



# **Hospital Infection Control Team**

## **AIIMS, Rishikesh**

# NEEDLE STICK INJURY



# DEFINITIONS

A needle stick injury, percutaneous injury, or percutaneous exposure incident is the penetration of skin by a needle or other sharp object, which was in contact with blood, tissue, or other body fluid before the exposure.

# What devices are involved with sharps injuries?

Disposable Syringe (27%)

Suture Needle (25%)

Scalpel blade (6%)

IV styltlet (3%)

Winged Steel Needle (2%)

## Potentially infectious body fluids

- **Blood**
- Semen & vaginal secretions
- CSF

Other fluids : Synovial

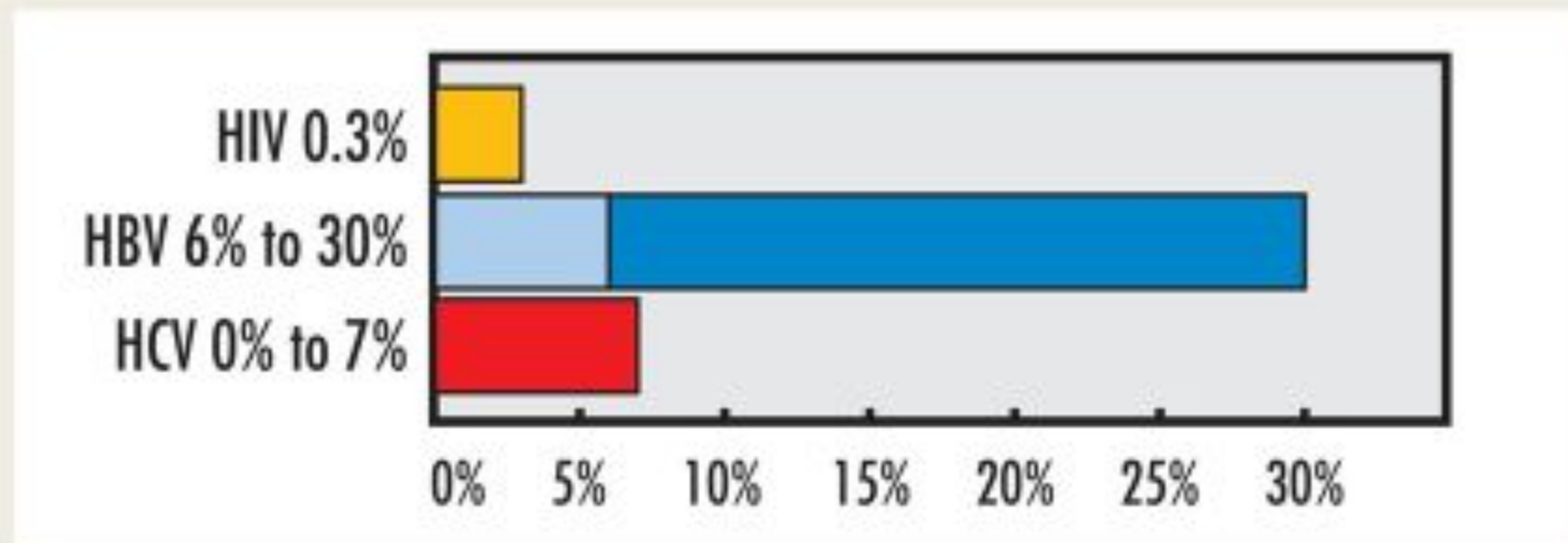
- Pleural
- Pericardial
- Amniotic fluid
- Body fluids contaminated with blood

## Not considered potentially infectious, unless visibly contaminated with blood:

- **Faeces**
- Nasal secretions
- Saliva
- Sputum
- Urine
- Sweat & tears
- vomitus

