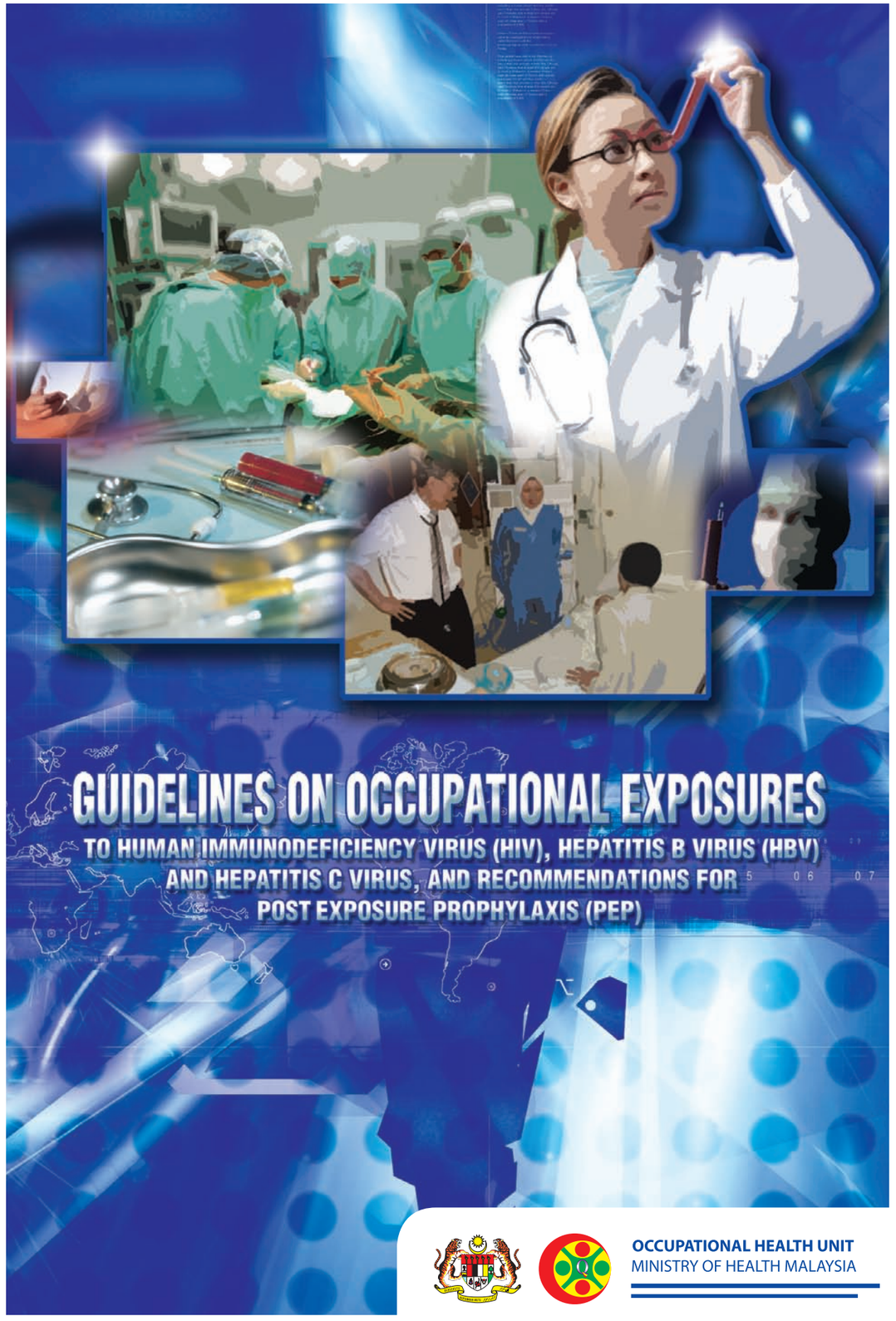
ISBN 978-983-3433-47-6

9 789833 433476

Publish by :
OCCUPATIONAL HEALTH UNIT,
Disease Control Division
Ministry of Health Malaysia,
Level 6, Block E10, Parcel E,
Federal Government Administration Centre,
62590 PUTRAJAYA.

2007 First Edition



01.FA 4/23/09 11:13 AM Page a

01.FA 4/23/09 11:13 AM Page b

National library of Malaysian catalogue in publication.
ISBN: 978-983-3433-47-6

December 2007

@ Copyright of the Occupational Health Unit,
Diseases Control Division, MOH
All right reserved

Produced by:

Occupational Health Unit,
Diseases Control Division,
Ministry of Health, Malaysia
Parcel E, Block E10, Level 6,
Federal Government Administration Centre,
62590 Putrajaya
Tel: 03-8883 4143
Fax: 03-8888 6276
http: //www.dph.gov.my/ohu
email: ohu@dph.gov.my

01.FA 4/23/09 11:13 AM Page i

GUIDELINES ON OCCUPATIONAL EXPOSURES

TO HUMAN IMMUNODEFICIENCY VIRUS (HIV), HEPATITIS B VIRUS (HBV) AND HEPATITIS C VIRUS, AND RECOMMENDATIONS FOR POST EXPOSURE PROPHYLAXIS (PEP)

OCCUPATIONAL HEALTH UNIT DISEASE CONTROL DIVISION
MINISTRY OF HEALTH MALAYSIA

01.FA 4/23/09 11:13 AM Page ii

ABBREVIATION

HCW	Health Care Workers
EPP	Exposure Prone Procedures
PEP	Post Exposure Prophylaxis
HIV	Human Immunodeficiency Virus
HBV	Hepatitis B Virus
Anti-HBs	Antibody to Hepatitis B Virus
HBsAg	Hepatitis B Surface Antigen
HBIG	Hepatitis B Immune Globulin
HCV	Hepatitis C Virus
HCV RNA	Hepatitis C Virus Ribonucleic Acid
PCR	Polymerase Chain Reaction
FMS	Family Medicine Specialist

01.FA 4/23/09 11:13 AM Page iii

TECHNICAL COMMITTEE

1. **DR. SIRAJUDDIN HASHIM**
   Principal Assistant Director
   Occupational Health Unit
   Disease Control Division
   Ministry of Health, Malaysia.

2. **DR. HANIZAH MOHD YUSOFF**
   Principal Assistant Director
   Occupational Health Unit
   Disease Control Division
   Ministry of Health, Malaysia

3. **DR. TAN SOEK SIAM**
   Head of Department and Consultant Hepatologist
   Hepatology Department
   Hospital Selayang

4. **DR. CHRISTOPHER LEE**
   Head of Department and Infectious Disease Physician
   Department of Medicine
   Hospital Sungai Buloh

5. **DR. GANESALINGAM KANAGASABAI**
   Consultant Hepatologist
   Hepatology Department
   Hospital Selayang

6. **DR. SHARMILA SACHITHANANDAN**
   Consultant Hepatologist
   Hepatology Department
   Hospital Selayang

7. **DR. SURESH KUMAR CHIDAMBARAN**
   Infectious Disease Physician
   Hospital Sungai Buloh

8. **DR. MOHD RASHID BAHAROM**
   Principal Assistant Director
   Dental Health Division
   Ministry of Health, Malaysia

9. **DR. HAJAH KALSOM MASKON**
   Deputy Director,
   Quality In Medical Care Section
   Medical Development Division
   Ministry of Health, Malaysia.

10. **DR. MOHD SHAH DATO' HJ. IDRIS**
    Principal Assistant Director
    Quality In Medical Care Section
    Medical Development Division
    Ministry of Health, Malaysia.

