GUIDELINES FOR ORAL HEALTHCARE PRACTITIONERS INFECTED WITH BLOOD-BORNE VIRUSES

This 2nd edition Guidelines document was endorsed by members of the Malaysian Dental Council (MDC) at the 107th meeting of the MDC on 18 September 2014

FOREWORD
FROM THE PRESIDENT OF
THE MALAYSIAN DENTAL COUNCIL

Dental practitioners, dental students and allied dental personnel are at risk of diseases in course of their service. Community concern on the risk of acquiring blood-borne infections in healthcare settings has generated a review of infection control policies and procedures, and heightens awareness on the need for national guidelines for oral health care workers (OHCWs) who may be infected with human immunodeficiency virus (HIV), hepatitis B, hepatitis C, or other blood-borne viruses (BBVs).

Although transmission of blood-borne viruses from OHCWs to patients in the healthcare setting is extremely rare, appropriate measures must be taken to remove or minimise the patients' risk of acquiring life-threatening infections as a consequence of their treatment, and that OHCWs also have safe working environments.

All OHCWs should have access to regular confidential tests, and when needed, appropriate management and treatment of diseases caused by BBVs. OHCWs who perform exposure-prone procedures should be encouraged to have regular testing for BBVs.

This document provides the minimum recommended processes for the management of OHCWs infected with BBVs. It should be read with the Dental Act and its Regulations, the Code of Professional Conduct for dental practitioners, other Guidelines issued by the Council and any statute or statutory provisions in force. While some may view the document as limiting and restrictive, it is our professional duty and responsibility to give prime importance to the health and welfare of our patients, our staff and the public.

I take this opportunity to thank the working group and all others involved in the preparation of this document.

Datuk Dr Noor Hisham bin Abdullah

CONTENTS

APPENDICES

1. INTRODUCTION

Oral Healthcare Practitioners (OHCPs) have an ethical and legal responsibility to protect the health and safety of their patients and other Oral Healthcare Workers (OHCW) by preventing cross-infections. At the same time, OHCPs who are infected with blood borne viruses also have rights which must be protected.

The Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) may spread within the dental clinic. In 2006, the scope of the original guidelines for OHCP infected with Blood-Borne Viruses (BBV)[1] was expanded to include OHCPs infected with HIV.

In 2013, the Malaysian Dental Council (MDC) established a committee to review the guidelines taking into cognisance developments in the management of OHCPs infected with these viruses, the introduction of effective antiviral treatment regimens for the BBVs, and the dearth of evidence regarding transmission risks through occupational exposures. References were made to literature from the United Kingdom Department of Health, the United States Centre for Disease Control and the Australian Department of Health and Ageing [1,2,3,4,5].

[1] Malaysian Dental Council. Guidelines on Infection Control in Dental Practice, 2007

2. BACKGROUND

2.1 Risk of transmission

There is a recognised risk of transmission of HIV, HBV and HCV between patients and healthcare workers (HCW) **(Table 1).**

Table 1: Risk of transmission of BBV[1]

Virus	Risk of transmission (%)
HIV	0.04 – 0.40
HBV	0.51 – 13.19
HCV	0 – 2.25

Refer to Appendix C for tests for BBV Infections

The risk of transmission from patients to HCW is greater than the reverse. Worldwide, there have only been three reports of possible transmission of HIV from infected healthcare workers performing exposure prone procedures (EPP). Infections are transmitted through percutaneous or mucosal exposure to blood or body fluids. Percutaneous exposures are more likely to transmit infections than mucous membrane exposures.

The OHCP is at risk of transmitting BBV to patients when

a) he is infected with the BBV and has the virus circulating in his bloodstream
b) he is injured or has a condition that allows direct exposure of the patient to infected blood or body fluids, and
c) the injury mechanism or condition presents an opportunity for the OHCP's blood or body fluids to

directly contact a patient's mucous membranes, wound, or traumatised tissue (re-contact).

2.2 Infection Control

Infection control in dentistry focuses on standard precautions to reduce the risk of transmission of pathogens in blood and other body fluids between OHCW and patients.

