



**GUIDELINES FOR OCCUPATIONAL
EXPOSURE/NEEDLE STICK INJURY
MANAGEMENT
AIIMS KALYANI
[Standard Operating Procedure]**



Prepared by HICC - AIIMS Kalyani



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I. PURPOSE

The Purpose of this Standard Operating Procedure (SOP) is :-

- i. To institutionalize the effective management of occupational exposure /Needle stick injury (NSI) in AIIMS Kalyani.
- ii. To prevent the risk of occupational exposure to HIV and hepatitis viruses among health care workers of all cadre working at AIIMS Kalyani.

II. SCOPE

Needle Stick Injury/occupational exposure:

Needle Stick Injury/occupational exposure is defined as :

- The Percutaneous injury (e.g., needle or sharp),
- Contact with the mucous membrane of eye/mouth,
- Contact with non-intact skin (abraded or dermatitis),
- Contact with intact skin when duration prolonged (e.g., several minutes or more).



The incidence of Hepatitis B virus (HBV) infection (9-30%) & Hepatitis C virus (HCV) infection (1-10%) far exceeds that of Human Immune deficiency virus (HIV) infection (0.3%). This SOP, will provide practical guidelines for the effective prevention and management of occupational exposure to HIV and hepatitis viruses for all health care workers.



III. RESPONSIBILITY

It is the duty of Hospital Infection Control Committee (HICC) to train and guide doctors, residents, nursing staff and hospital employees, time to time and instruct to follow this SOP for getting immunized against Hepatitis B, to prevent oneself from needle stick and sharp injuries, and preventing from skin and mucous membrane exposure, preventing the transmission of infection of HIV, HBV & HCV from patients to health workers.

IV. Potentially Infectious Body Fluid

- Blood
- Genital Secretions (Vaginal secretions, Semen)
- All Body fluids (Cerebrospinal fluid (CSF), Synovial, Pleural, Peritoneal, Pericardial, Amniotic)
- Other fluids contaminated with visible blood.

V. Health Care Workers with increased risk

- Nursing staff
- Nursing students
- Physicians
- Surgeons
- Emergency care providers
- Dentists
- Interns and medical students
- Labor and delivery room personnel
- Laboratory technicians
- Health facility cleaning staff
- Biomedical waste handlers



VI. Practices to be done to reduce risk

6.1. Avoid the use of needles where safe and effective alternatives are available e.g., use of closed system for blood collection i.e., cutting diathermy and laser.



6.2. Take proper precaution during transfer of sharps in Operation Theater (OT) (use kidney tray)



6.3. During handling of Needles, one should be very careful and it should be promptly disposed of only in sharp disposal containers, and avoid recapping needles



6.4. All health care personnel should be vaccinated against the hepatitis B virus as per the recommendation and the antibody titer should be monitored by HICC after 1 month of last dose of vaccine. Records for all the HCW should be maintained at their designated reporting offices and HICC. The kit for testing should be provided by the EHS section to the HICC. There is no vaccine available against HIV & hepatitis C.



6.5. Any NSI case should be immediately brought into notice of the Infection control nurse (ICN) of HICC. 24-hour helpline number shall be provided to call ICN or responsible HCW. HICC shall publish and advertise the phone number in commonly visible sites at public places.

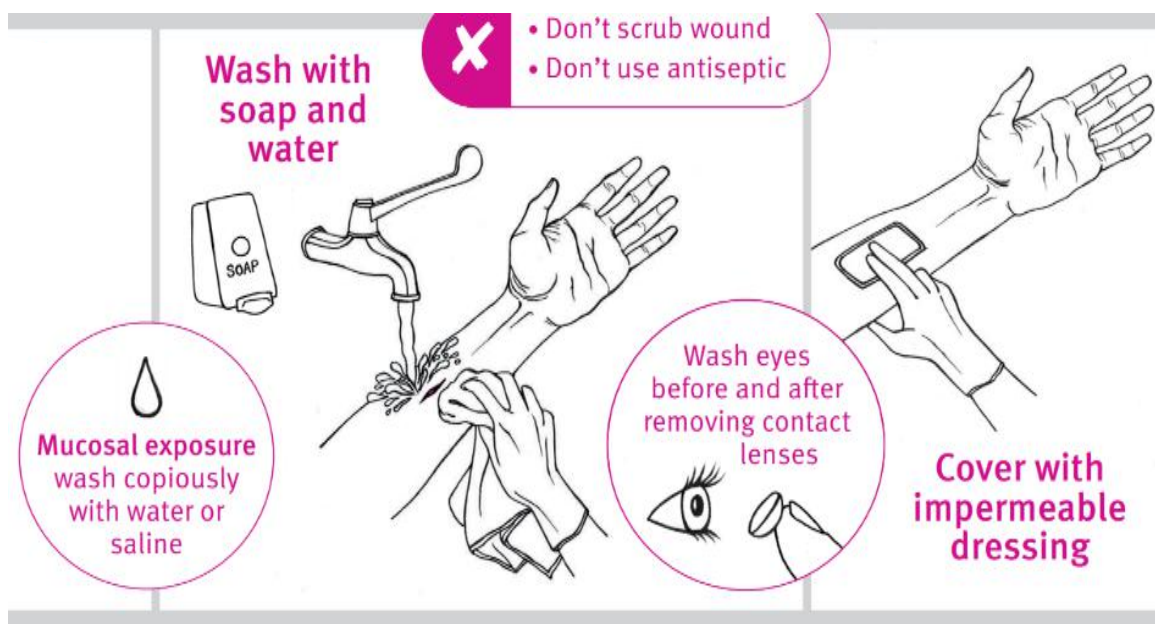
6.6. Declaration form for all HCW – whoever working and whoever will join new should be taken. (Please refer to Annexure-1)