11. **DR. MUHAMMAD NAZRI AZIZ**
    Pathologist
    Pathology Department
    Hospital Kuala Lumpur.

12. **DR. ROSLINAH ALI**
    Head of Department
    Department of Health Development and Management
    Institute of Health Management

13. **ASSOCIATE PROFESSOR DR. RETNESWARI MASILAMANI**
    Head of Unit
    Occupational and Environmental Health Unit
    Department of Social and Preventive Medicine
    Medical Faculty, Universiti Malaya.

14. **DR. AHMAD AZUHAIRI ARIFFIN**
    Occupational Health Unit
    Department of Occupational Safety and Health
    Ministry of Human Resources.

15. **DR. ZAINUDDIN MOHD ALI**
    Senior Principal Assistant Director
    Occupational Health Unit
    Disease Control Division
    Ministry of Health, Malaysia.

16. **DR. IZZUNA MUDLA MOHAMED GHAZALI**
    Surveillance Unit,
    Disease Control Division
    Ministry of Health, Malaysia.

17. **DR. ZAIRINA ABDUL RAHMAN**
    Assistant Director
    Occupational Health Unit
    Disease Control Division
    Ministry of Health, Malaysia.

18. **DR. MOHD RIDZAL MOHD ZAINAL**
    Assistant Director
    Occupational Health Unit
    Disease Control Division
    Ministry of Health, Malaysia.

19. **DR.ROSEMAWATI BINTI ROBAT**
    Occupational and Environmental Health Unit,
    Department of Social and Preventive Medicine,
    Medical Faculty, Universiti Malaya.

20. **DR. PRIYA RAGUNATH**
    Senior Assistant Director
    Occupational Health Unit
    Disease Control Division
    Ministry of Health, Malaysia

Foreword

Health care workers face the risk of being infected by Human Immunodeficiency Virus (HIV), Hepatitis B (HBV) and Hepatitis C (HCV) due to exposure to contaminated sharps instruments as well body fluids of infected patients. Prompt and adequate management of these exposures is imperative in preventing the health care worker from contracting such diseases in the event of an exposure.

This guideline provides information on the immediate action that may be taken by the exposed personnel and the attending doctor. This ensures appropriate treatment and standardization of post exposure measures in all the health care facilities in the country thus contributing to the continued well being of the Malaysian health care workers.

I commend the Technical Committee and the Occupational Health Unit for the effort in producing this important guideline which would assist in taking care of the health care of the health care workers who are exposed to such communicable diseases in the course of their duty.

Tan Sri Datuk Dr. Hj. Mohd. Ismail Merican
Director General of Health, Malaysia
December 2007

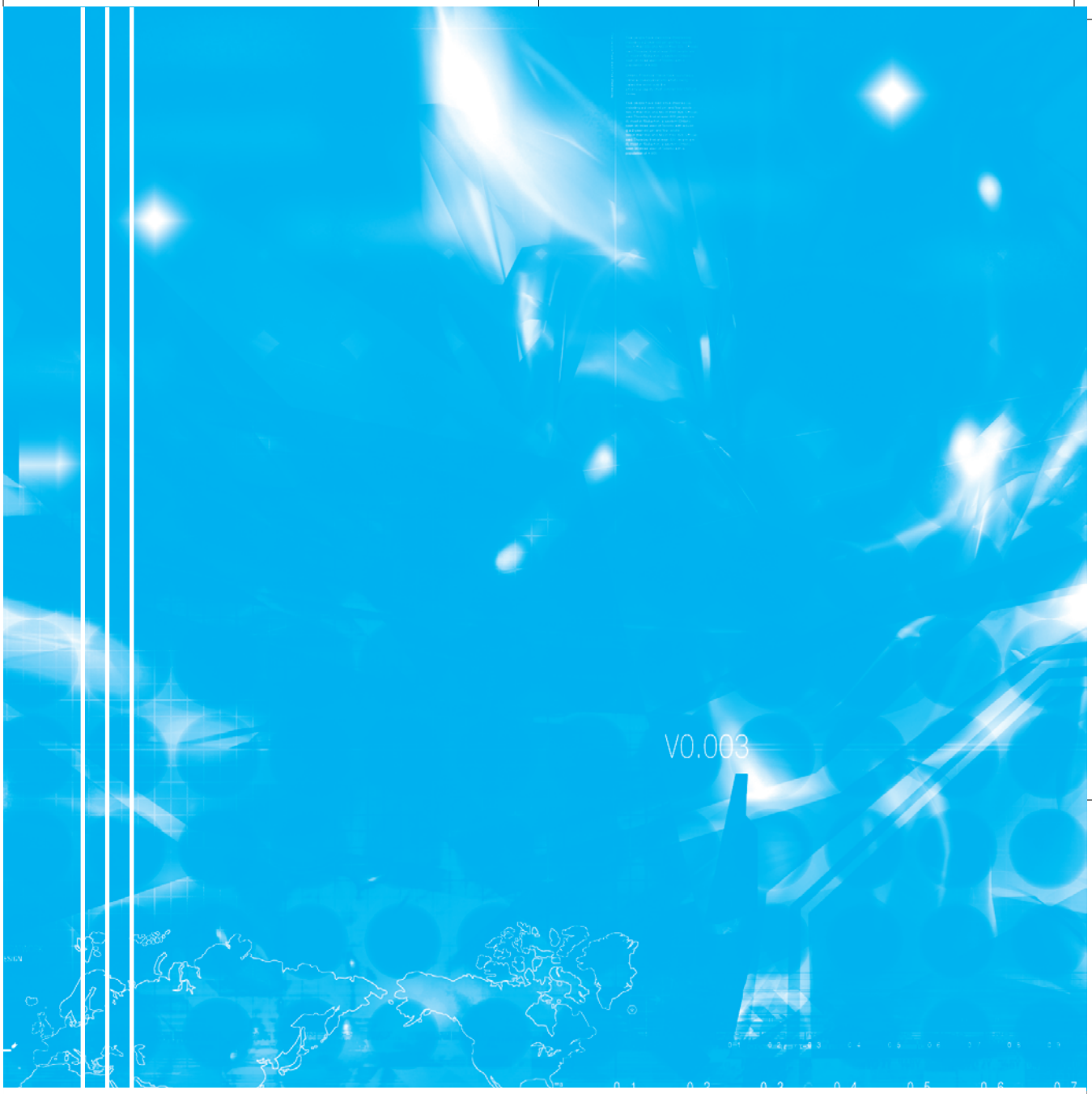
01.FA 4/23/09 11:13 AM Page v

CONTENT

01.FA 4/23/09 11:13 AM Page vi

APPENDICES

01.FA 4/23/09 11:13 AM Page 1



Introduction

01.FA 4/23/09 11:13 AM Page 2

1. INTRODUCTION

1.1 The most common form of injuries amongst Health Care Workers (HCW) are needlestick injuries. In Malaysia, the Occupational Health Unit in the Ministry of Health had reported an incidence rate of 4.7 needlestick injuries per 1,000 HCW's in 2005.

1.2 The National Institute of Occupational Safety and Health (NIOSH, 1999) reported that the rate of Hepatitis B Virus (HBV) transmission to susceptible HCW ranges from 6% to 30% after a single needlestick exposure to an HBV-infected patient. Prospective studies of HCW exposed to Hepatitis C Virus (HCV) through needlestick, or other percutaneous injuries, have found that the incidence of anti-HCV seroconversion averages 1.8% (range 0% to 7%) per injury. Currently, there is no vaccine in existence to prevent HCV infection, and neither immunoglobulin nor antiviral therapy is recommended as post exposure prophylaxis. For Human Immunodeficiency Virus (HIV) infection, the average risk of post needlestick exposure to HIV-infected blood is 0.3% or 1 in 300 (CDC 1991).