Standard precautions are based on the concept that all blood and body fluids, secretions, and excretions except sweat (regardless of whether they are contaminated with blood or otherwise) be treated as infectious when it comes into contact with non-intact skin and/or mucous membranes. This is because patients with blood-borne infections may be asymptomatic or unaware that they are infected or they may fail to inform the OHCW.

Standard precautions are procedure-specific and not patient-specific. This means that the same set of infection control measures should be taken for each type of procedure irrespective of the status of the patient. Additional precautions are not required when managing patients known to be infected with blood-borne viruses such as HIV, HBV and HCV.

2.2.1 Standard Precautions

i) Hand washing is the most critical infection control measure to reduce the risk of transmitting organisms between patients and OHCW. Use the correct technique to wash hands, before and after each patient and before putting on and after removing gloves.

ii) Gloves should be worn whenever there is contact with skin and mucous membranes and must be changed between patients.
iii) OHCW must take care at all times to prevent injury to their hands which could result in non-intact skin.
iv) OHCW with non-intact skin (wounds, skin lesions) on their hands must cover all breaks in the skin with waterproof dressings before putting on gloves (especially before performing a procedure). Two gloves can be used if the hands are extensively affected. OHCW should however avoid invasive procedures or procedures involving the use of sharp instruments if their skin lesions are active, or if there are extensive breaks in the skin surface.
v) Protection of the membranes of the eyes, mouth and nose from blood and body fluid splashes is especially important. Personal protective equipment (gowns, gloves, masks, protective eyewear) must be used when appropriate. Open footwear should not be worn in situations where blood may be spilt, or where sharp instruments are handled.
vi) Spillages of blood and other body fluids must be cleared up promptly according to established protocols.
vii) Approved procedures must be followed for treatment room disinfection after each patient.
viii) Approved procedures must be followed for sterilisation and disinfection of instruments and equipment.
ix) Approved procedures must be followed for safe disposal of contaminated waste.
x) In the event of an Exposure Incident, the protocol for its management **(Appendix A)** must be followed.
xi) All OHCW should be vaccinated against Hepatitis B **(Appendix B).**

2.2.2 Precautions during Surgical Procedures

i) Use alternatives to needles and other sharps (e.g. adhesive tape, staples, or glue for wound closure and electrocautery instead of scalpels) where possible.
ii) Use sharps with injury prevention features (e.g. dental local anaesthetic safety needles, and retractable safety scalpel).
iii) Use instruments rather than hands for retracting and exploring tissue.
iv) Avoid the simultaneous presence of the hands of two or more surgeons in the operating field;
v) When using sharps, exercise particular care in handling and disposal, follow approved procedures and uses approved sharps disposal containers.
vi) Transfer sharp instruments between personnel in such a way that only one person touches the instrument at any time, usually using a neutral zone (e.g., emesis basin or Mayo stand) from which instruments can be retrieved.

3. DEFINITIONS

Oral Healthcare Worker means any dental surgeon, dentist, dental nurse/therapist, dental surgery assistant or dental technologist/technician.

Oral Healthcare Practitioner means any dental surgeon, dentist or dental nurse/therapist.

Infected Oral Healthcare Practitioner means any Dental surgeon, dentist or dental nurse who is infected with a blood-borne virus. All OHCPs who have the serological status **(Table 2)** are considered to be infected with the respective diseases.

Table 2: Type of infection in relation to serological status[6]

SEROLOGICAL STATUS	TYPE OF INFECTION
Anti-HIV positive	Human Immunodeficiency Virus (HIV)
HBsAg positive	Hepatitis B Virus (HBV)
HCV RNA positive	Hepatitis C Virus (HCV)

Refer to Appendix C for Tests for BBV Infections

Blood-Borne Viruses (BBV) means viruses which are considered transmissible by blood or other body fluids, and include HIV, HBV and HCV.

4. PROCEDURE CLASSIFICATION

Dental procedures can be classified according to whether they are exposure prone and/or invasive (definitions below), depending on the risk of exposure of open tissues to the foreign blood. Exposure prone procedures are further sub-classified into 3 categories according to the risk of exposure.