# RISK

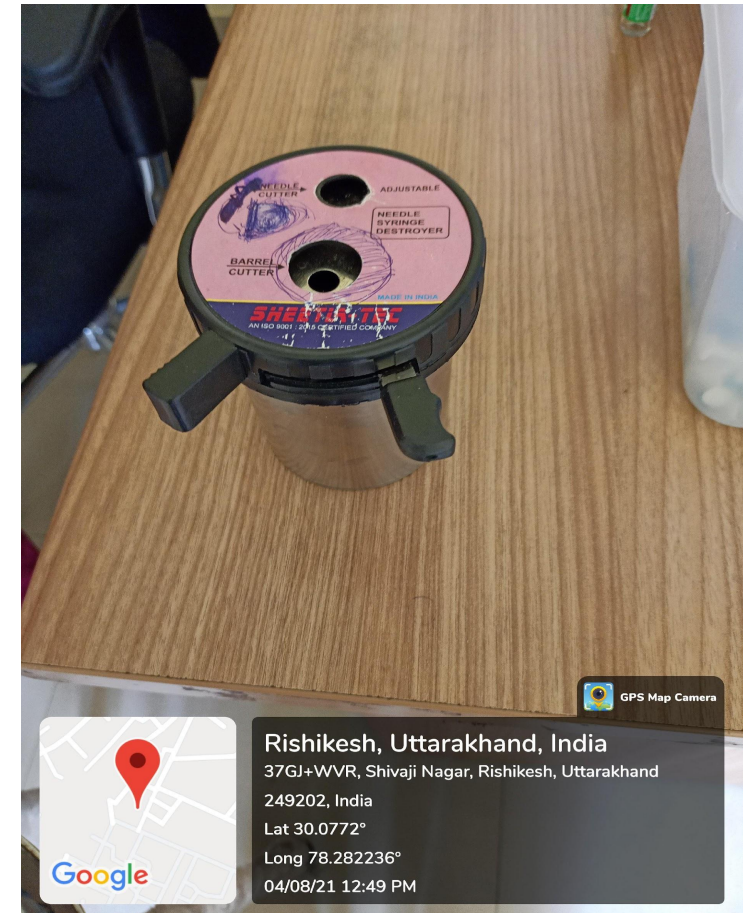
- CDC data suggests that the rate of transmission to HCWs after a needle stick exposure for HBV, HCV and HIV is as follows:



# DO's OF NSI

- Keep sharps visible.
- Avoid distractions.
- Never hand off or leave needles or sharps for others to dispose.
- Loudly state “Sharps” when handling sharps.
- Maintain a safe zone around sharps being used.
- Store sharps containers out of the reach of others not needing access
- Always activate the safety device on needles immediately after each use.
- Be aware of staff nearby.
- Secure used sharps containers during transport to prevent spilling
- Investigate all sharps-related injuries and provide post-exposure medical evaluations
- Follow standard precautions, infection prevention, and general hygiene practices consistently.
- Participate in your employer’s blood borne pathogens training program.
- Report any needle stick and other sharps injury immediately to your employer

