The Philippine Clinical Practice Guidelines on HIV-Infected Healthcare Workers

PHILIPPINE SOCIETY FOR MICROBIOLOGY AND INFECTIOUS DISEASES

GUIDANCE ON THE MANAGEMENT OF HIV-INFECTED HEALTHCARE WORKERS

in the Philippines

Participating Professional Medical Societies

Philippine College of Physicians (PCP)
Philippine Hospital Association (PHA)
Association of Philippine Medical Colleges Foundation, Inc. (APMCFI)
Philippine Association of Medical Technologists (PAMET)
Philippine Dental Association
Philippine Nurses Association
Philippine Obstetrical Gynecologists Society
Philippine Hospital Infection Control Society

Task Force Members

Co-Chair: Katherine Z. Cosca, MD
Mediadora C. Saniel, MD

Members:
Gloria Almaniego, MD
Shiela Ariola, MD
Jennifer Co, MD
Jonelyn Colobong, MD
Mary Clare Carmelle Coronel, MD
Virginia Ducusin, RN
Christian Francisco, MD
Anne Louise Gabriel, MD
Miguel Gary Galvez,
Elfleda A. Hernandez, MD
Rozelle Jade Javier, MD
Katerina Leyritana, MD
Vegloure M. Maguinsay, MD
Joan Malapajo, MD
Pamela Rose Matti, MD
May Montellano, MD
Allen Peñaflorida, RMT
Ronaldo Puno, RMT
Ellan Lyll Salada, MD
Edsel Maurice Salvaña, MD
Rhayvian Peter Senar, MD
Jamie Trifalgar-Arches, MD
Robert Uyquiengco,
Nanette Wong, MD

Copy Editor:
Louie Mar Gangcuangco, MD

Advisers
Chair: Rossana A. Ditangco, MD
Mary Anne D. Lansang, MD

Guidance on the Management of HIV-infected Healthcare Workers in the Philippines

(Released on November 27, 2017)

1. Introduction

The number of people living with HIV in the Philippines continues to increase at an alarming rate. In May 2017 alone, there were 1,098 new HIV cases reported to the HIV/AIDS & ART Registry of the Philippines, the highest number recorded in a single month since 1984.[1] As the virus spreads throughout the archipelago, healthcare workers are not spared from the epidemic. Data from two treatment hubs showed that 0.03% of the patients infected with HIV are healthcare workers (K. Leyritana and M. Bartolome, personal communication, 2016). An HIV testing project conducted in Metro Manila among 406 men who have sex with men revealed that among the 40 Western Blot-confirmed HIV cases, one participant (2.5%) was a physician.[2] The risk of HIV infection among healthcare workers is mitigated by the availability of post-exposure prophylaxis (PEP) and personal protective equipment that prevent injuries from sharp medical devices. However, it must be noted that healthcare workers may also be exposed to HIV through other routes, such as unprotected vaginal sex and anal sex, among others.

The diagnosis of HIV continues to carry a significant stigma in the Philippines. This stigma may impede access to healthcare services, such as HIV testing and treatment.[3] For healthcare professionals, a diagnosis of HIV infection can be devastating. There have been reports of newly-diagnosed students leaving medical school or pursuing a non-clinical specialty.[4] HIV-infected physicians are also hesitant to disclose their HIV status to hospital authorities from fear of discrimination, curtailment of privileges or expulsion.[4] Unfortunately, the management and treatment of healthcare workers living with HIV are not always evidence-based and do not take into account the actual but small risk of HIV transmission to the patient and the inherent human rights of the healthcare worker.

The Philippine Society for Microbiology and Infectious Diseases (PSMID) HIV subcommittee on healthcare workers published these recommendations to guide physicians and hospital administrators involved in the management of HIV-infected healthcare workers. The recommendations were drafted in collaboration with the Philippine Medical Association (PMA), Philippine College of Physicians (PCP), Philippine College of Surgeons (PCS), Philippine Obstetrical and Gynecological Society (POGS), Philippine Dental Association (PDA), Philippine Association of Medical Technologists (PAMET), Philippine Hospital Infection Control Society (PHICS), Philippine Pediatric Society (PPS), Philippine Nurses Association (PNA), and the Craniofacial Foundation of the Philippines (CFFP). The main objective of this paper is to provide an ethical and legal framework in managing the HIV-infected healthcare worker, balancing the rights and safety of both the patient and the healthcare provider. These recommendations are based on current evidence and will be updated as new data emerge.

