8.3.5 Responsibilities of Infection Control Nurse in relation with Needle Stick Injury

- Take the full history of injury or exposure.
- Note down the department's name, date & time of injury. Time is very important, since PEP, if required should start within 2 hours of the prick and not >72 hours of NSI/exposure.
- Check out the history of source person (HIV, HBV and HCV status). In case if there is no recent status then send the blood sample urgently to pathology lab and check for HIV, HBsAg and HCV status to decide about Post Exposure Prophylaxes.
- If the source person is HBsAg positive then anti-HBsAg titre for the HCW needs to be checked at the earliest. If the Anti-HBsAg titre of the HCW is below 100 µ/ml provide a booster dose of HBsAg vaccine ,if it is <10 µ/ml- booster dose & HBV immunoglobulin should be administer of to the HCW.
- If the source is known case of HIV infection then information of stage of infection & current as well as previous anti- retroviral therapy should be gathered & used in deciding the most appropriate regimen of Post Exposure Prophylaxis (PEP). Written consent is required before collecting blood sample to check the HIV status of the HCW/ patient.
- If the source person is HCV positive then one year follow up of the HCW should be carried on.

8.3.6 Post Exposure Prophylaxis as per NACO guidelines: -

(a) Introduction

Health care workers are normally at a very low risk of acquiring HIV infection during management of the infected patient. However, in spite of a low statistical risk of acquisition of HIV, absence of a vaccine or effective – curative treatment makes the health care worker apprehensive. So, it is necessary to have a comprehensive programme to deal with anticipated accidental exposure.

The risk of infection varies with type of exposure and other factors such as

- The amount of blood involved in the exposure
- The amount of virus in patient's blood at the time of exposure
- Whether post exposure prophylaxis was taken within the recommended time

Prevention is mainstay of the strategy to avoid occupational exposure to blood /body fluids. All the Biosafety precautions emphasized must be practiced at all times when handling patient's blood and body fluids.

(b) Category of Treatment: -

a. BASIC REGIMEN

- **Indication:** Occupational HIV exposure for which there is a recognized risk.
- **Drug Regimen:** ZIDOVUDINE (AZT) 600 mg in divided doses (300mg/twice a day or 200mg/ thrice a day) for 4 weeks.
  LAMIVUDINE (3TC) 150 mg twice a day
- **Time Duration:** 4weeks

b. EXPANDED REGIMEN

- **Indication**: Occupational HIV exposure that poses an increased risk of transmission (eg: larger vol. of blood or higher virus titre in blood)
- **Drug Regimen:** BASIC REGIMEN + Either INDIANAVIR 800mg/thrice a day or
  Any other protease inhibitor
- **Time Duration**: 4weeks

8.3.7 SIDE EFFECTS OF THESE DRUGS

Most of the drugs used for PEP are usually tolerated well except for nausea, vomiting, tiredness, and headache in some persons.

8.3.8 FOLLOW-UP

Workers with possible exposure to HIV, HBV, and HCV Infection should undergo HIV antibody, HCV antibody, HBsAg testing for at least one year.

- First follow up: - At the Time of Exposure.
- Second follow up: - After one month of Incidence.
- Third follow up: - After six month of Incidence.
- Last follow up: - One Year after exposure.

Exposed workers should avoid behaviors like blood donation and sexual contacts that entail a risk of secondary transmission of infection for the duration of the follow-up period & in particular for the first 6 to 12 weeks after exposure, when sero-conversion is likely to occur.