# Use needle cutter or destroyer





# Separate sharps from other waste

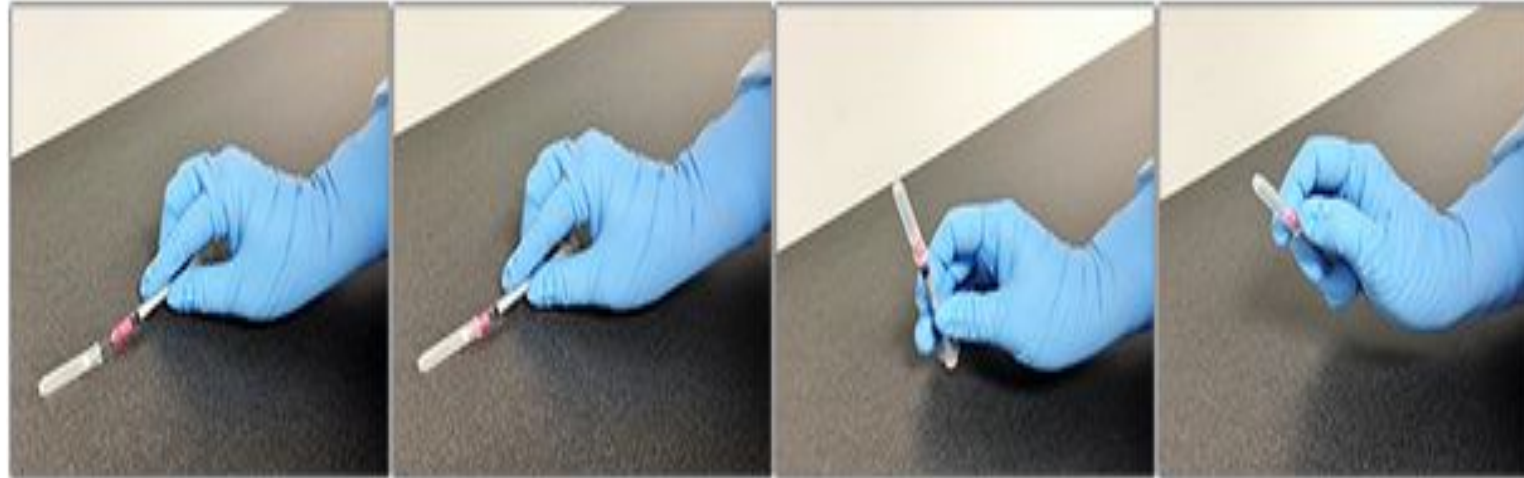


# USE PUNCTURE PROOF DISPOSAL BINS





# ONE HAND SCOOP TECHNIQUE



First, place cap on a level horizontal surface; gently slide needle half-way into cap...

Then, slowly tip up needle end of the device and allow cap to slide over needle...

Finally, use the thumb of the hand holding the device to secure the cap on the syringe.

# DON'Ts OF NSI

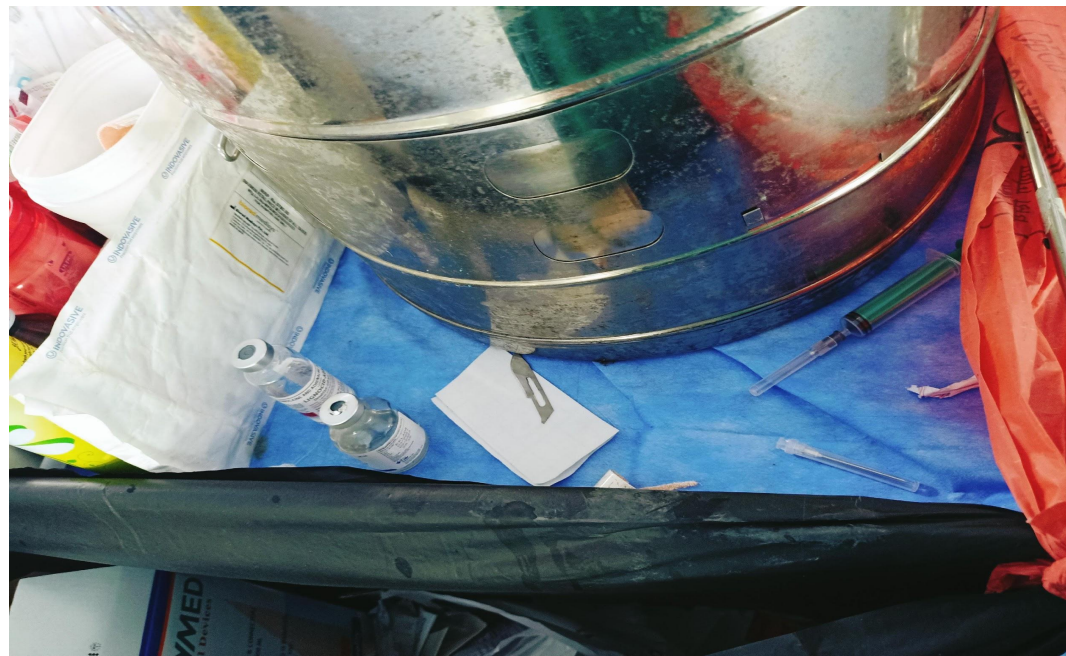
- Avoid using needles whenever safe and effective alternatives are available.
- Avoid recapping or bending needles that might be contaminated.
- Plan for the safe handling and disposal of needles before use.
- Don't empty, handle or transfer used sharps between containers.
- Do not recap before disposal.
- Don't discard sharps in bins which are open and with wide mouth

# DO NOT RECAP



Performing activities involving needles and sharps, in a rush increases the likelihood of an accidental exposure









# MANAGEMENT OF THE EXPOSED PERSON

## Summary of Do's and Don't

Do's	Don't
Remove gloves, if appropriate	<b>Do not</b> panic
Wash the exposed site thoroughly with running water	<b>Do not</b> put the pricked finger in mouth
Irrigate with water or saline if eyes or mouth have been exposed	<b>Do not</b> squeeze the wound to bleed it
Wash the skin with soap and water	<b>Do not</b> use bleach, chlorine, alcohol, betadine, iodine or other antiseptics/detergents on the wound