2. Definition of Terms

Infected healthcare worker – a healthcare provider who is infected with HIV.

Patient – an individual seeking health services from an -infected healthcare worker.

Attending physician – the physician who manages the infected healthcare worker. The attending physician may not necessarily be affiliated with the healthcare worker's place of work.

Hospital Infection Prevention and Control Unit (HIPCU) – the hospital unit responsible for monitoring, preventing, and controlling the spread of infection in the hospital; also sometimes known as the Infection Control Committee (ICC) or Hospital Infection Control Unit (HICU).

HIV/AIDS Core Team (HACT) – a multidisciplinary group of healthcare workers involved in coordination, implementation, assessment, training and research on matters related to the

diagnosis and management of HIV/AIDS patients and the prevention and control of HIV transmission in the hospital.

Exposure – a sentinel event where a patient is accidentally exposed to the blood or body fluids of an infected healthcare worker.

Antiretroviral therapy (ART) - combination of several antiretroviral medicines used in treating and controlling viral replication of HIV.

Post-exposure prophylaxis (PEP) – antiretroviral medicines provided to an individual after exposure to HIV to prevent or reduce the risk of HIV infection.

3. The risk of HIV transmission from a healthcare worker to a patient

Literature review shows only nine published cases of possible HIV transmission from healthcare workers to their patients. The first six cases were published in 1995 when an HIV-infected dentist in the USA was investigated for possibly infecting six of his patients.[5] According to the report, the dental practice did not follow standard sterile techniques and universal precautions; however, epidemiologic analysis also revealed that the patients had other risk factors for HIV infection.[5] In 1996, a 61-year-old HIV-negative female with no risk factor for HIV infection underwent surgery in France.[6] Although she did not require blood transfusion during the procedure and none of the surgical staff were found to be HIV positive, she seroconverted four weeks after surgery. Phylogenetic analyses of the HIV-1 genomic regions traced back the infection from a female night-shift nurse that took care of her post-operatively.[6] Another case published in 1999 described the transmission of HIV from an orthopedic surgeon with AIDS to a female patient who underwent total hip prosthesis placement with bone graft.[7] In 2006, a 32 year-old woman developed acute retroviral syndrome two weeks after caesarean section. The patient tested positive for HIV and the obstetrician who was known to have HIV admitted that he had a needlestick injury while performing the caesarean section.[8]

Current evidence supports the conclusion that the risk of HIV transmission from an HIV-infected healthcare worker to a patient is very low and is estimated to be 2.4–24 per 1 million procedures.[9,10] In the United Kingdom, the Expert Advisory Group on AIDS, the Advisory Group on Hepatitis, and the UK Advisory Panel for Healthcare Workers Infected with Blood-borne Viruses concluded that the risk of HIV transmission from an infected *and untreated* healthcare worker to a patient is extremely low for most invasive procedures and negligible for less invasive procedures.[10] In the USA, the Centers for Disease Control and Prevention conducted a study of more than 22,000 patients treated by 64 HIV-infected healthcare workers. Laboratory and epidemiologic analyses did not reveal any healthcare-associated transmission of HIV.[11]

Although the documented healthcare risk for HIV transmission is low, a standard stratification of risks associated with each medical/surgical procedure is important when drafting recommendations for the HIV-infected healthcare worker. Reitsma et al. classified medical and surgical procedures into three categories, depending on the risk of transmission of blood-borne viruses (HIV, hepatitis B, and hepatitis C) from the infected healthcare worker to a patient:[12]

Category I procedures are medical procedures where the likelihood of viral transmission is deemed negligible. The anatomical site of the procedure is either superficial, with minimal involvement of sharps, or does not involve sharps at all. The surgical field and the physician's hands are visible at all times. These procedures also include history-taking and standard medical exams where there is no risk for blood-to-blood contact between the healthcare worker and the patient.