Category wise follow up

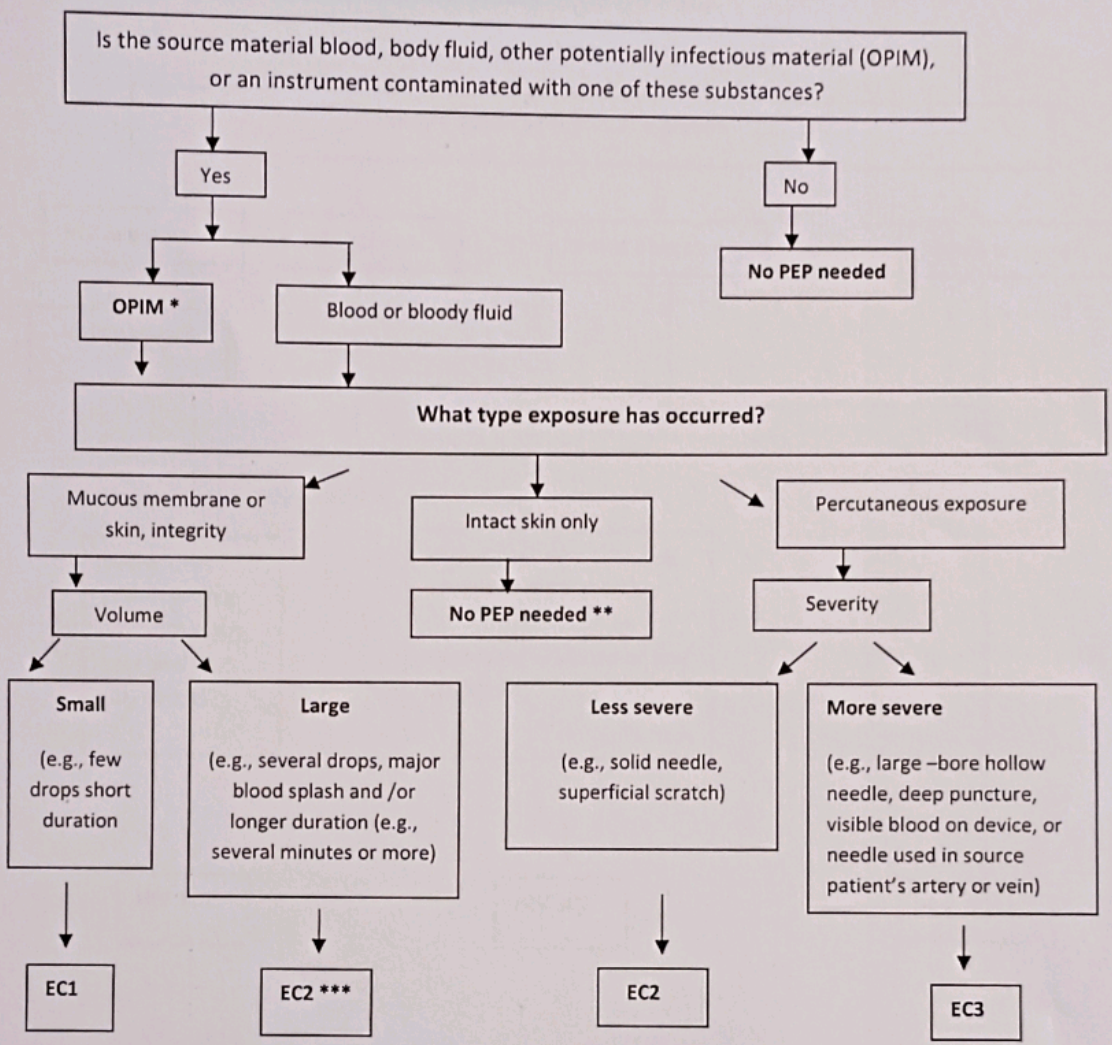
FOLLOW UP	CATEGORY	INVESTIGATIONS
1st (At the time of prick)	Source Known & Subject Vaccinated	Patient= HIV Antibody, HBsAg, HCV Antibody HCWs= HIV Antibody, Anti HBsAg, HCV Antibody
	Source Unknown & Subject Vaccinated	HCWs= HIV Antibody, Anti HBsAg, HCV Antibody
2nd (After 1 month)	Source Known HIV+ve	HCW=HIV Antibody
	Source Unknown	HCW= HIV and HCV Antibody
3rd (After 6 month)	Source Known HIV+ve	HCW=HIV Antibody
	Source Unknown	HCW= HIV and HCV Antibody
4th (After 1 Year)	Source Known HIV+ve	HCW=HIV Antibody
	Source Unknown	HCW= HIV and HCV Antibody

8.3.9 Types of Exposure to HBV for Which PEP Is Recommended

Vaccination status of exposed HCP	Antibody response status		
	Source HBsAg positive	Source HBsAg negative	Source unknown or not available for testing
unvaccinated	HBIG+ initiate HBV vaccine series	Initiate HBV Vaccine series	Initiate HBV Vaccine series
Previously vaccinated	No treatment	No treatment	No treatment
Known responder	HBIG+ initiate booster dose	No treatment	If known high risk Source, treat as if HBsAg positive
Known Non responder Antibody response unknown	Test –exposed HCW for anti-HBs • AntiHBslevel more than 100 µ/ml, no treatment is necessary. • less than 100 µ/ml, administer HBIG + initiate booster dose. • Consider testing HCP for HBsAg.	No treatment	Test –exposed HCP for anti-HBs • No treatment is necessary. • Administer vaccine booster dose and recheck titer in 1-2 months.