4.1 From the OHCP Perspective

4.1.1 Non-exposure prone procedures

Procedures where the hands and fingertips of the OHCP are visible and outside the patient's body at all times, and procedures or examinations which do not involve possible injury to the OHCP's gloved hands from sharp instruments and/or tissues. This is provided routine infection control procedures are adhered to at all times. Examples of non-exposure prone procedures are:

- Verbal consultation
- Oral health education
- Examination using a mouth mirror only
- Taking extra-oral radiographs
- Visual examination and palpation of the head and neck
- Visual examination and palpation of the edentulous mouth
- Denture construction for edentulous patients
- Post mortem examination
- Excision of small benign lesions on the skin
- Minor surface suturing of the skin
- Incision and drainage of extra-oral abscesses
- Venepuncture
- Setting and maintaining IV lines

4.1.2 Exposure Prone Procedures

Procedures where there is a risk of injury to the OHCP and which may result in the exposure of the patient's open tissues to the blood of the OHCP (bleed-back). These include procedures where the OHCP gloved hands may be in contact with sharp instruments, needle tips or sharp tissues (e.g. spicules of bone or teeth) inside the patient's oral cavity, and where the hands or fingertips may not be completely visible at all times. There are three categories of exposure prone procedures, each with increasing risk of bleed-back.

Category 1: Procedures where hands and fingertips of the OHCP are usually visible and outside the body most of the time and the possibility of injury to the OHCP's gloved hands from sharp instruments and/or tissues is slight. This means that the risk of the OHCP bleeding onto a patient's open tissues would be minimal.

Category 2: Procedures where the fingertips may not be visible at all times but injury to the OHCP's gloved hands from sharp instruments and/or tissue is unlikely. If injury occurs it is likely to be noticed and acted upon quickly to avoid the OHCP's blood contaminating a patient's open tissues.

Category 3: Procedures where the fingertips are out of sight for a significant part of the procedure, or during certain critical stages, and in which there is a distinct risk of injury to the OHCP's gloved hands from sharp instruments and/or tissues. In such circumstances it is possible that exposure of the patient's open tissues to the OHCP's blood may go unnoticed or would not be noticed immediately.

Examples of exposure prone procedures are:

- Examination using a probe
- Fluoride application
- Fissure sealant application
- Denture construction for partially dentate patients
- Taking intra-oral radiographs
- Local anaesthetic injections
- Restoration of teeth (including crown and bridge preparations)
- Endodontics
- Ultrasonic scaling
- Orthodontics
- Excision of small benign lesions on the lips
- Minor surface suturing of the lips
- Extraction of teeth
- Manual scaling
- Dental wiring procedures for maxillofacial trauma (e.g. placement of arch bars, eyelet wires)
- All minor intra-oral surgical procedures (excluding minor lip procedures)
- All major intra-oral and extra-oral surgical procedures

4.2 From the Patients' Perspective

4.2.1 Non-invasive Procedures

Any procedure that does not result in a break in the oral or facial soft or hard tissues of the patient.

4.2.2 Invasive Procedures

Any procedure that results in a break in the oral or facial soft or hard tissues of the patient.

Invasive procedures, especially those which are exposure prone, are more likely to result in exposure of the patient to the OHCP's blood and are therefore more likely to result in transmission of blood-borne infections from an infected OHCP to the patient.

The majority of procedures in dentistry are exposure prone. For example, taking impressions from dentate or partially dentate patients would be considered exposure prone, as would lifting of partial dentures and removable orthodontic appliances, and removal of fixed orthodontic appliances because the clasps and other metal pieces could result in injury to the OHCP.

In general dental practice, procedures which are considered exposure prone usually fall into Categories 1 or 2. Most Category 3 procedures are hospital-based procedures.

5. THE DUTIES AND OBLIGATIONS OF ALL OHCPs

1. OHCPs who perform clinical work have a duty to keep themselves informed and updated on the Codes of Professional Conduct and other guidelines laid down by the MDC.

2. OHCPs have an ethical and legal obligation to protect the health and safety of their patients, their co-workers and themselves, and if they are employees, to co-operate with their employer in such matters.

3. OHCPs have an ethical obligation to know their infection status with reference to HIV, HBV and HCV **(Appendix C).**

4. OHCP who have had an exposure incident or who believe that they might have been exposed to a BBV by other means, must without delay seek and follow expert advice on whether they should be tested for BBV infection. Failure to do so may be considered a breach of duty of care to patients.