1.3 The Ministry of Health has developed the following guidelines in order to introduce clarity and consistency in the management of needlestick injuries amongst HCW in order to reduce the risk of HIV, Hepatitis B and Hepatitis C infections.

2. DEFINITION OF HCW AND EXPOSURE

2.1 Health Care Workers (HCW) can be classified as persons whose activities involve contact with patients, or with blood or other body fluids from patients in a health-care, laboratory or public-safety setting (CDC 2001).

2.2 In tandem with Occupational Safety and Health Act (OSHA) 1994, the definition of HCW in this guidelines also includes trainees and support service workers who work in the Ministry of Health facilities.

2.3 An exposure is defined as a percutaneous injury, or contact, of mucous membrane or non-intact skin with blood, tissue, or other body fluids that are potentially infectious.

01.FA 4/23/09 11:13 AM Page 3

2.3.1 Percutaneous exposure occurs when the skin is cut or penetrated by needles or other sharp instruments (for example: scalpel blade, trochar, bone fragment, or tooth).

2.3.2 Mucocutaneous exposure is when blood or other body fluids contaminate the eye(s), the inside of the nose or mouth, or an area of non-intact skin.

3. STRATEGIES TO REDUCE POTENTIAL OCCUPATIONAL EXPOSURES

3.1 Exposure prevention is the primary objective in reducing the risk of occupational bloodborne pathogen infections. All preventive efforts should be made to reduce the risk of occupational exposures.

3.2 All HCW should be informed, educated and trained on the following:

3.2.1 The possible risks and prevention of bloodborne infections after an occupational exposure.

3.2.2 The measures needed to prevent bloodborne pathogen exposures:

3.2.2.1 Implementation of standard precautions.

3.2.2.2 Provision of personal protective equipment and safety devices.

3.2.2.3 Implementation of safer procedures.

3.2.3 HBV vaccination.

3.2.4 The principles of post-exposure management and the importance of seeking immediate advice following any occupational exposure.

3.3 All HCW should be informed and trained on the above matters before they are allowed to handle sharps, blood and hazardous body fluids.

01.FA 4/23/09 11:13 AM Page 4

3.4 All health care facilities must have an efficient system for reporting and managing potential exposures of HCW to blood and other body fluids: these include written protocols for prompt reporting, evaluation, counseling, treatment, and follow-up of occupational exposures. (Refer to Pekeliling Ketua Pengarah Kesihatan 2007: Sharps Injury Surveillance in MOH facilities and Sharps Injury Surveillance Manual).

4. IMMEDIATE ACTION AFTER EXPOSURE

4.1 When a HCW sustains injuries that expose him/her to bloodborne pathogens, first aid is to be administered immediately.

4.1.1 For percutaneous injuries, blood should be expressed out by squeezing the tissues adjacent to the wound and immediately washing it thoroughly with soap and water. If necessary the wound should then be disinfected and dressed.

4.1.2 For mucosal exposures e.g. spillage into the eyes, wash immediately and liberally with water.

4.2 The injured HCW should report to the location supervisor immediately after the injury has occurred for documentation (*Appendix 1 & 2*).

4.3 The location supervisor should refer the exposed HCW to the designated doctor immediately for risk assessment and treatment (*Appendix 1 & 2*).

4.4 The location supervisor should notify the incident (by means of submitting WEHU A1 and A2 forms) to the Occupational Safety and Health Committee Secretary (*Refer to Sharps Injury Surveillance Manual*).

4.5 Occupational Health Unit/Infection Control Unit/Occupational Safety and Health Committee should record the incident in the Sharps Injury Management Registry and follow up the HCW accordingly to ensure complete management of the HCW.

01.FA 4/23/09 11:13 AM Page 5

5. RISK ASSESSMENT

5.1 Risk assessment must be performed in order to evaluate the potential of an exposure to transmit HIV, HBV and HCV to the HCW. This includes assessment of the significance of the injury and, where possible, the status of the source and the HCW with respect to HIV, HBV and HCV. All this information must be documented appropriately in the SIS-2a form (Appendix 3). Assessment must be done immediately to ensure the timely administration of specific prophylaxis when appropriate.

5.2 Assessment of the Injury.

5.2.1 The injury should be evaluated for its potential to transmit HIV, HBV and HCV based on the type of body substance involved, the route and severity of the injury.

5.2.2 Blood, fluid containing visible blood, or other potentially infectious fluids (including semen; vaginal secretions; and cerebrospinal, synovial, pleural, peritoneal, pericardial and amniotic fluids) or tissue can be infected from bloodborne viruses. Exposures to these fluids or tissue through a percutaneous injury (i.e., needlestick or other penetrating sharp instruments) or through contact with mucous membrane are situations that pose a risk for bloodborne virus transmission and thus require further evaluation.

5.2.3 Any direct contact with concentrated virus in a research laboratory or production facility is considered an exposure that requires clinical evaluation.

5.2.4 For skin exposure, follow-up is required only if it involves exposure to a potentially infectious body fluids and evidence exists of compromised skin integrity (e.g. dermatitis, abrasion, or open wound).

5.2.5 In the clinical evaluation of human bites: possible exposure of both the person bitten and the person who inflicted the bite must be considered. If a bite results in blood exposure to either of the persons involved, post-exposure follow-up should be provided.

01.FA 4/23/09 11:13 AM Page 6

5.3 Assessment of the Source

5.3.1 Every effort should be made to ascertain the HIV, HBV and HCV status of the source. If the status of the source individual is unknown at the time of the accident, then baseline testing should be undertaken immediately to determine the source's infectious status for HIV, HBV and HCV by testing for HIV antibody (ELISA), HBsAg and HCV antibody.

5.3.2 If the source is unknown or cannot be tested, epidemiological assessment for the likelihood of transmission of HIV, HBV, or HCV should be considered. Examples of information to be considered when evaluating an exposure source for possible HIV, HBV, or HCV infection include laboratory information (e.g. previous HIV, HBV, or HCV test results or results of immunologic testing such as CD4+ T-cell count or liver enzymes such as ALT), clinical symptoms (e.g. acute syndrome suggestive of primary HIV infection or undiagnosed immunodeficiency disease), and history of recent (i.e. within 3 months) possible HIV, HBV, or HCV exposures (e.g. injection-drug use or sexual contact with a known positive partner).

5.3.3 Testing of the source patient must follow accepted guidelines which includes:

5.3.3.1 The reasons for testing and other possible concerns which should be addressed before blood taking (*Appendix 5*).

5.3.3.2 Confidentiality of the source person should be maintained at all times.

5.3.4 Testing of needles or other sharp instruments involved in an exposure, regardless of whether the source is known or unknown is not recommended. The reliability and interpretation of findings in such circumstances are unknown, and testing might be hazardous to persons handling the sharp instrument.

5.4 Assessment of the Exposed HCW

5.4.1 The HCW should have baseline testing for HIV, HBV and HCV (i.e. anti-HIV (ELISA), HBsAg, anti-HBs, anti-HCV). Anti-HBs should be tested where indicated (*Appendix 7*). Testing of the HCW must follow accepted guidelines. Counseling must be given and informed consent obtained before testing is

01.FA 4/23/09 11:13 AM Page 7

done (*Refer to Ministry of Health HIV/AIDS Counseling Reference Text November 2000)*. The blood, which is collected from the HCW, may be stored for future testing if required.

