

Extract from...

Infection Control Guidelines

November 2001



Queensland
Government
Queensland Health

APPENDIX P4: Management of infected health care workers

MANAGEMENT OF HUMAN IMMUNODEFICIENCY VIRUS (HIV), HEPATITIS B VIRUS, AND HEPATITIS C VIRUS INFECTED HEALTH CARE WORKERS (2001)

This policy must be brought to the attention of new and existing health care workers including visiting medical officers and contractors.

1. PURPOSE

To protect patients from the risk of transmission of a blood borne virus from a health care worker and to provide health care workers with a safe working environment.

2. PRINCIPLES

This Policy has been developed in accordance with the following principles:

- Queensland Health and individual health care workers owe a duty of care to their patients.
- Under the general law and the Workplace Health and Safety Act 1995 (Qld):
 - a) Queensland Health, as an employer, has a legal obligation to ensure workplace health and safety of employees and visitors; and
 - b) health care workers, as employees, have a legal obligation to comply with their employer's reasonable instructions, including instructions for workplace health and safety, and not to wilfully place at risk the workplace health and safety of any other person in the workplace.

3. DEFINITIONS

Blood borne virus

For the purpose of this Policy, the term blood borne virus includes human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV).

Health care workers

Persons (including students) involved in the delivery of health services in health facilities (particularly where those persons have regular contact with patients or any contact with the blood or body substances from patients).

Health facilities

Those hospitals, community health centres and other public health care facilities in which health services are delivered by Queensland Health through its District Health Services.

Advisory Panel

A panel of experts established by Queensland Health for the purposes of providing advice on matters arising out of this Policy. The membership, terms of reference and general operation of the Advisory Panel are set out in detail in Appendix III of this document.

Significant exposure

A significant occupational exposure to blood and body substances includes needlestick injuries where deep penetration through skin or mucous membrane, injection of blood or large bore hollow needles are involved.

A significant non-occupational exposure to blood and body substances may include needle sharing or unprotected sexual intercourse with an individual with HIV, Hepatitis B, or Hepatitis C or with a person at increased risk of HIV, Hepatitis B or Hepatitis C.

Exposure prone procedure

Invasive procedures include any surgical entry into tissue, body cavities or organs, or repair of traumatic injury. Exposure prone procedures are a subset of invasive procedures which are characterised by the potential for direct contact between the skin (usually finger or thumb) of the health care worker and sharp surgical instruments, needles, or sharp tissues (spicules of bone or teeth) in body cavities or in poorly visualised or confined body sites (including the mouth).

Procedures where the hands and fingertips of the worker are visible and outside the patient's body at all times, and internal examinations/procedures that do not require the use of sharp instruments are not considered to be exposure prone and thus are unlikely to pose a risk of transmission of HIV, HBV or HCV from infected health care worker to patient.

Exposure prone procedures have been associated with transmission of HIV, HBV from Hepatitis B e antigen positive and negative, HCV from HCV PCR (polymerase chain reaction) positive health care workers to patients, despite the health care worker's adherence to standard infection control procedures (Appendix II, at the end of this document).

Where there is uncertainty about the application of any of these defined terms (eg. whether certain procedures are exposure prone, or whether a particular incident of exposure to blood and body substances is significant), the matter may be referred to the Advisory Panel.

4.0 POLICY

4.1 Immunisation for HBV

Queensland Health care workers whose occupation poses a potential risk of exposure to blood or body fluids must be immunised against Hepatitis B according to NHMRC and the Queensland Health Infection Control Guidelines. Hepatitis B immunisation will be a condition of employment for Queensland Health care workers who have direct patient contact (e.g. medical officers, nurses and allied health staff) as well as those staff who in the course of their work may be exposed to blood or body fluids such as (but not confined to) plumbers and gardeners who may be exposed to contaminated sharps. It is expected that the administration of institutions will apply this policy within reasonable boundaries, keeping the staff member's welfare in mind. The requirement for vaccination is not retrospective, although health care workers who are currently employed are encouraged to be vaccinated.

The following documents should be accessed for information regarding immunisation and post-exposure prophylaxis against HBV:

- Queensland Health Policy for Hepatitis B Immunisation
- Queensland Health Guidelines for Implementation of Queensland Health Policy for Hepatitis B (HBV) Immunisation in Relation to Health Care Workers

Health care workers who have had the full hepatitis B immunisation course should seek serological testing for HbsAb (hepatitis B surface antibody) so that non-responders can be alerted to the need for hepatitis B immunoglobulin after an occupational exposure. Routine boosters are no longer required.