6. THE RESPONSIBILITIES OF EMPLOYERS AND TRAINING INSTITUTIONS

1. Employers in the healthcare setting should ensure that new and existing staff (including locum staff and visiting healthcare workers) are aware of these guidelines and the MDC Code of Professional Conduct regarding ethical responsibilities. This may include issuing regular reminders.

2. Employers must ensure that their employees:
   - are trained and practise standard precautions when managing their patients; and
   - know the risk of transmission of BBV infections in the clinic.

3. Dental and nursing schools, colleges and universities shall ensure that their students are briefed on these guidelines and other relevant professional statements. Each training establishment should nominate an officer with whom students may discuss their concerns in confidence. In addition, all students should be appropriately trained in procedures and precautions to minimise the risk of occupational transmission. All these issues **should be completed before there is clinical contact with patients**.

4. Patient safety and public confidence are of paramount concern and dependent on the infected OHCP observing his duty of self-declaration to the MDC and a Responsible Physician. Employers should promote a climate that encourages such confidential disclosure.

5. Where an employer or member of staff is aware of the health status of an infected healthcare worker, there is a duty to keep such information confidential. They are not legally entitled to disclose the information unless the infected individual consents, or in exceptional circumstances where it is considered

necessary for the purpose of treatment, or prevention of spread of infection. Any such disclosure may need to be justified.

6. Employers should assure the infected OHCW that their status and rights as employees will be safeguarded so far as is practicable, and where necessary, make an effort to arrange suitable alternative employment and retraining opportunities.

7. It is unjust to discriminate against disabled persons including those with symptomatic BBV infection in any area of employment. However the employer may under special circumstances because of a material and substantial reason, have justification to restrict the function of such a worker for the purpose of protecting patients from risk of infection.

7. THE ROLE AND RESPONSIBILITIES OF THE RESPONSIBLE PHYSICIANS

1. The 'Responsible Physicians' are the physicians who manage the OHCP's BBV infection and advise on matters relating to his practice. They may include:
   - the infected OHCP's personal Physician; and/or
   - the Physician chosen by the Expert Review Panel.

2. It is important that infected OHCP receive the same rights of confidentiality as any patient seeking or receiving medical care. The Responsible Physicians, who should adhere to the strict guidelines on confidentiality, have a key role in this process, since they are able to act as an advocate for the OHCP and advisor to the employing authority.

3. The Responsible Physician should send a report on the Infected OHCP's infection status to the MDC only with the consent of the OHCP, when requested to do so for material or substantial reasons.

4. There are occasions when an employer may need to be advised that a change in duties should take place. The OHCP's infection status itself would not normally be disclosed without the OHCP's consent. However it may become necessary in the public interest for the employer and the MDC to have access to confidential information where patients are, or may have been, at risk.

5. The Responsible Physicians can advise on issues of retraining and redeployment, or, if indicated, medical retirement.

8. FITNESS TO PRACTISE PANEL

1. A Fitness to Practise Panel (FPP) shall be established:
   - If advice is needed about the fitness to continue clinical practice or working practices of an infected OHCP;
   - When the general guidelines in this document cannot be applied to an individual case;
   - If consideration for a patient notification exercise is warranted; or
   - Under other special circumstances.

   The need for patient notification exercise
   - The FPP will decide whether a patient notification exercise should be carried out.
   - When a patient notification is to be carried out it is the responsibility of the FPP to decide, on a case-to-case basis, how far back records should be located.
   - The overall objective of patient notification exercise is to identify the patients that were at risk of exposure to the infected OHCP's blood during exposure prone procedures. These patients should be contacted, counselled and tested.
   - Neither the OHCP nor his physician should make the decision about whether a patient notification exercise should be carried out.

2. The members of the FPP will be appointed by the Council, and shall consist of:
   - Two medical practitioners, one of whom shall be a specialist: and
   - One dental practitioner.

3. The FPP may seek the opinion of
   - An Occupational Health specialist;
   - An Infection Control expert;
   - A Public Health Specialist; or
   - Other dental practitioners.