Category II procedures are procedures where viral transmission from healthcare worker to patient is unlikely but theoretically not impossible, and the risk of blood-to-blood contact between physician and patient is minimal. Procedures under this category involve surgeries where the operative field and the physicians' hands are well visualized, and no deep spaces are reached except when using medical devices (such as catheters and scopes).

Category III procedures are exposure-prone procedures (EPPs) where healthcare transmission has been previously documented. These include surgeries that are extensive and involve deep cavities where the healthcare provider's finger and a sharp instrument are simultaneously present in a poorly visualized or highly confined anatomic site. EPPs are listed in Table 1.

Table 1: List of Exposure-Prone Procedures*

- Trauma surgery
- Orthopedic surgery
- Cardiothoracic surgeries
- Open extensive head and neck surgeries involving bone
- Dental procedures including periodontal surgeries, tooth extractions
- Neuro surgery
- Amniocentesis
- Chorionic villus sampling
- Hysterectomy, oophorectomy
- Caesarian section
- Open abdominal and pelvic surgeries
- Episiotomy and herniorraphy
- Organ transplantation
- Plastic surgery involving extensive cosmetic procedure and/or involving bone
- Thyroidectomy
- Open surgical procedure >3 hours duration
- Non-elective procedures performed at the Emergency Department
- Interaction with patients in which biting of physicians is significant

**Adapted from Reitsma, et al.* [12]

Aside from the inherent risks associated with medical procedures, the healthcare worker's viral load also affects HIV transmissibility. The World Health Organization currently recommends all individuals living with HIV to be on ART regardless of $CD4^+$ T cell count.[13] Moreover, early initiation of

ART reduces progression to AIDS and decreases mortality.[13] Hence, it is strongly recommended that ART is promptly initiated, most especially among HIV-infected healthcare workers.

4. HIV testing of healthcare workers

Standard medical testing and healthcare assessment, including a complete physical examination and documentation of vaccination status, should be conducted among healthcare workers who are about to commence training or employment in a clinical care setting. We recommend that HIV antibody testing be offered and integrated in this health assessment, where HIV testing will be performed routinely unless the healthcare worker opts out.

It must be noted that HIV antibody testing must be voluntary and cannot be a requirement for consideration for employment in the Philippines. It is considered unlawful under the Philippine AIDS Prevention and Control Act of 1998 (Republic Act 8504) to perform compulsory HIV testing as a pre-requisite for employment or admission to an educational institution.[14]

Although testing is not mandatory by law, all new healthcare workers should be counseled on the importance of knowing one's HIV status. Healthcare workers, especially those involved in EPPs, are ethically bound to seek HIV testing as soon as they have been exposed to HIV occupationally or through other means. Appropriate medical and occupational support should be provided once a healthcare worker is found to be infected with HIV.

5. Health Management Team

An infected healthcare worker must have an attending physician overseeing and managing his/her care. It is also recommended that a health management team be organized to ensure patient safety and provide support to the infected healthcare worker. This management team will be composed of the infected health care worker's attending physician, a representative of the HIPCU, the head of the HACT, and the Deputy Director for Hospital Operations or its equivalent position. The head of the hospital HACT may or may not be the

healthcare worker's attending physician.

It is the attending physician's responsibility to evaluate the clinical status of the infected healthcare worker, including his/her HIV RNA viral load. The HIPCU shall assess the procedures that the healthcare worker may perform safely as well as his/her adherence to accepted infection control precautions. The HACT is responsible for ensuring that the healthcare worker has access to antiretroviral medicines and proper counseling. The HACT also ensures that the hospital has access to post-exposure prophylactic drugs in the event of patient exposure or a sentinel event.

The deputy director for hospital operations does *not* need to be aware of the identity of the HIV-infected healthcare worker. However, the deputy director must be aware that an infected healthcare worker is employed by the institution.

