea, syphilis, hepatitis B and HIV as indicated?

The majority of people who are Chlamydia contacts have no symptoms or abnormal physical findings. Nevertheless, these contacts are at risk of complications such as pelvic inflammatory disease, epididymitis, and Reiter's Syndrome. Also, although current tests can usually exclude Chlamydia, they do not exclude other potential pathogens e.g. *Mycoplasma genitalium* and *Ureaplasma urealyticum*.

For these reasons, we routinely treat people who have been in contact with a Chlamydia-associated condition. Abstinence from sexual intercourse is recommended until both partners have finished treatment or until seven days after a dose of Azithromycin. Condoms should be recommended with all new partners.

In the case of healthy pregnant female contacts, a 7–10 day course of Amoxicillin (A) 500mg qid is considered a safe treatment for uncomplicated Chlamydia infection. Azithromycin (B1) 1g po statim may be a safe alternative but studies in pregnancy have been limited.

If you have any queries please don't hesitate to contact me.

Thank you

.....  
Sexual Health Service Provider (sign and print name)