6. TREATMENT OF EXPOSED HCW

6.1 Post Exposure Prophylaxis should be commenced, where indicated, if a delay in obtaining test results is anticipated, when the source patient belongs to the high-risk group. During the follow up, SIS-2b form should be used as the worksheet for patient management (*Appendix 4*).

6.2 Source Negative for HIV, HBV and HCV

6.2.1 Apart from counseling and collecting blood from the HCW for baseline serological studies, no further action is required in relation to HIV and HCV.

6.2.2 In relation to HBV, the management should be as in *Appendix 7.*

6.3 Source of Unknown Infectious Status/Source Unable to be Tested for HIV, HBV and HCV.

6.3.1 If, after every effort has been made to ascertain the HIV, HBV and HCV status of the source, and the status remains uncertain, then the relative risk of the source being positive for HIV, HBV or HCV must be inferred when giving recommendations concerning prophylactic measures.

6.3.2 If concern exists that there is a high risk of the source being infected with HIV, HBV or HCV, then the HCW should be managed as in the following sections (*Sections 6.4, 6.5 and 6.6*).

6.3.3 If the source refuses to be tested for HIV, HBV, HCV then the relative risk of the source being infected must be assessed from epidemiological and historical information, and the HCW treated according to the level of risk.

6.4 Source Likely to be in the Window Period for HIV, HBV and HCV.

6.4.1 If the HIV, HBV and HCV status of patient is negative, the HCW may not need treatment. However, if the last risk behavior is within the last 6 months, the possibility of the window period must be considered.

01.FA 4/23/09 11:13 AM Page 8

6.4.2 The source should be referred to a primary health facility for follow-up and testing to check for seroconversion. The exposed HCW should have baseline testing for HIV antibody, HBsAg and HCV antibody (ELISA) and retested at 6 weeks, 3 months and 6 months.

6.4.3 Prophylaxis should only be offered on advice from a clinician experienced in the administration of drugs for the treatment of HIV, HBV and HCV.

6.5 Source Positive or Likely to be Positive for HIV.

6.5.1 Access to clinicians who can provide post exposure care and to the antiretroviral agents for Post Exposure Prophylaxis (PEP) should be readily available. Selection of the PEP Regime should be based on the comparative risk represented by the exposure information and about the source e.g. titre level and CD4 count (*Refer to Appendix 6a, 6b and 6c and Guidelines for HIV Post Exposure Prophylaxis 2000*).

During this period the HCW should be advised:

(a) Not to donate plasma, blood, body tissue, breast milk or sperm
(b) To protect sexual partners by adopting safe sexual practices (e.g. use of condoms)
(c) To consult the Head of Department regarding the need to modify work practices involving EPP if he/she develops clinical or serological evidence of HIV infection.

6.5.2 During the follow up, the HCW should be retested for anti-HIV (ELISA) at 6 weeks, 3 months and 6 months.

6.6 Source Positive or Likely to be Positive for HBV (Refer to Appendix 7).

6.6.1 For percutaneous or mucosal exposures to blood, the factors that must be considered are HBsAg status of the source, Hepatitis B vaccination and antibody response status of the exposed HCW.

6.6.2 HBIG, if indicated, should be administered within 24 hours.

01.FA 4/23/09 11:13 AM Page 9

6.6.3 Vaccination of hepatitis B, if indicated, should be administered within 24 hours and can be administered simultaneously with HBIG at a separate site (vaccine should always be administered in the deltoid muscle).

6.6.4 Hepatitis B vaccination, if indicated, should be administered within 24 hours and can be administered simultaneously with HBIG at a separate site (vaccine should always be administered in the deltoid muscle).

6.6.5 Persons exposed to HBsAg positive who are known not to have responded to a primary vaccine series should receive a single dose of HBIG and reinitiate the Hepatitis B vaccine series.

6.6.6 If two doses of HBIG are indicated, one dose should be administered as soon as possible after exposure and the second dose one month later.

6.6.7 The option of administering one dose of HBIG and reinitiating the vaccine series is preferred for non-responders who did not complete a second 3-dose vaccine series.

6.6.8 The treated HCW should be followed up and retested for HBsAg at 6 weeks, 3 months and 6 months.

6.7 Source Positive or Likely to be Positive for HCV

6.7.1 At present there is no prophylaxis proven to be effective following exposure to HCV. The aim of a follow-up is to detect Hepatitis C so that appropriate management can be instituted.

6.7.2 The HCW should be informed of the risk of transmission to secondary contacts, especially during the first 6 months following the incident.

During this period the HCW should be advised:

(a) Not to donate plasma, blood, body tissue, breast milk or sperm;
(b) To consider safe sex (e.g. use of condoms).
(c) To consult the Head of Department regarding the need to modify work practices involving EPP if he/she develops clinical or serological evidence of HCV.

01.FA 4/23/09 11:13 AM Page 10

6.7.3 If there is evidence of Acute Hepatitis, then the HCW should be managed by a specialist experienced in the management of Hepatitis. Counseling of the HCW should include the risk of HCV infection following the occupational exposure.

6.7.4 The exposed HCW should have baseline testing for HCV antibody and be retested at 6 weeks, 3 months and 6 months. HCV RNA testing should also be offered at 6 weeks. If the HCV RNA is negative at that time, the HCW can be advised that the risk of transmission is negligible. If the HCV RNA is positive, the HCW should be referred to a specialist experienced in the management of Hepatitis, for treatment.

6.7.5 In the case of HCW who perform EPP, it is recommended that those with anti–HCV positive and HCV RNA negative must have a yearly HCV RNA done to practice EPP.

6.7.6 In the event that a HCW is found to be HCV RNA positive, the test should be repeated immediately on a new blood sample. If there is clinical doubt regarding acute seroconversion illness or HCV RNA status, then a blood sample should be collected and referred as a matter of urgency to a hub laboratory (other than the laboratory at which the original test was performed) experienced in the performance of HCV RNA testing.

7. MANAGEMENT OF HCW WHO DEVELOPS SEROCONVERSION

7.1 In the event that a HCW develops seroconversion, he/she must be referred to the physician from the relevant discipline (i.e. Hepatologist or Infectious Diseases Physician) for clinical management.

7.2 He/she must also be referred to the Hospital Director/Medical Officer of Health for occupational intervention (Refer to Guidelines on Management of HCW Infected with HIV, HBV & HCV).

01.FA 4/23/09 11:13 AM Page 11

REFERENCES

1. CDC (1991). Recommendations for Preventing Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Patients During Exposure-Prone Invasive Procedures. MMWR 40 (RR08): 1 - 9.

2. CDC (1998). Public Health Service Guidelines for the Management of Health Care Worker Exposures to HIV and Recommendations for Post Exposure Prophylaxis. MMWR 47 (RR-7): 1 - 28.

3. CDC (2001). Updated U.S Public Health Services Guidelines for the Management of Occupational Exposures to HBV, HCV and HIV and Recommendation for Post Exposure Prophylaxis. MMWR 50 (RR-11): 1 - 42.

4. CDC (2003). Exposure to Blood. What Healthcare Personnel Need to Know?

5. CDC (2005). A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States. MMWR 54 (RR-16).

6. CDC (2005). Chronic Hepatitis B and C Virus Annual Surveillance Report. For Cases Reported Through December 2005. Bureau of Communicable Disease Control New York State Department of Health.

