Post Exposure Prophylaxis Guidelines for Occupational Exposure

DEFINITION OF AN OCCUPATIONAL EXPOSURE

An occupational exposure that may place a worker at risk of HIV infection is a percutaneous injury, contact of mucous membrane or contact of skin (Especially when the skin is chapped, abraded or afflicted with dermatitis or the contact is prolonged or involving an extensive area) with blood, tissue or other body fluids to which universal precaution apply.

OCCUPATIONAL EXPOSURE TO HIV - VERY LOW RISK

- needle stick injuries
- cuts from other sharps
- contact of eye, nose, mouth or skin with blood

MOST EXPOSURES DO NOT RESULT IN INFECTION

Factors affecting transmission

- amount of blood in the exposure
- amount of virus in patient's blood
- whether P.E.P. taken or not

AVERAGE RISK OF HIV INFECTION AFTER AN OCCUPATIONAL EXPOSURE

SMALL AMOUNT OF BLOOD ON INTACT SKIN	NO RISK
NEEDLE STICK INJURY:	1 in 300(0.3%)
EXPOSURE OF EYE, NOSE OR MOUTH:	1 in 1000
RISK WITH DAMAGED SKIN	1 in 1000

RISK INCREASES IF PATIENT HAS HIGH VIRAL LOAD AS IN PATIENTS WITH ACUTE HIV INFECTION OR PATIENT NEAR DEATH

Compare-

risk for hepatitis B	9-40%
risk for hepatitis C	1-10%

PREVENTION OF OCCUPATIONAL EXPOSURE

Standard precautions (universal work precautions) and safe practices

- Wash hand after patient contact, removing gloves.
- Wash hands immediately if hands contaminated with body fluids.
- Wear gloves when contamination of hands with body substances anticipated
- Protective eyewear and masks should be worn when splashing with body substance is anticipated
- All health care workers should take precautions to prevent injuries during procedures and when cleaning or during disposal of needles and other sharp instruments.
- Needle should not be recapped
- Needles should not be purposely bent or broken by hand
- Not removed from disposable syringe nor manipulated by hand
- After use disposable syringes and needles, scalpel blades and other sharp items should be placed in a puncture resistant container.
- Health care workers who have exudative lesions or dermatitis should refrain from direct patient care and from handling equipment
- All needle stick injuries should be reported to infection control officer.
- Handle and dispose of sharps safely
- Clean & disinfect blood / body substances spills with appropriate agents
- Adhere to disinfection and sterilization standards
- Regard all waste soiled with blood/body substance as contaminated and dispose of according to relevant standards
- Vaccinate all clinical and laboratory workers against hepatitis B
- Other measures double gloving changing surgical techniques to avoid " exposure prone" procedures use of needle-less systems and other safe devices.

BODY FLUIDS TO WHICH UNIVERSAL PRECAUTIONS APPLY

- Blood
- Other body fluids containing visible blood
- Semen
- Vaginal secretions
- Cerebrospinal fluid (CSF)
- Synovial fluid
- Pleural fluid
- Peritoneal fluid
- Pericardial fluid
- Amniotic fluid

BODY FLUIDS TO WHICH UNIVERSAL PRECAUTIONS DO NOT APPLY

The risk of HIV transmission is extremely low or negligible

These Include

- Nasal secretions
- Sputum
- Sweat
- Tears
- Urine
- Vomitus
- Saliva

Unless these contain visible blood

USE OF PROTECTIVE BARRIERS

- Protective barriers reduce the risk of exposure of the HCWs skin or mucus membrane to potentially infective materials

- Protective barriers include gloves gowns, masks, protective eye wears.

Selection of protective barriers

Type of exposure	Examples	Protective barriers
Low Risk		
contact with skin with no visible blood	• injections • Minor wound dressing	Gloves helpful but not essential
Medium Risk		
-probable contact with blood -splash unlikely	• vaginal examination, • insertion or removal of intravenous canual • handling of laboratory specimens • large open wounds dressing • venepuncture ,spills of blood	Gloves Gowns and Aprons may be necessary
High Risk		
-probable contact with blood,splashing, uncontrolled bleeding	• major surgical procedures , particularly in orthopaedic surgery and oral surgery; • vaginal delivery	Gloves Water proof Gown or Apron Eye wear Mask

The use of double gloves is not recommended. Heavy duty rubber gloves should be worn for cleanings instruments, handling soiled linen or when dealing with spills

WHAT TO DO ON EXPOSURE TO HIV INFECTED BLOOD?