4. The FPP may seek the opinion of any other experts including the infected practitioner's personal physician.

5. The FPP shall determine any limitation or restriction on the OHCP's practice necessary to protect the public while enabling the OHCP to remain in the profession. The recommendations of the FPP should depend, among other things, on the following:
   - the specific infection and viral load
   - the risks involved in the various professional activities with special reference to exposure-prone procedures
   - procedural techniques
   - the skill and experience of the OHCP
   - evidence of prior transmission
   - compliance with standard precautions, infection control measures and other risk reduction procedures
   - the likelihood of compliance with the recommendations on limitation of practice
   - the mental and physical state of the practitioner, and
   - relevant ethical principles.

6. The recommendations of the FPP should reach the President of the MDC within one (1) month of the appointment of the panel.

7. The infected OHCP may appeal to the MDC for variation of the restrictions at any time.

9. THE DUTIES AND OBLIGATIONS OF THE INFECTED OHCP

1. The infected OHCP must not rely on his own assessment of the risk he poses to patients.

2. Infected dental surgeons and dentists must inform the Registrar of the MDC of their infection status. If they fail to do so, it will be considered a serious breach of the Code of Professional Conduct.

3. Infected dental nurses or therapist must inform the Director of the Oral Health Division (OHD)/ Registrar of the Dental Therapists' Board of their infection status. If they fail to do so, it will be considered a serious breach of ethics and disciplinary action may be taken.

4. The infected OHCP must promptly place himself under the care of a physician.

5. If the infected OHCP is believed to have performed exposure prone procedures after being infected, then the OHCP or the responsible physician should, without delay inform the Registrar of the MDC on a strictly confidential basis.

6. The President of MDC shall make an appraisal of the situation and decide whether a patient notification exercise should be considered and if so, to refer the matter to the FPP.

7. The final decision about the scope of practice of an infected practitioner will be made on a case-to-case basis by the FPP, taking into account the specific circumstances listed in Section 7.

10. PRACTICE MANAGEMENT

1. The Infected OHCP who may want to continue clinical practice must be referred to the FPP (refer section 7).

2. Procedures which are exposure prone must not be performed whilst awaiting the decision of the FPP (refer Section 3). There is no restriction on infected OHCPs performing procedures which are non-exposure prone.

3. **Infected OHCPs with high risk of transmitting the infection (Table 3) shall not be allowed to perform any exposure prone procedures** (refer Section 3) because of the risk of transmitting the infection (Section 1.2 – Table 1).

   As most dental procedures are exposure prone, these practitioners **should be advised to cease clinical practice**.

Table 3: Criteria Showing High Risk of Transmission[6]

TYPE OF INFECTION	CRITERIA
HIV	Anti-HIV positive
HBV	HBsAg positive and HBeAg positive, or HBsAg positive and HBeAg negative with HBV DNA $\geq 10^3$ copies/ml
HCV	HCV RNA positive by PCR HCV RNA by PCR status yet to be determined HCV RNA positive and who has undergone viral therapy and has not achieved a Sustained Virological Response

Refer to Appendix C for Tests for BBV Infections

4. **Infected OHCPs with low risk of transmitting the infection (Table 4) may be allowed to continue limited practice** under recommendations by the FPP.

Table 4: Criteria showing Low Risk of Transmission[6]

TYPE OF INFECTION	CRITERIA
HIV	Under Antiretroviral Therapy (ART)
HBV	HBsAg positive, HBeAg negative and in whom HBV DNA $<10^3$ copies/ml
HCV	HCV RNA positive and who has undergone viral therapy and has achieved a Sustained Virological Response (HCV RNA negative at 6 months after completion of therapy)

Refer to Appendix C for Tests for BBV Infections

These practitioners

a) may be allowed to perform all procedures provided they comply with recommended surgical or dental techniques and standard precautions.

b) must remain under regular medical supervision and follow any advice given; they will be continually monitored and assess to note any changes in their transmission status which might pose a threat to patients.

c) The infected OHCP must send his medical reports to the MDC or the Oral Health Division, Ministry of Health (OHD). If there are any changes, the MDC or the OHD must then decide whether the practitioner can continue practicing and may seek the opinion of the FPP on this issue.

5. The MDC and the OHD together with the relevant agencies shall take an active role in overseeing the OHCP's practice, as this is part of their obligation to regulate their members for the protection of the public.

