GUIDELINES FOR OCCUPATIONAL POST-EXPOSURE PROPHYLAXIS (PEP)

Need help?
Contact the TOLL-FREE National HIV & TB Health Care Worker Hotline at
0800 212 506 / 021 406 6782
Alternatively "whatsapp" or send an SMS or "Please Call Me" to
071 840 1572
www.mic.uct.ac.za

PEP should be initiated immediately. Don't wait for confirmatory results before initiating. Don't delay initiation of PEP if unsure about appropriate regimen as this can be modified after consultation with an expert

Step 1: IMMEDIATE MANAGEMENT OF HEALTH CARE WORKER

- Assess eligibility for HIV PEP (Table 1)
- Provide thorough, confidential, pre-test counselling before HIV testing
- Baseline HIV test in health care worker, rapid test:
  - If negative: initiate PEP, confirm with HIV antibody laboratory test (ELISA)
  - If positive: do confirmatory rapid. If confirmatory negative, initiate PEP and do ELISA. If confirmatory positive, refer for initiation of ART
- Post-test counselling and results should be handled in strict confidence
- If the health care worker refuses HIV testing, offer PEP but no compensation will be granted if health care worker becomes HIV-positive

Step 2: PEP

- If PEP is indicated, it should ideally be initiated within one hour and not later than 72 hours after the exposure. For higher risk exposures (injury is deep OR involves a hollow needle OR the source is more infectious e.g. terminal AIDS, seroconversion illness, or has a high viral load), consider giving PEP up to 7 days after exposure
- Don't wait for ELISA test results of the health care worker or source patient. If source patient is found to be negative after ELISA test, then HIV PEP can be discontinued, unless source is showing signs of seroconversion illness
- See Table 2 for HIV PEP regimens, and Table 4 for Hepatitis B PEP
- Continue HIV PEP for 28 days
- Starter packs are not recommended. Provide a full 28 day supply

Step 3: TESTING SOURCE PATIENT

- If possible, the source patient should be tested for Hepatitis B and C, and HIV (according to National Testing algorithm). See Table 3
- If source is Hepatitis B surface antigen positive or unknown, refer to Table 4 for hepatitis B post-exposure prophylaxis for the health care worker
- Offer comprehensive and confidential pre-test counselling and ensure informed consent is given
- If consent is refused there are 2 options:
  - ⇒HIV test can be offered anonymously
  - ⇒If there is an existing blood specimen, the HIV test can be done anonymously, after informing the source patient. Anonymous testing means that the blood sample will not be labelled with the source patient's details, thus the result can't be connected to the source patient
- Stop PEP if the source patient's HIV test is confirmed to be negative, unless patient is showing signs of seroconversion illness. Discuss with virologist
- If the source can't be tested for HIV or refuses, the exposed person should be treated as if the source is HIV-positive

Step 4: FOLLOW UP AND MONITORING

- Ongoing psychosocial support is required
- HIV tests should be repeated at 6 weeks and 3 or 4 months post exposure using a laboratory antibody test (ELISA). Repeat hepatitis B surface antigen in health care worker at 3 months, if source was positive. See Table 3
- Health care worker should be counselled to practice safe sex (use condoms) until a negative result on the HIV test at 3 or 4 months, is confirmed
- Side effects should be actively sought and managed

AIDS: Acquired Immune Deficiency Syndrome; ART: Antiretroviral treatment; HIV: Human immunodeficiency virus; PEP: Post-exposure prophylaxis

TABLE 1: DOES THE HIV-EXPOSED NEED PEP?

Careful risk-benefit assessment needs to be done before initiating HIV PEP, as the antiretroviral drugs can cause serious side effects

Exposure	HIV Status of source patient	
	Negative	Unknown or Positive
Intact skin to infectious or non-infectious materials	no PEP	no PEP
Mucous membrane or non-intact skin exposure, including splash or contact with open wound, to blood or other infectious materials	no PEP	3-drug regimen
Percutaneous exposure (needle stick) to blood or other infectious materials	no PEP	3-drug regimen

INFECTIOUS MATERIAL

- Blood or any bloodstained fluids, tissue or other material
- Vaginal secretions or penile pre-ejaculate and semen
- Fluid from any body cavity such as pleural, pericardial, amniotic, peritoneal, synovial and cerebrospinal fluids
- Breast milk

Saliva, tears, vomitus, sweat and urine pose no risk of HIV, unless contaminated with infectious materials e.g. blood

TABLE 2: WHICH HIV PEP REGIMEN?