4.2 Serological testing for HIV, HBV, HCV

- All health care workers should consider their individual risk of exposure to HIV, HBV and HCV and seek voluntary testing where appropriate.
- Health care workers involved in patient contact or contact with patient contaminated material (for example blood and other body fluids) must be aware of their HIV and HBV/HCV status by seeking serological testing every 12 months if they are:
 - a) Untested and presently performing exposure prone procedures;
 - b) about to commence performing exposure prone procedures;
 - c) performing exposure prone procedures and are involved in a significant exposure to blood and body substances.
- Supervisors of health care workers who perform exposure prone procedures must ensure that these health care workers are aware of this Policy; and that options for health care workers to undergo confidential serological testing are available. Serological testing may be provided by the health facility, or health care workers may choose to seek testing from their general practitioner, or elsewhere.
- Health facilities should aim to achieve voluntary compliance and self-disclosure by providing an environment in which the health care workers concerned are confident that confidentiality will be maintained and that they will not be discriminated against.
- It is not recommended, however, that health care facilities request evidence of compliance with the guidelines for serological testing for blood borne viruses.

Apart from the above circumstances, routine/regular testing of **all** health care workers for HIV, HBV or HCV is not justified due to the low risk of transmission (refer Appendix I, at the end of this document) from health care worker to patient if standard infection control precautions (refer Appendix II - at the end of this document) are adhered to.

4.3 Management of a health care worker's occupational exposure to HIV/HBV/HCV

- Refer to the following document for more detailed information regarding management of occupational exposure to blood or body fluids:
 - Guidelines for the Management of Occupational and Non-occupational Exposures to Blood and Body Fluids
- Health care workers involved in a significant exposure should follow institutional protocols for exposure to blood and body exposures.
- Documentation of the exposure.
- The health care worker should be tested immediately after such exposure and retested twelve weeks after exposure or sooner if the health care worker suffers a period of illness.

- Where the source is known to be positive, additional screening of health care workers who perform exposure prone procedures will assist in decision making regarding treatment and recommendations regarding management of the health care worker (note this recommendation applies only to health care workers who perform exposure prone procedures):

Source is HCV antibody positive, test the health care worker for:

- HCV antibodies at six weeks, twelve weeks and six months following blood/body fluid exposure; and
- conduct nucleic acid amplification testing for the presence of HCV RNA 4-6 weeks following exposure

Source HBsAg positive, test the health care worker for:

- HBsAg at six weeks, twelve weeks and six months following the blood/body fluid exposure.
- In the event that the health care worker is a non-responder to HBV immunisation, seek expert advice regarding more frequent testing to alert possible seroconversion.

Source is HIV antibody positive, test the worker for:

- HIV antibody at six weeks, twelve weeks and six months following blood/body fluid exposure

Refer concerns to the Advisory Panel.

4.4 Responsibilities of HIV/HBV/HCV infected health care workers

- Infected health care workers like all health care workers must strictly adhere to standard infection control precautions (refer Appendix II).
- Health care workers are under no legal obligation to inform their supervisor of their HIV/HBV/HCV status. However, it is desirable that the infected health care worker does so in order that:
 - a) action can be taken to ensure that the duty of care to patients is not breached; and
 - b) the health and safety in the workplace of the health care worker and their co-workers can be maximised.

Therefore, health care workers should advise their supervisor if they are HIV/HBV/HCV positive and are, or have been, performing exposure prone procedures.

Where a health care worker discloses their HIV/HBV/HCV status to a supervisor, the supervisor must treat their disclosure with due regard to the health care worker's right to confidentiality.

- **Health care workers who are:**
 - **Hepatitis C antibody and PCR positive;**
 - **Hepatitis B e antigen or HBV DNA positive; or positive by nucleic acid amplification technique; or**
 - **HIV antibody positive**

(as determined by laboratory tests performed on two separate occasions) must not perform exposure prone procedures.
- It is **not** recommended that health care workers disclose their HIV/HBV/HCV status to patients. The reasons for this are:
 - a) Patients, like health care workers, are best protected from exposure to HIV, HBV and HCV by adoption of appropriate infection control practices;
 - b) there is no onus of confidentiality on the part of the patient;
 - c) a policy of providing a right for a patient to be informed of the health care workers HIV, HBV and HCV status would send an erroneous message to the public concerning the risk of transmission between health care provider and patient.
- In the interest of their own health, HIV, HBV or HCV infected health care workers should seek appropriate **medical advice**. Health care workers may prefer to consult a medical practitioner outside their workplace, in regard to their clinical assessment and medical care and seek advice from that practitioner about their continued involvement in direct patient care. Health care workers should make their practitioner aware of the role of the Advisory Panel.
- Within the workplace, the infected health care worker may also seek confidential advice on infection control procedures, continued involvement in patient care, matters of confidentiality, and other issues from:
 - a) their supervisor; or
 - b) a designated **occupational health and safety** physician; or
 - c) an infectious disease physician; or
 - d) other recognised medical expert.
- Health care workers who believe that they cannot continue with their current duties should seek advice from their supervisor or the Advisory Panel on modification of duties.