6. Once any OHCP has a symptomatic BBV disease, closer and more frequent medical supervision is necessary. As well as providing support to the OHCP, the aim is to detect at the earliest opportunity any physical or psychological impairment which may render the OHCP unfit to practice, or may place their health at risk.

11. CONFIDENTIALITY CONCERNING THE INFECTED OHCW

1. There is a duty to preserve the confidentiality of medical information and records. Breach of this duty can be damaging to the individuals concerned, and it undermines the confidence of the public and the OHCW who come forward for examination or treatment.

2. Every effort should be made to avoid disclosure of the infected OHCW's identity, or information which would allow deductive disclosure. The use of personal identifiers in correspondence and requests for laboratory tests should be avoided and care should be taken to ensure that the number of people who know the worker's identity is kept to a minimum. Any unauthorised disclosure about the BBV status of an employee or patient constitutes a breach of confidence and may lead to disciplinary action or legal proceedings. Employers should make this known to staff to deter open speculation about the identity of an infected OHCW.

3. The duty of confidentiality, however, is not absolute. Legally, the identity of infected individuals may be disclosed with their consent, or **without consent in exceptional circumstances**, where it is considered necessary for the purpose of treatment, or prevention of spread of infection. Any such disclosure must be justified.

4. The duty of confidentiality still applies even if the infected OHCW has died, or has already been identified publicly.

12. RECOMMENDATIONS FOR OTHER INFECTED OHCW

1. If an OHCW who assists in clinical work (e.g. dental surgery assistant, dental attendant or dental technologist) is infected, he must inform the person-in-charge of the clinic or his employer of his infection status. Failure to do so is considered a serious breach of ethics for which disciplinary action may be taken.

2. The person-in-charge of the clinic or the employer, who is aware of the health status of an infected healthcare worker, has a duty to keep any such information confidential. They are not legally entitled to disclose the information unless the individual consents, or in exceptional circumstances where it is considered necessary for the purpose of treatment, or prevention of spread of infection. Any such disclosure may need to be justified.

3. In the normal course of events there is no risk of transmission of infection from these infected OHCW and therefore the infected OHCW may be allowed to continue working as long as there is no physical or psychological impairment which may render him unfit to perform his duties, or may place his health at risk.

4. The person-in-charge or employer shall determine whether the infected OHCW can continue clinical work, so as to enable the OHCW to remain in the profession while protecting the public. His decision will depend, among other things, on the following:
   - the skill and experience of the OHCW
   - evidence of prior transmission
   - compliance with standard precautions, infection control measures and other risk reduction procedures
   - the mental and physical state of the OHCW
   - relevant ethical principles.

5. Based on these guidelines, the person-in-charge or employer will ensure that there is no risk of transmission of the infection to their patients or other OHCW. If there are any doubts, he should seek the advice of the MDC or the Director of Oral Health.

6. Once any OHCW has a symptomatic BBV disease, closer and more frequent medical supervision is necessary. As well as providing support to the worker, the aim is to detect at the earliest opportunity any physical or psychological impairment which may render a worker unfit to practice, or may place their health at risk.

13. RECOMMENDATIONS FOR INSTITUTIONS OF HIGHER EDUCATION
(Dental faculties/schools and the dental training colleges)

Chronic BBV infection in itself may preclude the practice or study of medicine, surgery, dentistry or all allied health profession. Standard precautions should be adhered to rigorously in all healthcare settings for the protection of both patients and providers.

Existing students/trainees who are infected with a BBV should be counselled and given options.

Appendix A

EXPOSURE INCIDENT MANAGEMENT

1. Definition

An exposure incident is defined as an exposure to blood or body fluids which may place an OHCW at risk of HIV/ HBV/ HCV infection and for which Post-Exposure Prophylaxis (PEP) may be considered.

2. Prevention

Ensure that OHCW are educated on preventive measures. This includes work practices to prevent exposure incidents before, during and after all procedure.

Have a Hepatitis B vaccination programme for all staff.