In cases of patient exposure, the HIPCU shall be primarily responsible for patient management. This shall be done in cooperation with the HACT and the hospital administration through the office of the Deputy Director for Hospital Operations.

6. Management of HIV-infected healthcare workers

The infected healthcare worker shall have an attending physician who will primarily be responsible for his/her management. The attending physician shall update the HIPCU and HACT on the health status of the healthcare worker, including confidential forwarding of laboratory test results.

The infected healthcare worker may perform any medical procedure, except EPPs. To perform EPPs, the healthcare worker must meet *both* of the following criteria:

a. He/she must be on regular antiretroviral therapy **AND**
b. Have a plasma HIV viral load of less than 500 copies/ml[1*]

[*] There is currently no data on the minimum viral load necessary for transmission of HIV to occur from an infected healthcare worker to a patient. The cut-off of <500 copies/ml is an arbitrary practice restriction threshold. This threshold was adapted from the 2010 Society for Healthcare Epidemiology of America (SHEA) guidelines,[4,15] as agreed upon by the committee. The cut-off of <500 copies/ml was chosen because those with undetectable viral load may experience viral "blips"/spikes up to 500 copies/ml despite ART.

The attending physician shall be responsible for monitoring the healthcare worker's medical care and declaring him/her "fit to work." It is ideal that the healthcare worker has appropriate immune reconstitution (without opportunistic infections and with a CD4 T cell count >350 cells/mm^3). In cases when the CD4 T cell count does not reach 350 cells/mm^3, it is up to the attending physician judge whether to recommend the healthcare worker as "fit to work". He/she may also offer options for the healthcare worker to be assigned to a specific hospital section/ward, or to recommend that it is safe for the healthcare worker to perform EPPs. The HIPCU shall provide clearance to perform EPPs based on the recommendations of the attending physician and available laboratory results.

6.1 Monitoring

All infected healthcare workers must undergo medical follow-up as recommended by their attending physician. Following the resolution of opportunistic infections, if any, it is recommended that the healthcare worker undergo medical follow-up every three months.

Viral load monitoring is recommended to be done every 6 months.

6.2 Clearance for healthcare workers wishing to perform EPPs

Healthcare workers on effective and regularly taken antiretroviral therapy and have a viral load of less than 500 copies/ml may be allowed to perform EPPs. If a healthcare worker's viral load increases above 500 copies/ml, it is recommended that EPPs should not be performed. This restriction shall be recommended by the attending physician and implemented by the HIPCU and HACT.

7. Disclosure

Healthcare workers are *not* obliged to disclose to the hospital/workplace their HIV status. This applies to healthcare workers who are newly diagnosed or previously diagnosed with HIV. However, it is highly encouraged that he/she informs the HIPCU and HACT.

Providing healthcare services is a two-way relationship, where safety of both the patient and the healthcare provider must be considered. Informing the HIPCU and HACT of the healthcare provider's HIV status would ensure that necessary support and medical care is made available to the worker while ensuring that no patient is being exposed to undue risks from EPPs.

Any colleague or co-worker who is aware of the HIV status of the infected healthcare worker is likewise *not* obliged and cannot be forced to disclose the status of his/her co-worker.

The attending physician managing the healthcare worker is also *not* obliged to inform the healthcare worker's place of work unless it is with the express instruction and consent of the healthcare worker.

Once the HIPCU and HACT have been informed, the HIPCU shall be responsible for informing the office of the deputy director for hospital operations of the number of infected healthcare workers employed by the hospital.
It is expected that all cases shall be managed confidentially and in accordance with the law.

8. Management of a patient following healthcare exposure

Each patient encounter is unique and depends on the rapport between the healthcare worker and the patient. Disclosure of a healthcare worker's HIV status to a patient prior to treatment is not recommended but is also not prohibited.
In cases where an HIV-infected healthcare worker accidentally exposed a patient to the worker's blood, the infected healthcare worker is responsible for immediately alerting the HIPCU and HACT that a possible exposure occurred. Standard protocols

on occupational exposure that are set by the hospital's HIPCU shall be followed, including offering of baseline HIV testing for the patient.