PROMPT MEASURES

- Do not Panic
- Do not put cut / pricked Finger into your mouth

POST-HIV EXPOSURE MANAGEMENT / PROPHYLAXIS (PEP)

It is necessary to determine the status of the exposure and the HIV status of the exposure source before starting post-exposure prophylaxis(PEP)

Immediate measures :

- wash with soap and water
- no added advantage with antiseptic/bleach

Next step :

- prompt reporting
- post-exposure treatment should begin as soon as possible
- preferably within two hours
- not recommended after seventy-two hours
- late PEP? may be yes
- Is PEP needed for all types of exposures? NO

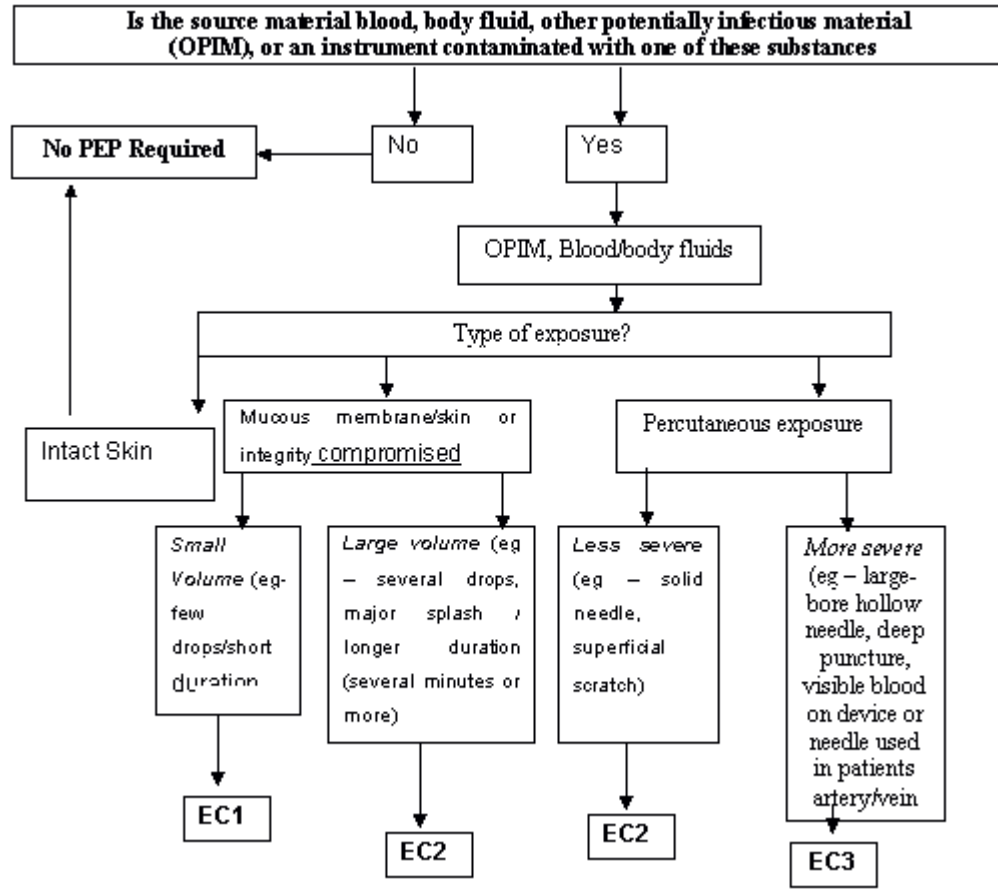
1. Post exposure Prophylaxis:

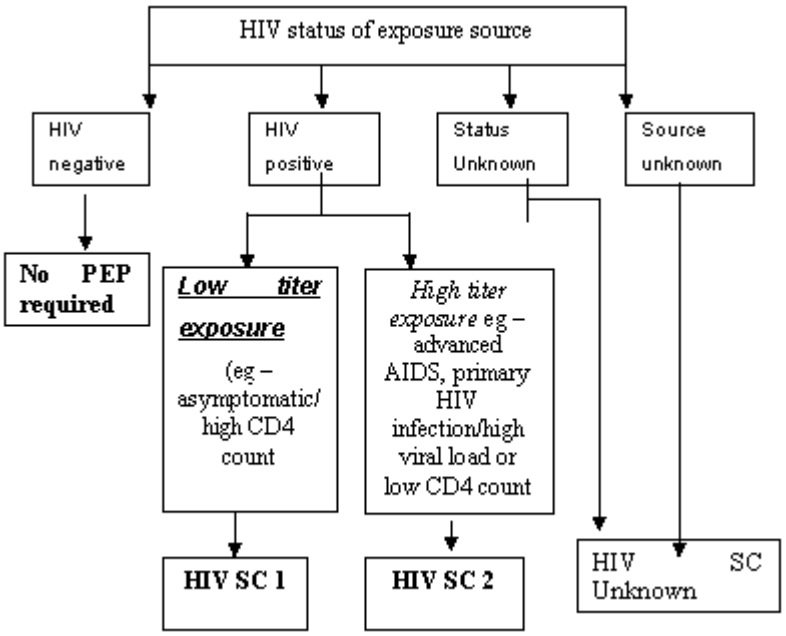
The decision to start PEP is made on the basis of degree of exposure to HIV and the HIV status of the source from whom the exposure/infection has occurred.

2. Determination of the Exposure Code (EC)

Exposure code can be defined as per the flow chart given below. It may be classified into three categories, EC1, EC2 and EC3, depending upon the nature of exposure.

3. Exposure Code (EC)





4. Determination of PEP Recommendation

EC	HIV SC	PEP Recommendation
1	1	PEP may not be warranted
1	2	Consider Basic Regimen
2	1	Recommend Basic Regimen (most exposures are in this category)
2	2	Recommend Expanded regimen
3	1 or 2	Recommend expanded regimen
2/3	Unknown	If setting suggests a possible risk (epidemiological risk factors) and EC is 2 or 3, consider basic regimen

Basic regimen: Zidovudine (AZT) –600 mg in divided doses (300mg/twice a day or 200 mg/thrice a day for 4 weeks + Lamivudine (3TC) – 150 mg twice a day for 4 weeks

Expanded regimen: Basic regimen (+ Indinavir – 800 mg/thrice a day, or any other protease Inhibitor.

4 weeks therapy)

5. Testing and Counselling

The health care provider should be tested for HIV as per the following schedule-

i) Base-line HIV test - at time of exposure

ii) Repeat HIV test - at six weeks following exposure

iii) 2nd repeat HIV test - at twelve weeks following exposure

On all three occasions, HCW must be provided with a pre-test and post-test counselling. HIV testing should be carried out on three ERS (Elisa/ Rapid/ Simple) test kits or antigen preparations. The HCW should be advised to refrain from donating blood, semen or organs/tissues and abstain from sexual intercourse. In case sexual intercourse is undertaken a latex condom be used consistently. In addition, women HCW should not breast-feed their infants

during the follow-up period.

6. Duration of PEP:

PEP should be started, as early as possible, after an exposure. It has been seen that PEP started after 72 hours of exposure is of no use and hence is not recommended. The optimal course of PEP is not unknown, but 4 weeks of drug therapy appears to provide protection against HIV.

If the HIV test is found to be positive at anytime within 12 weeks, the HCW should be referred to a physician for treatment.

7. Pregnancy and PEP:

Based on limited information, anti-retroviral therapy taken during 2nd and 3rd trimester of pregnancy has not caused serious side effects in mothers or infants. There is very little information on the safety in the 1st trimester. If the HCW is pregnant at the time of exposure to HIV, the designated authority/physician must be consulted about the use of the drugs for PEP.

8. Side-effects of these drugs:

Most of the drugs used for PEP have usually been tolerated well except for nausea, vomiting, tiredness, or headache.

9. Steps to be undertaken by the Infection control officer on receiving information about exposure:

- All needle-stick/sharp injuries should be reported to the State AIDS Control societies giving the Exposure Code and the HIV Status code.
- The State AIDS Societies should in-turn inform NACO about the cases periodically.
- A register should be maintained in all hospitals and at the level of the State AIDS Control societies
- NACO has decided to supply PEP drugs to all cases in government hospitals through the State AIDS Control societies
- Infection control officers in all hospitals have been directed to ensure that PEP drugs are available at all times.

RESPONSIBILITIES OF INFECTION CONTROL OFFICER

- Report all needle stick injuries to State AIDS Society in proforma.
- State AIDS Society to inform NACO.
- Registery being Planned in NACO.

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