3. Exposure incidents

Examples of exposure incidents are

- Percutaneous injury (e.g. needle stick)
- Contact of mucous membrane with blood
- Contact of non-intact skin with blood
- Contact of intact skin with blood when
  - the duration of contact is prolonged (e.g. several minutes or more)
  - it involves an extensive area

4. Treatment of exposure site

Decontaminate exposure site immediately. For skin exposures, wash with soap and water, and for mucus membrane exposures, flush with water.

There is no evidence that the use of antiseptics or expressing fluid by squeezing the wound further reduces the risk of transmission of blood borne pathogens.

5. Documentation

The following information is important for the subsequent management of the exposure.

- Date and time of exposure
- Details of the procedure being performed
  - what procedure was being performed when the exposure occurred
  - where and how the exposure occurred
  - when the exposure involves a sharp device, type and brand of the device and how and when during its handling the exposure occurred.
- Details of the exposure
  - For a percutaneous injury
    - the depth of the wound
    - the gauge of the needle
    - whether fluid was injected
  - For a skin or mucous membrane exposure
    - the estimated volume of material
    - the duration of the contact
    - the condition of the skin (e.g. chapped, abraded, or intact)

6. Evaluation and testing of exposure source

A proper history taking may detect a high risk infected source.

- If the infection status of the source is not known, the source is informed of the incident and consent for testing is taken. Testing is done preferably on the day of the incident. Confidentiality must always be maintained. If the source is sero-negative and with no clinical symptoms, no further testing is done.

- If the source is unknown, prevalence of HIV/ HBV/ HCV in the population, type of exposure, and type of contamination on device implicated and risk associated with exposure should be assessed.

7. Identification of Physician

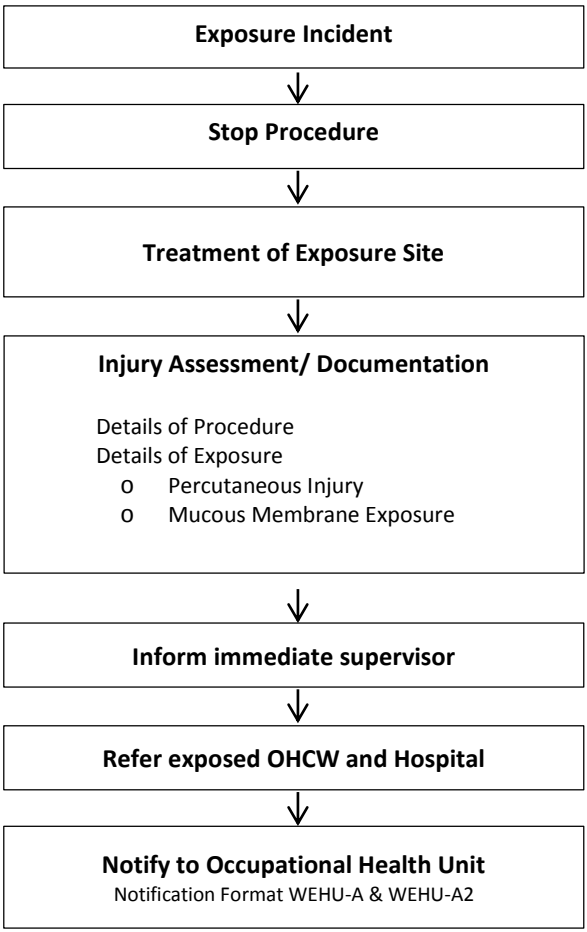
A physician shall be identified who is qualified to provide counselling and perform all medical evaluations and treatment in accordance with current recommendations.

8. Evaluation and baseline testing of exposed OHCP

The exposed OHCP should be referred to the identified physician and should be evaluated within hours.

- Baseline testing should be done if indicated and consent is taken.
- If the source is negative and not in the high risk group, baseline testing and follow-up is usually not necessary.
- If the source is negative, but in the high risk group or if the source is positive, baseline testing, evaluation and monitoring and follow-up testing of the OHCP must be carried out.
- The exposure shall be evaluated for its potential to transmit the virus and to assess the need for post-exposure prophylaxis medication (PEP)
- The exposed practitioner should receive his results and the source test results, with confidentiality always being maintained.