A detailed risk assessment shall be performed by the HIPCU immediately. The appropriateness of PEP will be determined by the HIPCU after performing the risk assessment. Since animal studies have shown that PEP becomes less effective as the time from exposure lengthens, PEP must be offered and taken by the patient as soon as possible.[16] These services, including antiretroviral medications, shall be provided for free.

PEP with two antiretroviral medications is effective, but the combination of three medications is preferred.[16] A combination of tenofovir and lamivudine is the preferred backbone regimen for adults and children >10 years old. For children 10 years old and below but older than 2 weeks, zidovudine and abacavir combination is the preferred backbone. Lopinavir/ritonavir is the preferred third drug for both groups, especially if the healthcare worker has been already on ART. For children less than 2 weeks old, the combination of lamivudine and zidovudine is the preferred PEP backbone with nevirapine as the third drug (Table 2).[17]

Table 2. Recommended post-exposure prophylaxis (PEP) regimens*

Backbone Antiretrovirals	Third Drug
HIV PEP Regimen for adults and children >10 years old	
Tenofovir (TDF) + Lamivudine (3TC)	Lopinavir/ritonavir (LPV/r)
HIV PEP Regimen for children > 2 weeks old and ≤ 10 years old	
Zidovudine (AZT) + Abacavir (ABC)	Lopinavir/ritonavir (LPV/r)
HIV PEP Regimen for children <2 weeks old	
Lamivudine (3TC) + Zidovudine (AZT)	Nevirapine (NVP)

** Adapted from the WHO guidelines on post-exposure prophylaxis for HIV*[17]

It is the responsibility of both the HIPCU and HACT to manage the patient. Repeat HIV testing is recommended to be performed 3 months after exposure, regardless of whether the patient accepted or declined PEP.

9. Sanctions on non-compliant healthcare workers

Any person who causes another to get infected with HIV willfully or negligently in the course of the practice of his/her profession through unsafe and unsanitary practices/procedures is subject to the penalties stipulated in Section 14 of R.A. 8504.[14]

References

0

1. National HIV/AIDS & STI Surveillance and Strategic Information Unit, Epidemiology Bureau, DOH. Stat of the Month (May 2017). http://www.doh.gov.ph/stat_of_the_month. Accessed November 20, 2017.

2. Gangcuangco LM, Tan ML, Berba RP. Prevalence and risk factors for HIV infection among men having sex with men in Metro Manila, Philippines. *Southeast Asian J Trop Med Public Health.* 2013;44(5):810-817.

3. Opollo JG, Gray J. Stigma in HIV-infected health care workers in Kenya: a mixed-method approach. *J Assoc Nurses AIDS Care.* 2015;26(5):639-651.

4. Salvana EM, Solante R. HIV in the Filipino Healthcare Worker: A Way Forward. *Acta Med Philippina.* 2015;49(4):1-6.

5. Karrel AI. HIV-infected physicians: how best to protect the public? *CMAJ.* 1995;152(7):1059-1062.

6. Goujon CP, Schneider VM, Grofti J, et al. Phylogenetic analyses indicate an atypical nurse-to-patient transmission of human immunodeficiency virus type 1. *J Virol.* Mar 2000;74(6):2525-2532.

7. Lot F, Seguier JC, Fegueux S, et al. Probable transmission of HIV from an orthopedic surgeon to a patient in France. *Ann Intern Med.* 1999;130(1):1-6.

8. Mallolas J, Arnedo M, Pumarola T, et al. Transmission of HIV-1 from an obstetrician to a patient during a caesarean section. *AIDS.* 2006;20(2):285-287.

9. Chua A, Leo YS, Kurup A, Chlebicki MP, Lee CC. Healthcare workers and HIV health issues. *Ann Acad Med Singapore.* 2008;37(7):576-579.