7. Department of Health, New South Wales (2003). Policy Directive. Management of Health Care Workers Potentially Exposed to HIV, Hepatitis B and Hepatitis C.

8. Department of Health, UK (2002). Hepatitis C Infected Health Care Workers.

9. Joint ILO/WHO (2005). Guidelines on Health Services and HIV/AIDS. Geneva.

10. Ministry of Health (1999). Policy and Procedure of Infection and Antibiotic Control: Ref: 99.06: Sharps Injury And Mucosal Exposure.

11. Ministry of Health (2000). HIV/AIDS Counseling Reference Text November 2000 Guidelines for HIV Post Exposure Prophylaxis.

12. NIH (2002). Consensus Conference Statement. Management of Hepatitis C.

01.FA 4/23/09 11:13 AM Page 12

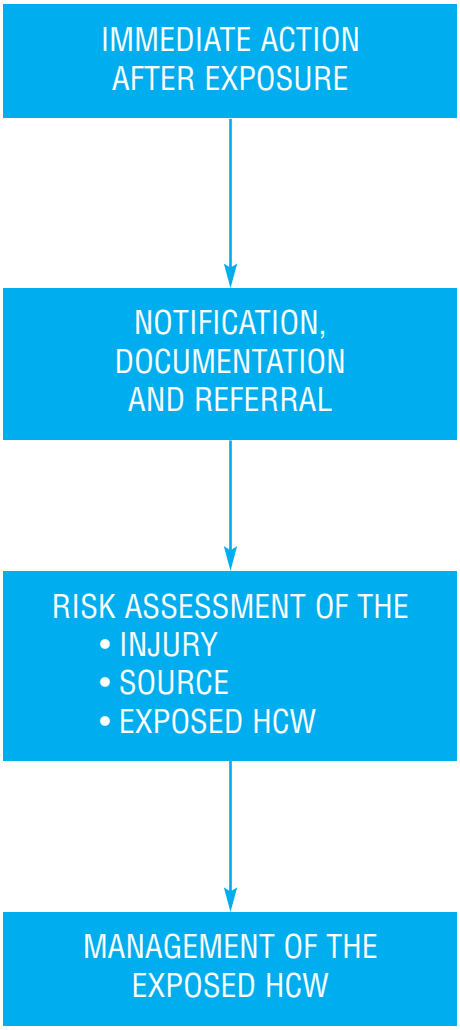
13. NIOSH (1999). Preventing Needlestick Injuries in Healthcare Settings. DHHS (NIOSH) Publication No. 2000 - 108.

14. QA Manual (2002). Incidence Rate of Needlestick Injuries among the Health Care Workers within Ministry of Health.

15. V. Puro, G. De Carli, S. Cicalini et al (2005). European Recommendations for the Management of Health Care Workers Occupationally Exposed to Hepatitis B Virus and Hepatitis C Virus. Eurosurveillance 10 (10 - 12).

01.FA 4/23/09 11:13 AM Page 13

Flow Chart: Management of Occupational Exposures to HIV, HBV and HC amongst HCW



01.FA 4/23/09 11:13 AM Page 14

APPENDIX 2

Work Process on the Management of Occupational Exposures to HIV, HBV and HC amongst HCW

JOB DESCRIPTION	PERSON/S RESPONSIBLE	
	Hospital	Primary Care
1. Immediate Action After Exposure		
• Do First Aid • Notify Immediate Supervisor	• Exposed HCW	• Exposed HCW
2. Notification, Documentation and Referral		
• Inform HCW of PEP protocol in hospital/ district • Refer exposed HCW to Designated Doctor in Department of Medicine (in clinic/ Medical Officer on-call)/Family Medicine Specialist (FMS) in district • Fill notification form • Documentation of the incident & submit to Infection Control Unit/Occupational Health Unit	• Location supervisor: - Sister in-charge/ on-call - Head of unit/On-call officer in-charge - Concession Company Safety Supervisor in-charge/on-call	• Location supervisor: - Sister in-charge/on-call - Public Health Nurse in-charge/ on-call - Medical Assistant in-charge/on-call
3. Risk Assessment of the Injury, the Source and the Exposed HCW		
• Discussion with doctor in-charge of source patient • Review record of source • Interview source • Counseling and verbal consent to take blood from source and HCW	• Designated Doctor in Department of Medicine	• FMS/Designated Medical Officer (MO) trained in Post Exposure Prophylaxis (PEP)
4. Management of Exposed HCW		
• Treatment of Exposed HCW	• Designated Doctor in Department of Medicine	• FMS/Designated MO trained in PEP
• Monitoring of follow up and maintenance	• Infection Control Unit/Occupational Health Unit	• Person In Charge of Health Clinic (Sister/MA/PHN)

01.FA 4/23/09 11:13 AM Page 15

Risk Assessment On Occupational Exposures To HIV, HEPATITIS B And HEPATITIS C Infections (SIS-2a FORM)

SHARPS INJURY SURVEILLANCE
OCCUPATIONAL HEALTH UNIT
MINISTRY OF HEALTH
"Rakan Anda Dalam Meningkatkan Kesihatan Pekerja"
"Your Partner In Enhancing Workers Health"

GUIDELINES FOR COMPLETING "SHARPS INJURY SURVEILLANCE" FORM OHU/SIS-2a (MANAGEMENT OF THE EXPOSED HEALTH CARE WORKER SECTION)

Risk assessment of disease transmission following sharps injury

GUIDELINES FOR COMPLETING OHU/SIS-2a FORM
(MANAGEMENT OF THE EXPOSED HEALTH CARE WORKER SECTION)

OHU/SIS-2a (Risk Assessment)
This section is to be completed by the attending physician.

1. **Risk Assessment of the Injury:**
   Please clearly tick ☑ in the appropriate box.

2. **Risk Assessment of the Source:**
   Please clearly tick ☑ in the appropriate box. Fill in the blanks where necessary.

3. **Risk Assessment of the Exposed Health Care Worker:**
   Please clearly tick ☑ in the appropriate box. Fill in the blanks where necessary.

.....

.....

.....

.....

.....

.....

(30 sets)

01.FA 4/23/09 11:13 AM Page 16

OHU/SIS-2a

SHARPS INJURY SURVEILLANCE
OCCUPATIONAL HEALTH UNIT
MINISTRY OF HEALTH
"Rakan Anda Dalam Meningkatkan Kesihatan Pekerja"
"Your Partner In Enhancing Workers Health"

MANAGEMENT OF THE EXPOSED HEALTH CARE WORKER SECTION (OHU/SIS-2a)

OHU/SIS-2a : Risk assessment of disease transmission following sharps injury

This section is to be completed by the attending physician.