4.5 Responsibilities of supervisors/health facilities in the management of infected health care workers

- Generally, Queensland Health would be under a legal duty of confidence in relation to the disclosure by a health care worker of their HIV/HBV/HCV status. Likewise, there is an obligation upon supervisors to whom a health care worker discloses their HIV/HBV/HCV status to maintain confidentiality in relation to the disclosure of that information. Maintaining confidentiality will in any case encourage health care workers to seek appropriate testing, counselling and treatment and disclose their serological status to their supervisors.

- Supervisors must ensure that all health care workers, including HIV/HBV/HCV infected health care workers, are:
 - capable of performing tasks adequately to the accepted professional standard
 - practising recommended techniques
 - complying with standard infection control precautions and adhering to approved guidelines for sterilisation and disinfection (refer Appendix II, at the end of this document).
- **Health facilities and supervisors must not allow health care workers who are:**
 - **Hepatitis C antibody and PCR positive;**
 - **Hepatitis B e antigen or HBV DNA positive; or positive by nucleic acid amplification technique; or**
 - **HIV antibody positive;**

(as determined by laboratory tests performed on two separate occasions) to perform exposure prone procedures. There are no other restrictions on work performed by infected health care workers.

- Supervisors must reassure infected health care workers that **their employment will be maintained**. Consistent with this Policy, however, the work practices of HIV/HBV/HCV infected health care workers may need to be modified. **Modifications to work practices** should be determined according to the following criteria:
 - fitness for work, mental and physical capabilities;
 - ability to perform routine duties;
 - competence and compliance with established guidelines and procedures;
 - increased risk of contracting/transmitting secondary infections, eg open tuberculosis; and
 - training and expertise of the infected employee.
- Any modification should provide infected health care workers with opportunities to continue their chosen work, where practical, or to obtain alternative career training (in a related field) or the person may choose to retire on the grounds of ill health. Modification of, or transfer from duties and retraining should be organised by the relevant supervisor in consultation with the health care worker and the Advisory Panel.
- The transfer of HIV/ HBV/ HCV infected health care workers from their roles in health care settings is not supported, except in accordance with this policy.
- Supervisors may wish to seek confidential advice and support for their decisions in relation to modification of the health care worker's work practices from the Advisory Panel. The health care worker's name should not be disclosed during this consultation.
- Where there is a dispute over the ability of an infected health care worker to continue with all or part of their duties the matter should be referred to the Advisory Panel and the health care worker should discontinue their normal duties pending resolution of the dispute, but continue to perform alternative/ other duties with full pay.


- In those rare cases where an HIV/ HBV/ HCV infected health care worker refuses to accept the advice of the Advisory Panel, the supervisor of the health care worker should notify the Director-General for further consideration. The health care worker should be made aware that an attending physician has a statutory duty to notify the Director-General, if they suspect the health care worker is infected with HIV/HBV/HCV. The Director-General, has certain procedures which Director-General can follow under s36 of the *Health Act 1937*.
- Health facilities must ensure that relevant personnel are available or accessible to all staff for the purpose of advising on **occupational health and safety** and **rehabilitation issues**.

4.6 Management of patient exposure to HIV/HBV/HCV during receipt of health care

- Following a specific incident, patients exposed to known HIV/HBV/HCV infected body fluids of a health care worker should be informed of the exposure by a medical officer with due regard to confidentiality of the health care worker who was the source of the body fluids.
- Documentation of the incident is essential, in accordance with institutional policy.
- Subject to the patient's consent, baseline serum should be collected from the patient and tested for the relevant blood borne virus. Expert counselling and reassurance regarding the implications of the event, post-exposure prophylaxis options and appropriate long-term follow-up should also be provided to the patient.
- Should the patient refuse both serum collection, testing and/or storage, they should sign a form to that effect. If they refuse to sign such a form, their refusal should be documented in the notes. In both circumstances, a patient should be assumed to be infected until proven otherwise.
- In the event of HIV, HBV or HCV seroconversion, blood should be obtained for strain analysis from both the patient and the source health care worker, subject to obtaining the consent of the respective parties.