10. Public Health England. The Management of HIV-infected Healthcare Workers who perform exposure prone procedures: updated guidance, January 2014.

11. Robert LM, Chamberland ME, Cleveland JL, et al. Investigations of patients of health care workers infected with HIV. The Centers for Disease Control and Prevention database. *Ann Intern Med.* 1995;122(9):653-657.

12. Reitsma AM, Closen ML, Cunningham M, et al. Infected physicians and invasive procedures: safe practice management. *Clin Infect Dis.* 2005;40(11):1665-1672.

13. World Health Organization. *Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV*. Geneva, 2015.

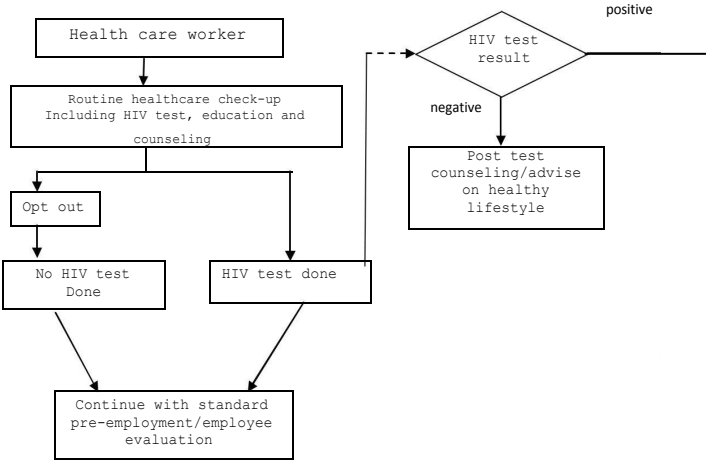
14. Congress of the Philippines. Philippine AIDS Prevention and Control Act of 1998. http://www.lawphil.net/statutes/repacts/ra1998/ra_8504_1998.html.

15. Henderson DK, Dembry L, Fishman NO, et al. SHEA guideline for management of healthcare workers who are infected with hepatitis B virus, hepatitis C virus, and/or human immunodeficiency virus. *Infect Control Hosp Epidemiol.* Mar 2010;31(3):203-232.

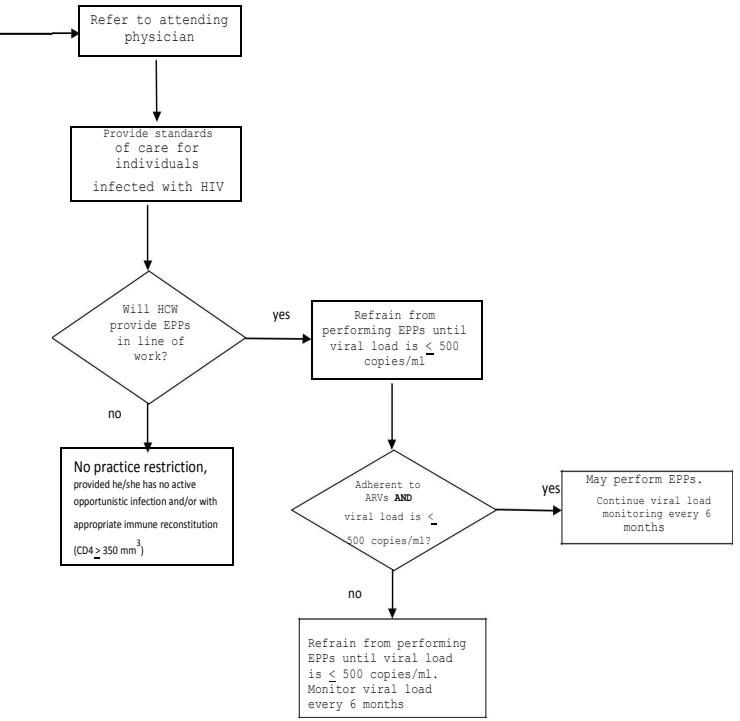
16. Kuhar DT, Henderson DK, Struble KA, et al. Updated US Public Health Service guidelines for the management of occupational exposures to human immunodeficiency virus and recommendations for postexposure prophylaxis. *Infect Control Hosp Epidemiol.* 2013;34(9):875-892.