VII. Management of Occupational Exposure/Needle Stick Injury

- 7.1. First aid
- 7.2. Reach to HICC office at ground floor AYUSH building or call NSI helpline and try to get report of source status if available in HIS
- 7.3. Take first dose of PEP for HIV
- 7.4. Testing for HIV, HBV, and HCV for source and HCW, free of cost as per either EHS (for eligible HCW) or free for the source or EHS ineligible HCW.
- 7.5. Risk assessment (based on type of injury and source status)
- 7.6. Decision on prophylactic treatment for HIV and HBV to be taken by ICO or in charge ID clinic or any member of HICC to whom charge has been handed over in absence of ICO/ID
- 7.7. Monitoring and follow up of HIV, HBV, and HCV status after 3 months and 6 months of exposure by HICC.
- 7.8. Documentation and recording of exposure and weekly/monthly report to be prepared by ICN.

7.1. First aid :

- 7.1.1. Do not panic or put the pricked finger in mouth or squeeze the wound to bleed it.
- 7.1.2. Immediately wash the wound and surrounding skin with soap and water, and rinse.
- 7.1.3. Do not scrub or use bleach, chlorine, alcohol, betadine, iodine, antiseptics /detergents or any antibiotics on the wound.



VIII. Management of splash of blood or body fluid to unbroken skin/eye/mouth

- 8.1. To unbroken skin, immediately wash the area and do not use antibiotics.
- 8.2. For the eye irrigate exposed eye immediately with water, sit in a chair, tilt head back and ask a colleague to gently pour water over the eye. Do not use soap or disinfectant on the eye.
- 8.3. If wearing contact lens, leave them in place while irrigating, as they form a barrier over the eye and will help protect it. Once the eye is cleaned, remove the contact lens and clean them in the normal manner. This will make them safe to wear again.



- 8.4. For Mouth, spit out the fluid immediately rinse the mouth thoroughly, using water or saline and spit again. Repeat this process several times and do not use soap or disinfectant in the mouth.
- 8.5. Consult the designated physician of the institution for the management of exposure Immediately.

IX. Evaluation for Post Exposure Prophylaxis (PEP)

- The evaluation to be done preferably within 2 hours but certainly within 72 hours.
- The first dose of PEP should be administered preferably within the first 2 hours of exposure but certainly within 72 hours. If the risk is insignificant, PEP could be discontinued, if already commenced.



**Brand name is not endorsed by AIIMS Kalyani.
It is representative photograph.**

X. Assessment of Exposure and Risk of Transmission

Categories of Exposure based on amount of Blood/Fluid involved and the entry port these includes: -

- 10.1. Mild Exposure:** Mucous membrane/ non-intact skin with small volumes
e.g., A superficial wound (erosion of the epidermis) with a plain or low caliber needle,



contact with the eyes or mucous membranes, or subcutaneous injections following small bore needles.

10.2. Moderate Exposure: Mucous membrane/non intact with large volumes or percutaneous superficial exposure with solid needle, e.g.: A cut or needle stick injury penetrating gloves.

10.3. Severe Exposure: Percutaneous with large volume, e.g.: An accident with a high caliber needle (≥ 18 G) visibly contaminated with blood; A deep wound (Hemorrhagic wound and/or very painful); Transmission of a significant volume of blood; an accident with material that has previously been used intravenously or intra- arterially.

In case of an exposure with material such as discarded sharps/needles, contaminated for over 48 hours, the risk of infection becomes negligible for HIV, but remains significant for HBV. Hepatitis B virus survives longer than HIV outside the body.