# Management of exposure site (FIRST AID)

## Skin

- Wash wound and surrounding- under running water for 3-5 minutes
- Rinse well
- Do not squeeze
- Do not use antiseptic or skin wash

## Eye

- Eye irrigation with water
- If using contact lens leave them in place while irrigating.
- Remove lenses again clean eyes with water

## Mouth

- Spit fluid immediately
- Rinse mouth thoroughly with water/saline repeatedly
- Do not use soap or disinfectant

# STEPS OF MANAGEMENT

NSI

- All percutaneous or mucocutaneous injuries in healthcare setting

FIRST AID

- Wash under running tap water for 10-15 minutes
- Do not squeeze or suck

REPORTING

- Inform immediately to Supervisor/TL
- Report to ART Clinic (Medicine OPD)/  
Emergency
- For follow up & Incident Report - HICT

# PEP (Post Exposure Prophylaxis)

- Refers to the comprehensive management given to minimize the risk of infection following potential exposure to blood-borne pathogens (HIV, HBV, HCV).
- This includes:
  - First aid
  - Counselling
  - Risk assessment
  - Relevant laboratory investigations based on informed consent of the source and exposed person

**HOSPITAL INFECTION CONTROL COMMITTEE, AIIMS RISHIKESH**  
**NEEDLE STICK INJURY REPORTING PROFORMA (To be filled in Microbiology)**

**Exposure ID:**

**Date & time of exposure:**

**Contact details:**

Health care worker name:

AIIMS ID No.

Age

Sex

Mobile no:

Land line no:

Email ID:

**Job description of HCW:** Job place: Department/Unit

Job category

Student

Doctor

Staff

Lab

Housekeeping

Others (specify)

MBBS/ BSc

Faculty/

Nurse

technician

staff

Nursing/Intern

JR/SR/other

**Place where the incident occurred:**

**Was the source patient identifiable?** Yes/No/Unknown/Not Applicable

If identifiable, whether the source is a known HIV/HBV/HCV patient

**If the exposure involved needle stick and sharp object**

1. Were you the original user of the sharp item?	Yes/no/unknown/not applicable
2. Was there blood on the device?	Yes/no/unknown
3. The source (person/equipment) is:	
a. Known case of HIV/HBV/HCV.....	Previous lab report no.....
b. Negative for HIV/HBV/HCV	
c. Unknown	
4. For what purpose was the sharp item originally used?	
a. Unknown/not applicable	
b. Injection, intra-muscular/subcutaneous/intradermal ( <i>syringe</i> )	
c. To draw arterial/venous blood sample	
d. To place IV/Arterial/central line	
e. To obtain a body fluid or tissue sample (urine/CSF/amniotic fluid/other fluid, biopsy)	
f. Suturing	
g. Other: specify.....	
5. Did the injury occur?	
a. Before use of item ( <i>item broke/slipped, assembling device, etc.</i> )	
b. During use of item ( <i>item <u>slipped</u>, patient jarred item, etc.</i> )	
c. While recapping used needle	
d. Device left on the floor, table, bed or other inappropriate place	
e. From item left on or near disposal container	
f. While putting item into disposal container	
g. After disposal, stuck by item protruding from opening of disposal container	
h. Other: specify.....	
6. What type of device caused the injury?	Needle (hollow-bore/plain) or instrument or glass
7. Specify the instrument that caused the injury:	
8. What was the site of the injury?	

9. Was the injury?  
 a. Superficial (*little or no bleeding*)  
 b. Moderate (*skin puncture, some bleeding*)  
 c. Severe (*deep stick/cut, or profuse bleeding*)