8.3.10 Types of Exposure to HIV for Which PEP Is Recommended

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

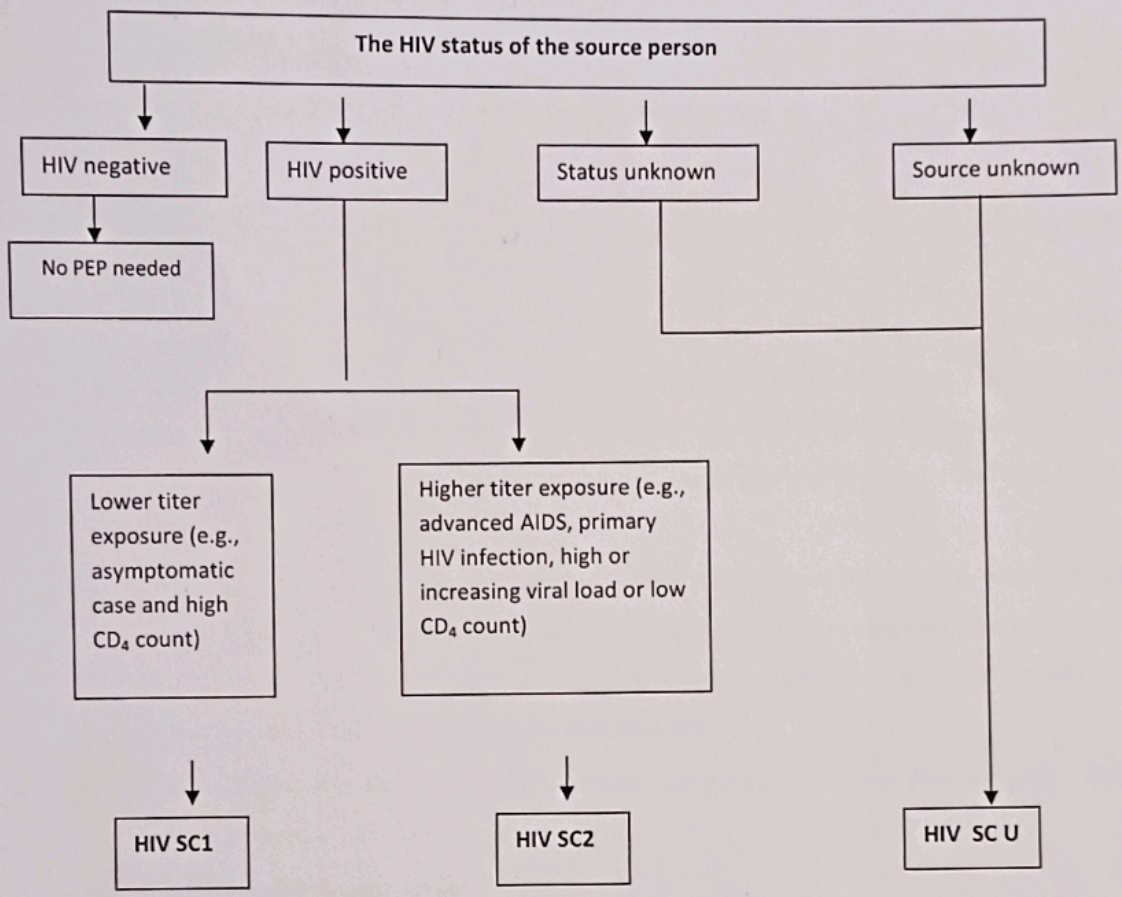


*** OPIM: Other Potentially Infectious Material**

**** PEP: Post Exposure Prophylaxis**

***** EC: Exposure Code**

8.3.11 Determination of the HIV Status Code (HIV SC)



control measures initiated at once. General measures include: • Strict hand washing; • Intensification of environmental cleaning and hygiene. • Adherence to aseptic protocols, and • Strengthening of disinfection and sterilization.

9.5.4 **Microbiological Study:** Microbiological study is planned depending upon the known epidemiology of the infection problem. The study is carried out to identify possible sources and routes of transmission. The investigation may include cultures from other body sites of the patient, other patients, staff and environment. Careful selection of specimens to be cultured is essential to obtain meaningful data.