PARTICULARS OF EXPOSED HEALTH CARE WORKERS

(Please tick (✓) where applicable)

1. Name : .....
2. Gender : Male : ☐ Female : ☐
3. NRIC : New : ☐☐☐☐☐☐ ☐☐ ☐☐☐☐
   Old : ☐☐☐☐☐☐☐☐
4. Nationality : .....
5. Age on the 1st of January : ☐☐ Years
6. Department presently attached to : .....
7. Contact number : .....
8. Date of injury : month ☐☐ day ☐☐ year ☐☐
   Time : ..... *am / pm
9. Date of first reporting to Medical / ID Team : month ☐☐ day ☐☐ year ☐☐
   Time : ..... *am / pm
10. Duration of employment in Ministry of Health : ☐☐ *month (s) / Year (s)
11. Duration of work in handling sharps : ☐☐ *month (s) / Year (s)

(*) delete where is not applicable

1/3

01.FA 4/23/09 11:13 AM Page 17

1. RISK ASSESSMENT OF THE INJURY (Please tick (✓) where applicable)

1.1 Type of injury / exposure:

1.1.1 Mucous membrane / skin integrity compromised:

- Large Volume (e.g. several drops, major blood splash and / or longer duration i.e. several minutes or more) ☐
- Small Volume (e.g. few drops, short duration) ☐

1.1.2 Intact skin:

- Yes ☐
- No ☐

1.1.3 Percutaneous exposure:

- More Severe (e.g. large-bore hollow needle, deep puncture, visible blood on device, or needle used in sourse patient's artery or vein) ☐
- Less Severe (e.g. solid needle, superficial scratch) ☐

1.2 If the injury was to the hands, did the sharp item penetrate:

- Double pair of gloves ☐
- Single pair of gloves ☐
- No gloves ☐

2. RISK ASSESSMENT OF THE SOURCE (Please tick (✓) where applicable)

2.1 Source:

Known (Proceed to Q.2.2-2.10) ☐

Unknown (Proceed to Q.3) ☐

2.2 Name: .....

2.3 NRIC No: .....

2.4 Ward / Clinic: .....

2.5 Admitted / Walk-in for: .....

»2.6 Risk factors (if any):

- IVDU ☐
- Had unprotected sex ☐
- Blood products recipient ☐
- Elevated liver enzymes ☐
- Dialysis ☐
- Others : ☐

2.7 If source patient known but not tested, what is the reason?

.....

2.8 For HIV infected source patient.

2.8.1 On antiviral treatment:

- Yes ☐
- No ☐

2.8.2 If yes (on antiviral treatment):

2.8.2.1 • Drugs used (current) : .....

2.8.2.2 • Drugs used in the past : .....

2.8.2.3 • Latest viral load : .....

»2.9 Results of tests: (Please tick (✓) where applicable)

Pathogen	Test	Result	Date & Time drawn
HIV	Anti-HIV	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year Time : .....
Hepatitis B	HBsAg	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year Time : .....
Hepatitis C	Anti-HCV	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year Time : .....
Others		☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year Time : .....

2.10 Results disclosed to source patient:

- Yes ☐
- No ☐

2.10.1 Date results disclosed: .....

☐☐ Day ☐☐ Month ☐☐ Year

(»)to be filled in the registry

2/3

01.FA 4/23/09 11:13 AM Page 18

3. RISK ASSESSMENT OF THE EXPOSED HEALTH CARE WORKER (Please tick (✓) where applicable)

3.1 Marital status:

- Married ☐
- Single ☐
- Divorced ☐

3.2 Pregnancy status:

- Yes ☐
- No ☐
- Not Applicable ☐

3.3 Hepatitis B immunization status:

3.3.1 History of hepatitis B immunization before the exposure:

- No ☐
- One dose ☐
- Two doses ☐
- Three doses ☐

3.3.2 Level of antibody to hepatitis B (anti-HBs), if tested :

..... mIU/ml

3.3.3 Date of anti-HBs blood test : (as in 3.3.2): ☐☐ Day ☐☐ Month ☐☐ Year

››3.4 Baseline blood test: (Please tick (✓) where applicable)

Pathogen	Test	Result	Date & Time drawn
HIV	Anti-HIV	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year Time : .....
Hepatitis B	HBsAg	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year Time : .....
Hepatitis C	Anti-HCV	☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year Time : .....
Others :		☐ Positive ☐ Negative ☐ Not Tested	☐☐ Day ☐☐ Month ☐☐ Year Time : .....

3.5 Is Post-exposure prophylaxis started?:

- Yes ☐
- No ☐

››3.6 Is follow-up required?

- Yes ☐
- No ☐

3.7 Assessment done by :

Name of Physician / Medical Officer : .....

Department : .....

Hospital : .....

Date : .....

(››) to be filled in the registry

3/3

01.FA 4/23/09 11:13 AM Page 19

Management Of The Exposed HCW (SIS-2b FORM)

SHARPS INJURY SURVEILLANCE
OCCUPATIONAL HEALTH UNIT
MINISTRY OF HEALTH
"Rakan Anda Dalam Meningkatkan Kesihatan Pekerja"
"Your Partner In Enhancing Workers Health"

GUIDELINES FOR COMPLETING "SHARPS INJURY SURVEILLANCE" FORM OHU/SIS-2b (MANAGEMENT OF THE EXPOSED HEALTH CARE WORKER SECTION)

Post-Exposure Management

OHU/SIS-2b (Treatment And Follow-Up Of The Exposed Health Care Worker)
This section is to be completed by the attending physician.

1. Treatment of the Exposed Health Care Worker:
Please clearly tick ☑ in the appropriate box. Fill in the blanks where necessary.

.....

.....

.....

.....

.....

.....

.....

.....

.....

(30 sets)

01.FA 4/23/09 11:13 AM Page 20

OHU/SIS-2b

SHARPS INJURY SURVEILLANCE
OCCUPATIONAL HEALTH UNIT
MINISTRY OF HEALTH
"Rakan Anda Dalam Meningkatkan Kesihatan Pekerja"
"Your Partner In Enhancing Workers Health"

MANAGEMENT OF THE EXPOSED HEALTH CARE WORKER SECTION (OHU/SIS-2b)

OHU/SIS-2b : Post-Exposure Management (Treatment and follow-up of the exposed healthcare worker)
This section is to be completed by the attending physician.

1. Management of the Exposed Health Care Worker:
(Please tick (✓) where applicable)

››1.1 Post Exposure Prophylaxis (PEP) given:

- Yes ☐
- No ☐

PEP	Requirement	Date given	Date Completion	Duration/ Medication/ Comments
HBIG	☐ 1 dose ☐ 2 doses	Day Month Year Day Month Year	Day Month Year Day Month Year	
HIV PEP	☐ Basic regime ☐ Expanded regime	Day Month Year Day Month Year	Day Month Year Day Month Year	
Others :		Day Month Year	Day Month Year	

(››) to be filled in the registry

1/3

01.FA 4/23/09 11:13 AM Page 21

››1.2 Hepatitis B Immunization Needed: (Please tick (✓) where applicable)

- Yes ☐
- No ☐

Immunization	Dose	Date given	Medication/Duration/ Comments
Hepatitis B (Immunization)	☐ First dose	☐☐ ☐☐ ☐☐ Day Month Year	
	☐ Second dose	☐☐ ☐☐ ☐☐ Day Month Year	
	☐ Third dose	☐☐ ☐☐ ☐☐ Day Month Year	

Test	Result	Date drawn
Anti-HBs (1-2 months after completion Hepatitis B immunization)	..... mIU/ml	☐☐ ☐☐ ☐☐ Day Month Year

››1.3 Follow-up blood test: (Please tick (✓) where applicable)

Pathogen	Test	Result	Date drawn
HIV	Anti-HIV (At 6 weeks post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
	Anti-HIV (At 3 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
	Anti-HIV (At 6 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
Hepatitis B	HBsAg (At 6 weeks post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
	HBsAg (At 3 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
	HBsAg (At 6 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
Hepatitis C	Anti-HCV (At 6 weeks post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
	HCV RNA (At 6 weeks post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
	Anti-HCV (At 3 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
	Anti-HCV (At 6 months post incident)	☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year
Others:		☐ Positive ☐ Negative ☐ Not Tested	☐☐ ☐☐ ☐☐ Day Month Year

(››) to be filled in the registry

2/3

01.FA 4/23/09 11:13 AM Page 22

1.4 Comments and subsequent actions based on the results: (Please tick (✓) where applicable)

1.4.1 Seroconversion status:

- Yes ☐
- No ☐

1.4.2 If yes, referral to:

- Physician from relevant discipline for further clinical management

  Name of Physician : .....
  Department : .....
  Hospital : .....