4.7 Public health investigation

In situations where a supervisor or the Advisory Panel has been informed that a HIV/HBV/HCV infected health care worker has been involved in the performance of exposure prone procedures, the State Manager must be notified. The State Manager, Public Health Services, may instruct the Advisory Panel to coordinate an investigation of the extent to which the health of the public has been placed at risk and report their findings to the Director-General.



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General Manager (Health Services)
05/07/1999 (Revised October 2001)

Appendix I

Documented evidence of risk of transmission of HIV, HBV, HCV from health care workers to patients

HIV

At the time of this Policy's development, documented cases of transmission of HIV from health care worker to patient included: six patients of a Florida dentist^{xxiii} and one patient of a French orthopaedic surgeon^{xxiv}. In this case a look back investigation of patients treated by an HIV positive orthopaedic surgeon was undertaken. The surgeon was thought to have contracted HIV through performing a femoral prosthesis operation on a woman who had undergone a number of blood transfusions. Of 3000 patients treated by the surgeon, 968 (32%) were found and accepted a blood test. One patient was found to be infected. The surgeon recalled that this patient's operation had been long and haemorrhagic and that he had pierced his glove and injured his hand. Molecular analysis of the virus indicated similarities between that of the surgeon and the patient and that a great probability existed that transmission had occurred between the two. French authorities have recommended that seropositive surgeons refrain from practising invasive interventions and from complex procedures.

Apart from these cases the literature tends to highlight the low risk of transmission.^{xxv} A retrospective review of 612 patients treated by a HIV positive cardiothoracic surgeon was conducted in an attempt to identify any instance of viral transmission. A total of 189 (31%) patients received HIV testing and counselling. No positive test results were obtained.^{xxvi}

Results of a look back investigation of paediatric dental patients treated by a HIV positive dentist were consistent with a low risk of transmission of HIV during the provision of health care. Patients notified included those seen by the dentist from 6 months before his most recent negative HIV test to the time of serodiagnosis. Of the 1489 patients seen during this three year period, 966 (65%) were tested and all were found to be negative for antibody to HIV. The lack of transmission was attributed to the early stage of the disease, the adherence to infection control precautions, and the low percentage of invasive procedures.^{xxvii}

The literature suggests that the risk of transmission of HIV from health care worker to patient is low, however, in examining the evidence, the percentage of patients tested needs to be taken into account. It is considered that further study is required to more accurately quantify this risk to patients of contracting HIV from health care workers.

HBV

Transmission of hepatitis B virus to patients by infected surgeons who carry hepatitis B e antigen has been well documented. For example a thoracic surgery resident transmitted hepatitis B to 19 patients (13%) during cardiac transplantation operations. The surgeon was positive for hepatitis B e antigen and had a high serum HBV DNA concentration. Investigations identified no deficiencies in the surgeon's infection-control practices.¹

In the United Kingdom, hepatitis B e antigen positive surgeons are not permitted to perform certain procedures that carry a risk of exposing a patient to the blood of a health care worker. There are, however, no practice restrictions for carriers of hepatitis B surface antigen without detectable hepatitis B e antigen. Recent documentation of the transmission of hepatitis B to patients from four infected surgeons who were hepatitis B virus DNA positive by nucleic acid amplification without hepatitis B e antigen supports this policy's restriction of the practice of hepatitis B e antigen positive or hepatitis B DNA positive health care workers.²

HCV

The likelihood of transmission of HCV from health care worker to patient or other employee in the health care setting is very low. A recent report however, documented probable HCV transmission from a cardiac surgeon to five patients (from 222 susceptible patients), possibly associated with the glove perforation and skin piercing sustained while wiring the sternum at the end of open heart surgery.³ This procedure is clearly exposure prone.

As the evidence indicates, there have been few documented cases of transmission of blood borne viruses from health care worker to patient in the healthcare setting. However, all reasonable measures must be taken to ensure that patients in the health system are protected from the risk of acquiring life threatening infections as a consequence of their treatment, and that health care workers have a safe working environment.

Appendix II

Principles for prevention of occupational transmission of HIV and other blood borne viruses.

Standard infection control precautions and safe work practices (Adapted from NHMRC guidelines).

- Wash hands after patient contact, removing gloves. Wash hands immediately if hands contaminated with body substances.
- Wear gloves when contamination of hands with body substances is anticipated.
- Protective eyewear and masks should be worn when splashing with body substances is anticipated.
- Handle and dispose of sharps safely.
- Clean and disinfect blood/body substance spills with appropriate agents.
- Adhere to disinfection and sterilisation standards for reusable instruments.
- Regard all waste soiled with blood/body substance spills as contaminated and dispose of according to relevant standards.
- Vaccinate all clinical and laboratory workers against hepatitis B.
- Other measures where indicated: double-gloving, changing surgical techniques to avoid exposure prone procedures, use of needleless systems and other safer devices.