Management of Exposure Incident*



**Source: Guidelines on Infection Control in Dental Practice, MDC 2007*

Appendix B

Hepatitis B Vaccination

The Hepatitis B vaccination offers lifelong protection against Hepatitis B virus infection and therefore every OHCW should be vaccinated.

The vaccine is recommended for both pre-exposure and post-exposure prophylaxis.

Pre-vaccination testing is not necessary.

The vaccination regime consists of 3 intramuscular injections at 0, 1 and 4-6 months.

Post-vaccination testing is done 1 to 2 months after completion of the primary vaccine series.

Adequate levels of Hepatitis B surface antibody (anti-HBs) to the Hepatitis B surface antigen (HBs Ag) signify immunity to Hepatitis B infection.

Responders (protective antibody response) to the primary vaccine series are individuals whose anti-HBs levels are ≥10mIU/ml. In such individuals, no further doses or testing are indicated as there is lifelong protection.

Non-responders to the primary vaccine series are those individuals whose anti-HBs levels are <10mIU/ml. Such individuals need to be revaccinated with a revaccination series of 3 doses.

After revaccination, non-responders should be tested for HBs Ag and if positive are considered infected with the Hepatitis B virus. They should be referred for medical evaluation and counselling.

Those who are HBs Ag negative are considered susceptible to future Hepatitis B virus infection.

Pregnancy or lactation is **not** a contraindication to vaccination.

Appendix C

Testing for Blood-Borne Virus Infections

Hepatitis B

1. Antibody to Hepatitis B surface antigen (anti-HBs)

A positive result either from vaccination or from recovery of an infection indicates immunity to hepatitis B.

2. Hepatitis B surface antigen (HBsAg)

A negative result indicates that a person has never been exposed to the virus or has recovered from acute hepatitis and has rid themselves of the virus (or has, at most, had an occult infection).

A positive (or reactive) result indicates an infection but does not mean that the person is highly infectious.

3. Hepatitis B e-antigen (HBeAg)

This is only produced by the virus during an active infection and its presence indicates that the virus is replicating in the body resulting in the person being highly infectious.

A negative result usually means that the person is not highly infectious. However, certain mutant strains of the Hepatitis B virus exist which cannot make the HBeAg and therefore a negative result may mean that the person could still be highly infectious.

4. HBV DNA (Viral load)

A positive result indicates an active infection and means that the virus is replicating in the body resulting in the person being highly infectious.

HBV DNA levels ≥10^3 copies/ml is taken to indicate that the person is highly infectious.

Hepatitis C

1. Antibody to HCV (anti-HCV)

A positive result means the presence of antibodies to the virus, indicating exposure to HCV. This test cannot tell if the person still has an active viral infection – it only indicates exposure to the virus in the past.

A positive result also does not indicate immunity to hepatitis C or recovery from an infection.

2. HCV-RNA (Viral load)

A positive result identifies the virus in a person blood, indicating that the person has an active infection with HCV and is infectious.

HIV

1. Antibody to HIV (anti-HIV)

Antibodies to the HIV virus can be detected by a screening test called an ELISA. The ELISA test is repeated if positive. If the repeat test is positive, another test (Western Blot) is carried out to confirm the results because false positives can occur.

A positive result indicates that a person is infected with HIV.

A positive result does not indicate immunity to HIV or recovery from an infection.

Appendix D

Abbreviations

Anti-HBs	-	Antibody to Hepatitis B Surface Antigen
Anti-HCV	-	Antibody to Hepatitis C Virus
Anti-HIV	-	Antibody to Human Immunodeficiency Virus
BBV	-	Blood-Borne Virus
FPP	-	Fitness To Practice Panel
HBeAg	-	Hepatitis B e-Antigen
HBsAg	-	Hepatitis B Surface Antigen
HBV	-	Hepatitis B Virus
HBV DNA	-	Hepatitis B Virus DeoxyriboNucleicAcid
HCV	-	Hepatitis C Virus
HCV RNA	-	Hepatitis C Virus RiboNucleicAcid
HCW	-	Healthcare Worker(s)
HIV	-	Human Immunodeficiency Virus
MDC	-	Malaysian Dental Council
OHCP	-	Oral Healthcare Practitioner(s)
OHCW	-	Oral Healthcare Worker(s)
OHD	-	Oral Health Division

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