- Hospital Director / District Medical Officer of Health for assessment of work task involving 'exposure prone procedure' (EPP)

  Hospital Director / District Medical
  .....
  .....
  Date of appointment : .....

Name of attending Medical Officer : .....

Department : .....

Hospital : .....

Date : .....

3/3

01.FA 4/23/09 11:13 AM Page 23

PATIENT INFORMATION SHEET

LAMPIRAN PEMBERITAHUAN KEPADA PESAKIT

Adalah dimaklumkan bahawa Kementerian Kesihatan Malaysia (KKM) sentiasa mengambil langkah-langkah bagi menjamin keselamatan dan kesihatan bukan sahaja kepada pesakit tetapi juga kepada pekerja-pekerjanya. Ini adalah kerana pekerja yang sihat akan menjamin perkhidmatan yang selamat, berkualiti dan cemerlang.

Oleh yang demikian, KKM ingin memastikan bahawa pekerja-pekerjanya yang terdedah kepada penyakit berjangkit disaring dan dirawat bagi mengelakkan jangkitan kepada pesakit-pesakit.

Salah satu cara di mana pekerja-pekerja KKM boleh mendapat jangkitan adalah daripada pesakit. Oleh yang demikian, jika mereka terdedah kepada darah atau cecair badan pesakit yang dapat menular penyakit-penyakit seperti Hepatitis B, Hepatitis C dan jangkitan HIV, mereka haruslah dirawat dengan kadar segera. Walaubagaimanapun, rawatan ini hanya dapat dilakukan dengan mengetahui status penyakit-penyakit ini pada pesakit tersebut.

Sehubungan dengan itu, di sini, pihak hospital/klinik ingin memaklumkan bahawa telah terdapat seorang dari pekerja-pekerja hospital/klinik ini yang terdedah kepada darah atau cecair badan tuan/puan. Oleh yang demikian, pihak hospital perlu mengambil darah tuan/puan untuk ujian:-

- Hepatitis B
- Hepatitis C
- HIV

Semua perbelanjaan bagi ujian tersebut adalah percuma

Keputusan Ujian

Segala maklumat mengenai keputusan ujian adalah sulit.
Anda akan dimaklumkan mengenai keputusan ujian tersebut.
Anda akan diberi rawatan yang sepatutnya jika diperlukan.

- Terima Kasih Di Atas Kerjasama Anda -

01.FA 4/23/09 11:13 AM Page 24

GUIDELINES FOR HIV POST EXPOSURE PROPHYLAXIS (PEP)

Guidelines for HIV PEP (Post Exposure Prophylaxis)

Determining the Need for HIV Post Exposure Prophylaxis (PEP) After an Occupational Exposure

STEP 1 – Evaluation of Exposure – refer to **CHART 1**
STEP 2 – Determine the HIV Status of the Source – refer to **CHART 2**
STEP 3 – Determine the PEP Recommendation – refer to **TABLE 2 & 3**

Table 1: Regimen Category and Drug Regimen

Regimen Category	Drug Regimen
Basic Regimen: 2 NRTI	1. Zidovudine (AZT) 300mg bd and Lamivudine (3TC) 150mg bd **or** 2. Combivir 1 tab bd
Expanded Regimen: 2 NRTI + Proteus Inhibitor	1. Basic regimen plus Kaletra 3 tab bd for 28 days If Kaletra not available: 2. Basic regimen plus Indinavir 800mg 12 hourly with Ritonovir 100mg 12 hourly for 28 days **or** 3. Basic regimen plus Indinavir 800mg 8 hourly

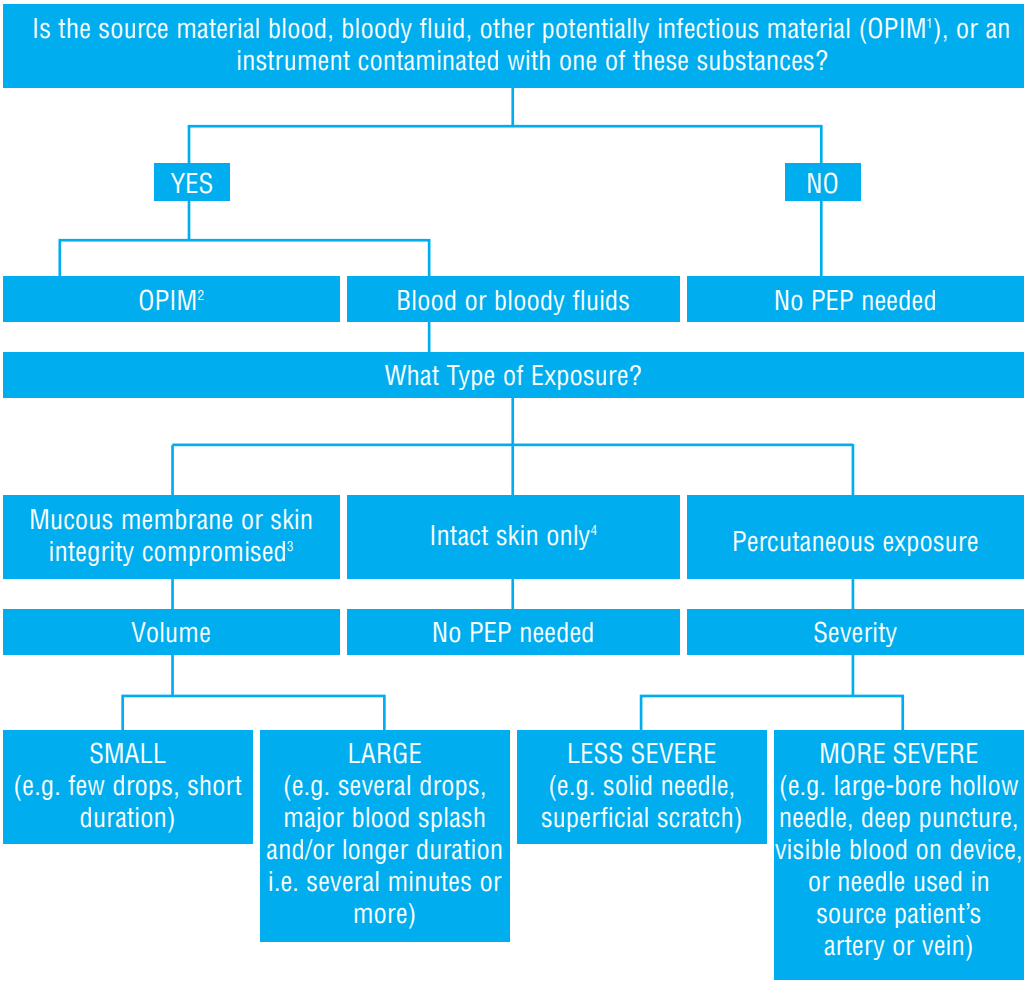
Note:
1. When the source person's viral status is known or is suspected to be resistant to one or more of the drugs considered for the PEP regimen, the selection of drugs to which the source person's virus is unlikely to be resistant is recommended.