(Reference: Mitchell et al. HIV infection control in medical practice. *MJA* 1996; 165:86-9.)

Infection Control

Transmission of HIV, HBV, HCV and other blood borne viruses in the health care setting is minimised by strict adherence to standard infection control precautions (set out above) recommended procedures for sterilisation or disinfection of equipment.

Health facilities must have effective systems in place to ensure that:

- all new and existing staff are aware of this Policy;
- health care workers (including those with HIV, HBV or HCV infection) are fully informed about the infection risks involved in undertaking procedures;
- health care workers are fully informed about, and comply with recommended infection control procedures. This includes covering skin lesions, cuts or abrasions on exposed parts of the body with occlusive dressings; and
- health care workers comply with current guidelines for disinfection and sterilisation of reusable devices used in invasive procedures.

Health facilities are responsible for providing staff training to ensure proper understanding of standard infection control precautions and for implementing an effective monitoring system to ensure a high level of compliance with standard infection control precautions.

Appendix III

ADVISORY PANEL FOR HEALTH CARE WORKERS INFECTED WITH BLOOD BORNE VIRUSES

Indemnity for Panel Members

Indemnity cover is provided for the members of the Advisory Panel as follows.

- For those members of the Panel whose membership of the Panel is part of the duties or functions they are performing as health service employees or for or on behalf of a District Health Service or Public Health Unit, indemnity cover is provided under the terms of the Queensland Health Policy IRM 3.8-3 Legal Liability of Regional Health Authority Employees and Other Persons.
- For those members of the Panel whose membership of the Panel is directly related to their duties as a public service employee, indemnity cover is provided under the terms of the Cabinet Decision No. 37501 of 1982 entitled Crown Acceptance of Legal Liability for Action of Crown Employees.

Membership

- Chair - State Manager, Public Health Services
- A clinician with expertise in infection control and in particular, the risk of transmission of blood borne viruses (Infectious Diseases Physician, Clinical Microbiologist)
- Co-opt a member who is in the same medical/dental/nursing specialty area of expertise as the infected health care worker. (In the interests of natural justice and to determine exposure prone procedures)
- Co-opt as required: a lawyer with knowledge and experience in medico-legal matters or alternatively in the area of discrimination; a psychiatrist with experience in counselling of infected healthcare workers.
- Advocate of the health care worker (nominated by the health care worker).

- Executive support and epidemiological advice to be provided by the Communicable Diseases Unit, Queensland Health.

Proposed Terms of Reference

The tasks of the Advisory Panel are:

- To determine potential infectivity of person referred and degree of risk of transmission.
- To provide, on a case by case basis, advice on modifying work practices of infected health care workers.
- To provide advice on the application of any of the defined terms used in this policy.
- To provide supplementary specialist occupational advice to physicians of health care workers infected with blood borne viruses, occupational health and safety physicians and professional bodies.
- To advise individual health care workers, or their advocates, how to obtain guidance on work practices.
- To advise on look back exercises in respect of patients treated by a health care worker with a blood borne virus.
- To keep under review the literature on occupational transmission of blood borne viruses and refer any changes relevant to current Queensland Health policy.
- To report to the Director-General of Health through the State Manager, Public Health Services

Who may consult Panel:

Health care workers who may require specific advice include:

- the infected health care worker;
- the supervisor of the infected health care worker;
- the treating doctor of the infected health care worker;
- occupational health staff;
- infection control staff; and
- professional bodies.

In what circumstances:

Examples of situations in which advice may be sought:

- where there is some uncertainty about whether a particular procedure is an exposure prone procedure;
- disclosure of the health care worker's HIV/HBV/HCV status, to whom and when;
- management of the infected health care worker;
- infection control procedures;
- modification or transfer from duties;
- management of patient exposure to the blood of an infected health care worker;
- where an infected health care worker has been involved in the performance of exposure prone procedures; and
- follow up of a patient with a possible health care associated HIV, HBV or HCV infection.

It is recommended that the name of the infected health care worker not be disclosed when consulting the Advisory Panel. Information should be forwarded to the State Manager, Public Health Services who will remove all identifying information prior to presentation of a case to the Advisory Panel members.

How to access the Panel:

Matters to be referred to the Panel should be directed to the State Manager, Public Health Services, Queensland Health (07) 3234 1145.

For further information in regard to this Policy document, please call the Manager, Communicable Diseases Unit or the Infection Control Practitioner, Communicable Diseases Unit, Queensland Health on (07) 3234 1062 (Executive Secretary).

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