Choose one option from each column:

NRTI dual regimen		INSTI or PI-combination
Tenofovir 300 mg + emtricitabine 200 mg combination tablet daily OR Tenofovir 300 mg daily PLUS lamivudine 300 mg daily OR Lamivudine 150 mg + zidovudine 300 mg combination tablet 12 hourly	+	Dolutegravir 50 mg daily (preferred) OR Atazanavir 300 mg PLUS ritonavir 100 mg daily OR Aluvia® (lopinavir/ritonavir 200/50 mg) 2 tablets 12 hourly OR Raltegravir 400 mg 12 hourly

SPECIAL PRESCRIBER'S POINTS

- Tenofovir + lamivudine + dolutegravir (fixed dosed combination) is the preferred option
- Tenofovir is better tolerated than zidovudine
- Atazanavir + ritonavir is given once daily and usually better tolerated than Aluvia®. A fixed dose combination of atazanavir (300 mg)+ ritonavir (100 mg) is available
- Always check for drug-drug interactions. Atazanavir is contra-indicated with rifampicin and proton-pump inhibitors e.g. omeprazole, lansoprazole. Polyvalent cations (Mg^{2+}, Fe^{2+}, Ca^{2+}, Al^{3+}, Zn^{2+}) interact with dolutegravir and raltegravir. Please check how to administer correctly
- Dolutegravir should be avoided in woman trying to conceive, or during the first 7 weeks of pregnancy
- If the source patient is failing on a second line regimen or is on a third line regimen or salvage therapy, consult with an Infectious Disease Specialist or the Hotline

Note: Nevirapine and abacavir should be avoided in PEP
NRTI: Nucleoside/tide-reverse transcriptase inhibitor; PI: Protease-inhibitor; INSTI: Integrase strand transfer inhibitor

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Based on: *Standard Treatment Guidelines, Hospital Level, 2019*, National Department of Health, South Africa, and the HIV Clinicians' Society's *Guidelines on the management of occupational and non-occupational exposure to the human immunodeficiency virus and recommendations for post-exposure prophylaxis: 2015 Update.*

TABLE 3: TESTING

	SOURCE PATIENT	HIV-EXPOSED			
	BASELINE	BASELINE	2 WEEKS	6 WEEKS	3# MONTHS
HIV	Rapid test, **AND** HIV ELISA	Rapid test(s). If negative, confirm with HIV ELISA		HIV ELISA	HIV ELISA
Hepatitis B	Surface antigen	Surface antibody			Surface antigen
Hepatitis C	Antibody	Antibody*		PCR**	
Serum creatinine		If TDF part of PEP	If TDF part of PEP		
FBC & diff		If AZT part of PEP	If AZT part of PEP		

*Only if source patient is positive; **Only if source antibody positive and health care worker antibody negative #Standard Treatment Guidelines Hospital Level 2019, National Department of Health recommends final HIV test at 4 months. HIV Clinicians Society 2015 PEP Guidelines recommends 3 months

TABLE 4: HEPATITIS B POST EXPOSURE PROPHYLAXIS

Vaccination status and antibody response of healthcare worker	Source patient	
	HBsAg positive or unknown	HBsAg negative
Unvaccinated or vaccination incomplete	• HBIG, IM, 500 units* • Hep B vaccine (3 doses at monthly intervals)	Initiate Hep B vaccination (month 0, 1 and 6)
Vaccinated AND known to have HBsAb titre ≥ 10 units/mL#	No treatment	No treatment
Vaccinated AND HBsAb ≤ 10 units/mL OR unknown	• HBIG, IM, 500 units* • Hep B vaccine (3 doses at monthly intervals)	No treatment

*Refer to secondary level of care for HBIG, IM. HBIG should be given as soon as possible, preferably within 24-72 hours after exposure (or within 7 days); #If obtaining HBsAb titre is more than 24 hours, initiate treatment as for vaccinated with HBsAb ≤ 10 units/mL; **Note:** Repeat HBsAb 1-2 months after last vaccine dose to ensure adequate immune response (i.e. HBsAb > 10 units/mL)

HBsAg: Hepatitis B surface antigen; HBsAb: Hepatitis B surface antibody; HBIG: Hepatitis B immunoglobulin

POSSIBLE SIDE-EFFECTS OF ANTIRETROVIRAL TREATMENT

Atazanavir/ritonavir	Generally well tolerated. Jaundice with unconjugated hyperbilirubinaemia occurs commonly, but is benign; hepatitis
Dolutegravir	Usually well tolerated. Avoid during the first 7 weeks of pregnancy and in woman of childbearing age not on a contraceptive
Emtricitabine/ Lamivudine	Generally well tolerated
Lopinavir/ritonavir	Diarrhoea, nausea, vomiting, hepatitis
Raltegravir	Generally well tolerated. Nausea, fatigue, Stevens-Johnson syndrome
Tenofovir	Generally well tolerated. Nausea, diarrhoea, vomiting, nephrotoxicity
Zidovudine	Nausea, vomiting, headache, fatigue, anaemia, neutropenia

SPECIAL CONSIDERATIONS

Pregnancy: PEP is not contra-indicated in pregnancy. Avoid dolutegravir in woman actively trying to conceive, or during the first 7 weeks of pregnancy

Breastfeeding: Although some drugs are transmitted through the breastmilk, it is not considered to be harmful to the breastfed child. If the health care worker is however infected with HIV, the risk of transmitting HIV to the baby during this early stage of infection is high

Window period: PEP is not indicated if the source is HIV-negative, unless acute antiretroviral syndrome is suspected (symptoms include: fever, lymphadenopathy, sore throat, rash, myalgia, arthralgia, headache)