10. If injury was to the hand, then – Gloves used (single pair or double pair) or no gloves used

**Final Root Cause Analysis of injury:**

**PEP Management Checklist: For Exposed person**

FIRST AID Given Yes <input type="checkbox"/> No <input type="checkbox"/>				<b>Treatment record including PEP</b>	
Informed consent for testing Yes <input type="checkbox"/> No <input type="checkbox"/>				YES	
Exposed Blood taken Yes <input type="checkbox"/> No <input type="checkbox"/>				HBV Vaccination given <input type="checkbox"/>	
For testing <input type="checkbox"/> For storage only <input type="checkbox"/>				(Brand.....Dose.....Route..... Site: Deltoid)	
Appropriately labeled “Possible BBV exposure – Exposed” <input type="checkbox"/>				HBIG required <input type="checkbox"/>	
<b>Test Name</b>	<b>Test date</b>	<b>Lab No</b>	<b>Result</b>	HBIG given <input type="checkbox"/>	
<u>HBsAg</u>				(Brand.....Dose.....Route I/M Site: Gluteal) after Test dose	
Anti- HBs Ab Titer				HIV PEP offered <input type="checkbox"/>	
Anti- HCV Ab				HIV PEP accepted <input type="checkbox"/>	
Anti HIV Ab				( HIV PEP should be discontinued immediately if the source is found to be HIV negative)	
LFT				(Brand.....Dose.....)	
CBC					

# Laboratory follow up after exposure

<b>Timing</b>	<b>Follow up testing to be done</b>
<b>Baseline</b>	<b>CBC, LFT, Anti-HIV Ab, HBs Ag, Anti-HCV Ab, Anti HBs Ab</b>
<b>6 week</b>	<b>CBC, LFT, Anti-HIV Ab</b>
<b>3 months</b>	<b>LFT, Anti-HIV Ab, HBs Ag, Anti-HCV Ab</b>
<b>6 months</b>	





## PROCEDURE TO BE FOLLOWED AFTER NEEDLE STICK INJURY (NSI)

सुई चुभने के कारण लगने वाली चोट के पश्चात की जाने वाली प्रक्रिया

### WHAT TO DO / क्या करें

- Stay calm / शांत रहिएं
- Do not panic / घबराएं नहीं
- Do not place pricked finger into mouth / जिस उंगली में सुई चुभी हो उसे मुँह में न डालें
- Do not squeeze blood from wound / हाथ से दबा कर घाव से खून न निकालें

### For Skin Exposure: त्वचा पर चोट के लिए

- Remove gloves / दस्ताने उतार दें,
- If skin is broken after a needle stick/sharp instrument / यदि सुई चुभने / तेज धार वाले उपकरण से त्वचा पर चोट लगी हो

OR/या

- If there is splash of blood or bodily fluid on unbroken skin / सुरक्षित त्वचा पर खून के बूँदों या शारीरिक द्रव हो तो
- Immediately wash wound & surrounding skin with soap & water, then rinse / तुरंत घाव और आसपास की त्वचा को साबुन और पानी से साफ कर लें ।
- Do not scrub / रगड़ें नहीं
- Do not use antiseptics or skin washes (e.g., bleach, chlorine, alcohol) / त्वचा को घोंबने के लिए फिटानुनाशक या त्वचा को साफ करने वाले पदार्थों (जैसे, क्लोरीन, क्लोरीन, स्प्रिट) का उपयोग न करें

### For Eyes Exposure: संपर्क में आने वाली आँखों के लिए

- Immediately irrigate exposed eye thoroughly with water or normal saline / संक्रमण के संपर्क में आयी हुई आँख को तुरंत पानी से धो लें
- If wearing contact lenses, leave them in place while irrigating / अगर आँख में लेंस पहना है तो आँख को साफ करते समय उसे बाँधी रहने दें
- Once eye is cleaned, remove contact lens & clean them in a normal manner / एक बार आँख साफ हो जाने पर, लेंस को हटा दें और उन्हें साधारण तरीके से साफ करें
- Do not use soap or disinfectant on eye / आँख पर साबुन या कीटाणुनाशक का प्रयोग न करें

### For Mouth Exposure / मुँह के लिए

- Spit fluid out immediately / तुरंत धूल को मुँह से बाहर फेंक दें
- Rinse mouth thoroughly using water or saline & spit again / मुँह को अच्छी तरह से साफ पानी से धोएं और कुल्ला करके धूल लें
- Repeat process several times / इस प्रक्रिया को कई बार दोहराएँ
- Do not use soap or disinfectant in mouth / मुँह में साबुन या कीटाणुनाशक का प्रयोग न करें

### WHOM TO REPORT / किसे रिपोर्ट करना है

- Routine hours: SR/JR Microbiology on duty at A2 Area Level 4th, Department of Microbiology, Medical college Block with OPD Slip (Contact No 0141080)  
कार्य समय में – सूक्ष्मजीव विज्ञान विभाग, चतुर्थ तल, ए-2 क्षेत्र में ड्यूटी पर तैनात सीनियर रेजिडेंट/जूनियर रेजिडेंट
- Post routine hours (evening/night/holiday): Consult doctor/Resident on duty in Emergency area (Contact No 0312040)  
कार्य समय के पश्चात- (शाम/रात/अवकाश) के उपरान्त – आपातकालीन क्षेत्र में तैनात डॉक्टर / रेजिडेंट से सलाह लें।