2. Consult Infectious Diseases Physicians if HIV drug resistance is suspected or in event of unavailability or intolerance to any of the above-mentioned drugs.

01.FA 4/23/09 11:13 AM Page 25

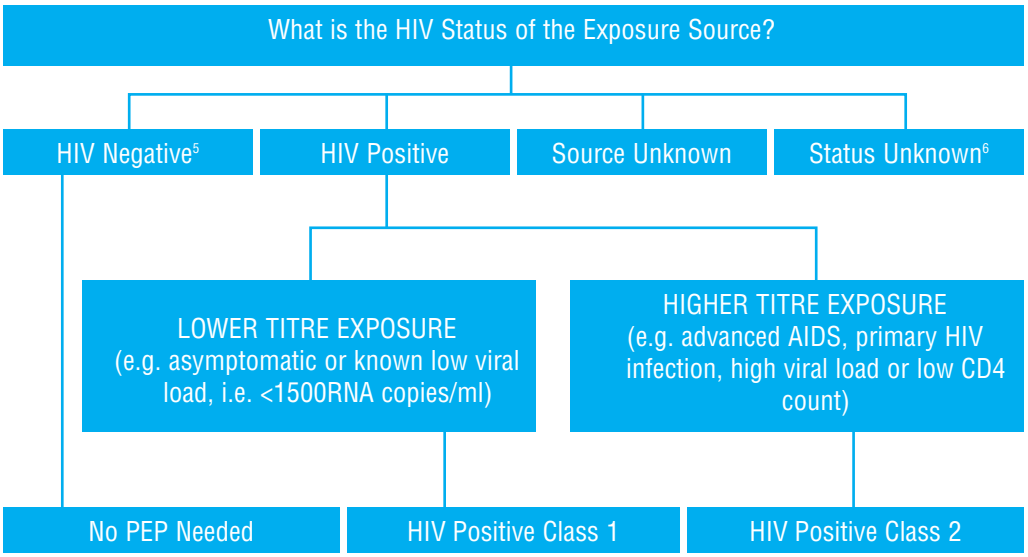
DETERMINING THE NEED FOR HIV POST EXPOSURE PROPHYLAXIS (PEP) AFTER AN OCCUPATIONAL EXPOSURE (continued)

STEP 1 : Evaluation of the Exposure (Chart 1)



01.FA 4/23/09 11:13 AM Page 26

STEP 2 : Determine the HIV Status of the Source (Chart 2)



1. Semen or vaginal secretions; cerebrospinal, synovial, pleural, peritoneal, pericardial, or amniotic fluids; or tissue.

2. Exposure to OPIM must be evaluated on a case-by-case basis. In general, these body substances are considered low risk for transmission in health-care settings. Any unprotected contact to concentrated HIV in a research laboratory or production facility is considered an occupational exposure that requires clinical evaluation to determine the need for PEP.

3. Skin integrity is considered compromised if there is evidence of chapped skin, dermatitis, abrasion or open wound.

4. Contact with intact skin is not normally considered a risk for HIV transmission. However, if the exposure is to the blood, and the circumstance suggests a higher volume exposure (e.g., an extensive area of skin was exposed or there was prolonged contact with blood), the risk for HIV transmission should be considered.

5. In HIV negative patient, due consideration has to be given as to whether the source patient could be in the window period (e.g., an IVDU whose last injection was 2 days ago).

6. While waiting to know the status or if status cannot be determined (e.g., patient has died), assessment needs to be made as to whether the patient is at high or low risk of getting HIV.

01.FA 4/23/09 11:13 AM Page 27

DETERMINING THE NEED FOR HIV POST EXPOSURE PROPHYLAXIS (PEP) AFTER AN OCCUPATIONAL EXPOSURE (continued)

STEP 3 : Determine the PEP Recommendation (Table 2 & 3)

Recommended HIV Post Exposure Prophylaxis (PEP) for mucous membranes exposures and non-intact skin exposures (Table 2)

Exposure Type	HIV Positive Class 1	HIV Positive Class 2	Source of Unknown HIV Status	Unknown Source	HIV Negative
Small Volume	Consider basic 2-drug PEP1	Recommend basic 2-drug PEP	Generally, no PEP is warranted	Generally, no PEP is warranted	No PEP is warranted
Large Volume	Recommend basic 2-drug PEP	Recommend expanded >3-drug PEP	Generally, no PEP is warranted; however, consider basic 2-drug PEP for source with HIV risk factors	Generally, no PEP is warranted; however, consider basic 2-drug PEP in settings in which exposure to HIV infected person is likely	No PEP is warranted

1. The recommendation to "consider PEP" indicates that PEP is optional; a decision to initiate PEP should be based on a discussion between the exposed person and the treating clinician regarding the risks versus benefits of PEP.

01.FA 4/23/09 11:13 AM Page 28

Recommended HIV Post Exposure Prophylaxis (PEP) for percutaneous injuries (Table 3)

Exposure Type	HIV Positive Class 1	HIV Positive Class 2	Source of Unknown HIV Status	Unknown Source	HIV Negative
Less Severe	Recommend basic 2-drug PEP	Recommend expanded >3-drug PEP	Generally, no PEP is warranted. Consider basic 2-drug PEP for source with HIV risk factors	Generally, no PEP is warranted. However, consider basic 2-drug PEP in settings in which exposure to HIV infected person is likely	No PEP is warranted
More Severe	Recommend expanded >3-drug PEP	Recommend expanded >3-drug PEP	Generally, no PEP is warranted. Consider basic 2-drug PEP for source with HIV risk actors	Generally, no PEP is warranted; However, consider basic 2-drug PEP in settings in which exposure to HIV infected person is likely	No PEP is warranted

01.FA 4/23/09 11:13 AM Page 29

RECOMMENDED POST EXPOSURE PROPHYLAXIS (PEP) FOR EXPOSURE TO HEPATITIS B VIRUS

Vaccination and antibody response status of exposed workers[1]	Treatment		
	Source HBsAg+ positive	Source HBsAg+ negative	Source unknown or not available for testing
Unvaccinated	HBIG*x1 and initiate HB vaccine series#	Initiate HB vaccine series	Initiate HB vaccine series
Previously vaccinated			
Known responder[2]	No treatment	No treatment	No treatment
Known non-responder	HBIG x1 and initiate revaccination or HBIG x2**	No treatment	If known high risk source, treat as if source were HBsAg positive
Antibody response unknown	Test exposed person for anti-HBs++ 1. If adequate[2], no treatment is necessary 2. If inadequate[3], administer HBIG x1 and vaccine booster	No treatment	Test exposed person for anti-HBs 1. If adequate antibody to HBsAg, no treatment is necessary 2. If inadequate antibody to HBsAg, administer vaccine booster and recheck titre in 1-2 months

01.FA 4/23/09 11:13 AM Page 30

+ Hepatitis B surface antigen.
* Hepatitis B immune globulin; dose is 0.06mL/kg intramuscularly.
# Hepatitis B vaccine.
++ Antibody to HBsAg.

** The option of giving one dose of HBIG, and reinitiating the vaccine series is preferred for nonresponders who have not completed a second 3-dose vaccine series. For person/s who has previously completed a second vaccine series but failed to respond, two doses of HBIG are preferred.

1. Person/s who has previously been infected with HBV is immune to reinfection and do not require Post Exposure Prophylaxis.
2. A responder is a person with adequate levels of serum antibody to HBsAg (i.e., anti-HBs U/mL).
3. A nonresponder is a person with inadequate response to vaccination (i.e., serum anti-HBs <10mIU/mL).