17. World Health Organization. *Guidelines on post-exposure prophylaxis for HIV and the use of co-trimoxazole prophylaxis for HIV-related infections among adults, adolescents and children: Recommendations for a public health approach.* December 2014 supplement to the *2013 consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection*. Geneva, 2014.

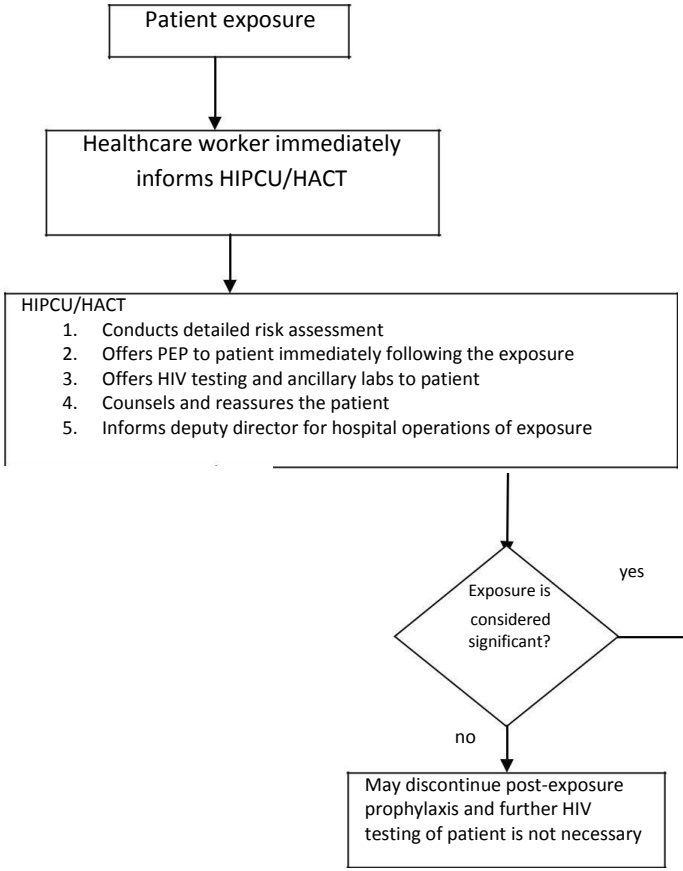
Appendix A. Algorithm for the management of the HIV-infected healthcare worker



Abbreviations: EPP: Exposure-prone procedures; HCW: healthcare worker


Refer to attending physician
Provide standards of care for individuals infected with HIV
Will HCW provide EPPs in line of work?
yes
Refrain from performing EPPs until viral load is ≤ 500 copies/ml
no
No practice restriction, provided he/she has no active opportunistic infection and/or with appropriate immune reconstitution (CD4 ≥ 350 mm3)
Adherent to ARVs AND viral load is ≤ 500 copies/ml?
yes
May perform EPPs. Continue viral load monitoring every 6 months
no
Refrain from performing EPPs until viral load is ≤ 500 copies/ml. Monitor viral load every 6 months

Appendix B. Algorithm for the management of the exposed patient to an HIV-infected healthcare worker



Abbreviations: HIPCU: Hospital Infection Prevention and Control Unit; HACT: HIV/AIDS Core Team; PEP: post-exposure prophylaxis

Note: Each hospital must have a sentinel event reporting policy in place which includes but is not limited to reporting of occupational exposures to blood and body fluids.

For the patient:

1. Continue PEP for 28 days
2. HIV testing to be offered for free at time of exposure, and at 3 months.
3. Counseling shall also be offered

Note: Each hospital must have a sentinel event reporting policy in place which includes but is not limited to reporting of occupational exposures to blood and body fluids.

For the patient:

1. Continue PEP for 28 days
2. HIV testing to be offered for free at time of exposure, and at 3 months.
3. Counseling shall also be offered