XI. Assessing the HIV status of source and the person exposes

- A baseline rapid HIV testing after proper counselling should be done before starting PEP of the person exposed; and if required, of the source; (in case the status of the source is unknown).
- Informed consent should be obtained before testing of the source as well as person exposed.
- Initiation of PEP where indicated should not be delayed while waiting for the results of HIV testing of the source of exposure.
- Exposed individual who are known or discovered to be HIV positive should not receive PEP. They should be offered counselling and information on prevention of transmission and referred to antiretroviral therapy (ART) center after their complete laboratory work up which also include testing for hepatitis B & C virus infection.



Post Exposure Prophylaxis (PEP) is given to the individuals as per below mentioned guidelines:-

Exposure category	
EC 1 (Mild)	Mucous membrane/non-intact skin exposure with small volumes (few drops), or less duration. <ul style="list-style-type: none">• Superficial wound (erosion of the epidermis) with a plain or low caliber needle, or• Contact with the eyes or mucous membranes• Subcutaneous injections following small-bore needles.
EC 2 (Moderate)	<ul style="list-style-type: none">• Mucous membrane/non intact skin exposure with large volumes/major splashes for several min or more OR,• Percutaneous superficial exposure with solid needle or superficial scratch
EC 3 (Severe)	Percutaneous exposure with- <ul style="list-style-type: none">• Large volume transfer• By hollow needle, wide bore needle, deep puncture• Visible blood on device, or,• Needle used in patient's artery or vein.

Source Code: -

- **SC 1** - HIV positive and asymptomatic
- **SC 2** - HIV positive and symptomatic
- **SC Unknown** - Status of the patient is unknown and neither the patient nor his/her blood is available for testing
- **HIV negative** - tested negative as per NACO strategy



Exposure code (EC)	HIV source code (SC)	PEP Recommendation
1,2 or 3	Negative	Notwarranted
1	1	Notwarranted
1	2	PEP recommended. Duration: 28 days.
2	1	
2	2	
3	1or 2	
2/3	Unknown, (in area with high prevalence)	
Source material- Blood, body fluids or other potentially infectious material (CSF, synovial, pleural, pericardial and amniotic fluid, and pus) or an instrument contaminated with any of these substances.		

Exposure	HIV Post-Exposure Prophylaxis Evaluation (As Per NACO Guidelines)		
	Status of Source		
	HIV + and Asymptomatic	HIV + and Clinically symptomatic	HIV Status unknown
Mild	PEP not warranted	PEP recommended.	PEP recommended.
Moderate	PEP recommended.	PEP recommended.	PEP recommended.
Service	PEP recommended.	PEP recommended.	PEP recommended.



XII. Management of Special Situation

- Delay in reporting exposure (> 72 hours)- Discuss with ICO/ID specialist
- Known or suspected pregnancy- Discuss with ICO/ID specialist
- Breastfeeding issues in the exposed person. Consider stopping breastfeeding if PEP is indicated and Discuss with ICO/ID specialist
- If source patient is on ART or possibly has HIV drug resistance- Discuss with ICO/ID specialist
- Major toxicity of PEP regimen: minor side effects may be managed symptomatically.
- In case of major psychological problem refer to psychiatry dept.

XIII. References

- National AIDS Control Organization (NACO) guidelines
- Guidelines on Antiretroviral Therapy Guidelines for HIV-Infected Adults and Adolescents Including Post-Exposure Prophylaxis.



ANNEXURE-1

Declaration Form for Health Care Workers

I, _____ (name), hereby declare that I have read and understood the Occupational Exposure/ needle stick injury SOP of AIIMS Kalyani and agree to follow the guidelines and procedures therein.

I understand that Occupational Exposure/ needle stick injuries are a serious occupational hazard for health care workers and can expose me to blood-borne pathogens such as hepatitis B virus (HBV), hepatitis C virus (HCV), human immunodeficiency virus (HIV), and others. I acknowledge that these pathogens may cause severe and potentially fatal diseases in me, my family, my co-workers, and my patients.

I certify that **I have received the HBV vaccination from an authorized health care provider and have submitted the certificate or documents of the vaccination to the designated authority or that I will receive the HBV vaccination from the institute as per the Recommendations.** I agree to report any adverse reactions or contraindications to the vaccination to the designated authority.

I agree to take all necessary precautions to prevent Occupational Exposure/ needle stick injuries, such as using safety-engineered devices, wearing appropriate personal protective equipment, disposing of sharps properly, and following standard precautions.

I also agree to report any Occupational Exposure/ needle stick injury to the designated authority as soon as possible and to seek immediate medical attention and post-exposure prophylaxis as per the SOP.

I understand that by signing this declaration form, I am responsible for my own safety, the safety of my family and co-workers, the safety of my patients, and the safety of the environment and surroundings. I also understand that failure to comply with the SOP may result in disciplinary action, legal liability, or termination of employment.

Signature: _____

Date: _____



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