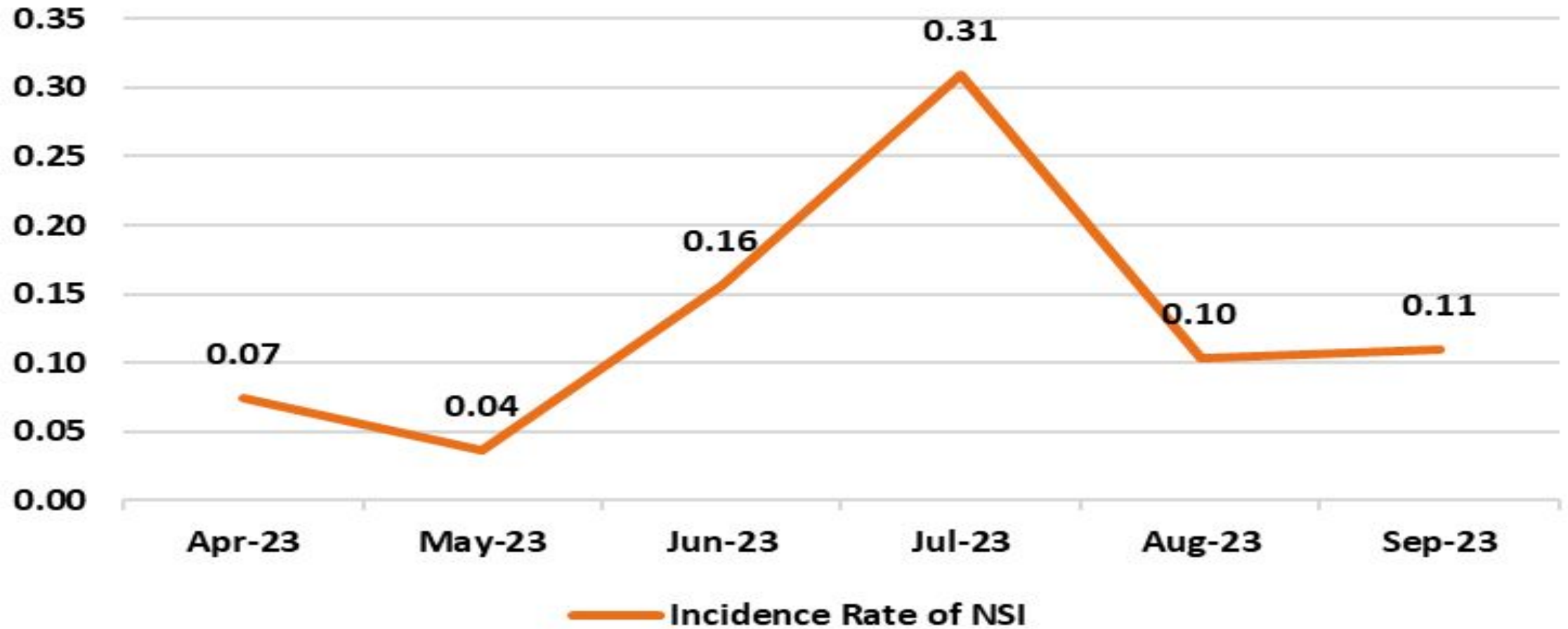
# Incidence of needle stick injuries

Formula:  $\frac{\text{Number of needle stick injuries}}{\text{Total Number of in-patient days for that month}} \times 1,000$

Benchmark: Not found (CDC), Not available (HAIS), Not found (INICC) Denominator issue  
**Target : 0.41** (Based on Institute data from Jan 19 to June 20)

	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sept-23
<b>No. of NSI</b>	2	1	4	9	3	3
<b>Total IPD days</b>	26759	27743	25485	29053	29137	27418
<b>Incidence Rate of NSI</b>	<b>0.07</b>	<b>0.04</b>	<b>0.16</b>	<b>0.31</b>	<b>0.10</b>	<b>0.11</b>

## NSI Incidence Rate / 1000 IPD Days



Thank  
you