9.5.5 **Specific control measures:** Specific control measures are instituted on the basis of nature of agent and characteristics of the high-risk group and the possible sources. These measures may include: Identification and elimination of the contaminated product. Modification of nursing procedures. Identification and treatment of carriers, and Rectification of lapse in technique or procedure.

9.5.6 **Evaluation of efficacy of control measures:** The efficacy of control measures shall be evaluated by a continued followed-up of cases after the outbreak clinically as well as microbiologically. Control measures are effective if cases cease to occur or return to the endemic level. The outbreak shall be documented.

9.5.7 **Corrective actions to prevent reoccurrence:** Corrective actions are planned and implemented to prevent reoccurrence.

9.6 Staff Health Programme:

9.6.1 Treatment of personnel: All personnel with communicable illnesses shall report to their supervisors. Appropriate evaluation and therapy are the responsibility of the clinician. Personnel who develop infections shall be transferred to duties without direct patient contact or released from duty until no longer considered infectious. It is the policy of this hospital that no personnel are penalized .This is to encourage reporting of infection by personnel. Prophylactic therapy is provided to employees following occupational injuries unless employee is already immunized. If serologic tests are required to demonstrate immunity employees shall be assisted at no charge in obtaining these tests. Passive immunization with

immune globulin (gamma globulin) shall be considered for the following kinds of exposure: Hepatitis. Varicella zoster. Outbreak of infections within the hospital due to organisms such as salmonella, shigella, meningococci, MRSA may prompt a search for carriers among personnel as part of control of the outbreak. Work restrictions may be imposed in situations which call for such action.

9.6.2 For the immunization of Chicken pox and Hepatitis B vaccine-at the time of recruitment ,employees are screened for HBsAG and anti varicella antibody ,HBsAG negative persons receive 3 initial doses of hepatitis B vaccine and persons showing low or nil titre are given 2 doses of chicken pox vaccines. (refer annexure XXII)

9.6.3 Guidelines for Special Situations:

9.6.3.1 Pregnant personnel: Shall not be assigned to care for patients with known Hepatitis B or who are carriers unless they have received three doses of hepatitis vaccine and have been documented to have anti-HBs antibody. They shall not be assigned to care for patients with rubella, or infants with congenital rubella syndrome or rubella unless they have immune status documented Will be informed of risks associated with parvovirus and CMV infections, herpes simplex and of infection control procedures to prevent transmission when working with high risk patient groups.

9.6.3.2 Personnel immune to chicken-pox shall be assigned to care for patients with chicken pox or herpes zoster (disseminated or localized). Also refer appendix for Post Exposure Prophylaxis Guidelines for Occupational Exposure.

9.7 Cleaning Disinfection and Sterilization: Medical and surgical devices may serve as vehicles for the transmission of infectious diseases to susceptible hosts. Therefore it is important that all health care facilities should have a comprehensive disinfection policy. The aim of a disinfection policy is to make items and equipments safe for patients use by effectively removing microorganisms by cleaning, disinfection and sterilization. The wards will procure the disinfectant solution (ready to use- not to dilute further) from Infection Control Department.

ANNEXURE VIII

VACCINATION SCHEDULE		
VACCINE	**BENIFICEARY**	**SCHEDULE OF DOSES**
HBsAg	HEALTH CARE WORKERS	ON JOINING – FIRST 3 INITIAL DOSES 01 ml. INTRAMUSKULAR i.e. 0-1-6 MONTHS. 1st BOOSTER AFTER THE 5 YEARS OF INITIAL DOSES AND 2nd AFTER 10 YEARS OF THE INITIAL DOSES.
VARICELLA ZOOSTER	STAFF NURSES	ON JOINING- 0.5 ml. SUBCUTANIOUS AND 2nd DOSE AFTER ONE MONTH OF THE INITIAL DOSE.
TETANUS TOXOID	HOUSEKEEPING WORKERS	ON JOINING- ONE SINGLE DOSE AND THEN ONCE IN A YEAR
SWINE FLUE Vacc.	RESPECTIVE HCW AND HCWs IN CCU	SINGLE DOSE AS PER THE NEED
TYPHOID Vacc.	CANTEEN WORKERS	ON JOINING- ONE SINGLE DOSE AND THEN ONCE IN TWO YEARS