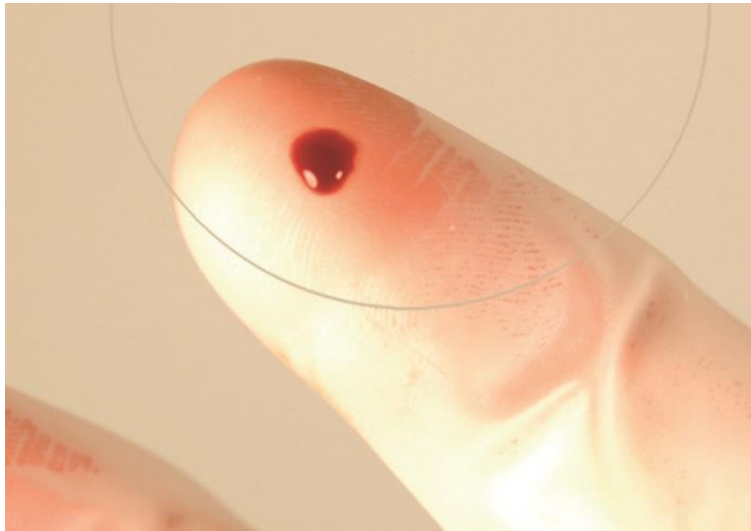


NEEDLESTICK INJURIES

A Great Risk



Dr. A. Hussain

HIV/AIDS and PMTCT Co-ordinator,
Prince Mshyeni Memorial Hospital
Specialist Family Medicine, Honorary
lecturer Nelson R Mandela School of
Medicine.



NEEDLE STICK INJURIES

- Sharps injuries are the **most frequent occupational hazard** faced by nurses, phlebotomists, doctors and other healthcare workers¹.
- Research has shown **40–75%** underreporting of these injuries².
- Accidental exposure to blood by healthcare workers is frighteningly common.
 - In 2001 over **69% of interns** working at Chris Hani Baragwanath Hospital sustained percutaneous injuries,
 - Tygerberg Hospital **91% of junior doctors** reported needlestick injuries in the previous year³.



NSI - WHAT CAN YOU CONTRACT?

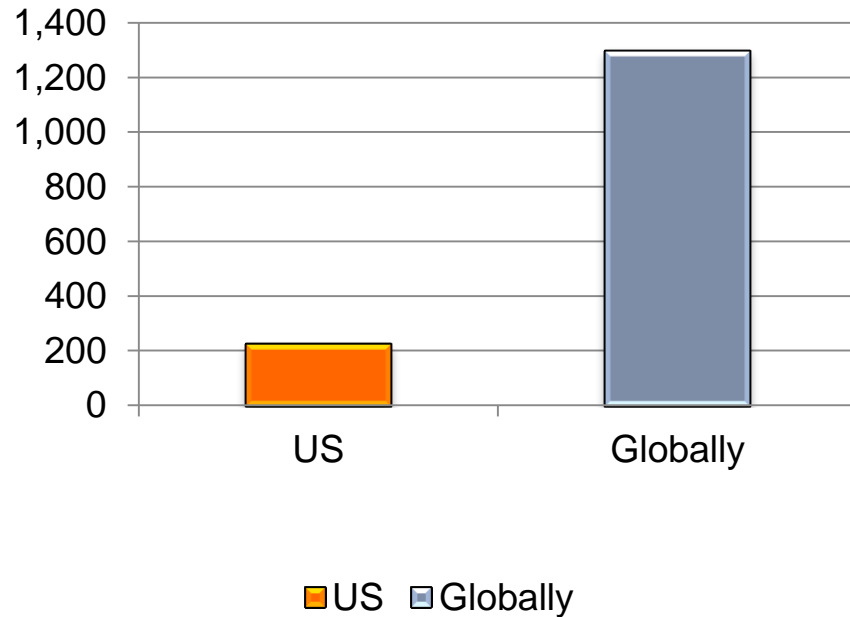
Viral Infections	Bacterial Infections	Fungal Infections
Hepatitis B	Brucella Abortus	Blastomyces Dermatitidis
Hepatitis C	Corynebacterium Diphteriae	Cryptococcus Neoformans
Hepatitis G	Neisseria Gonhorreae	Sporotrichum Schenkii
Human Immunodeficiency Virus	Leptospira Icterohaemorrhagiae	
Simian Immunodeficiency Virus	Mycobacterium Marinum	Protozoal Infections
Herpes Simiae	Mycoplasma Caviae	Plasmodium Falciparum
Herpes Simplex	Orientia Tsutsugamushi	Toxoplasma Gondii
Herpes Zoster	Rickettsia Rickettsii	
Ebola/Marburg	Staphylococcus Aureus	Tumors
Dengue	Streptococcus Pyogenes	Humon Colonic Adenocarcinoma
Creutzfeldt-Jakob Disease	Treponnema Pallidum	Sarcoma
	Mycobacterium Tuberculosis	

Today there are 30 known pathogens....Tomorrow???

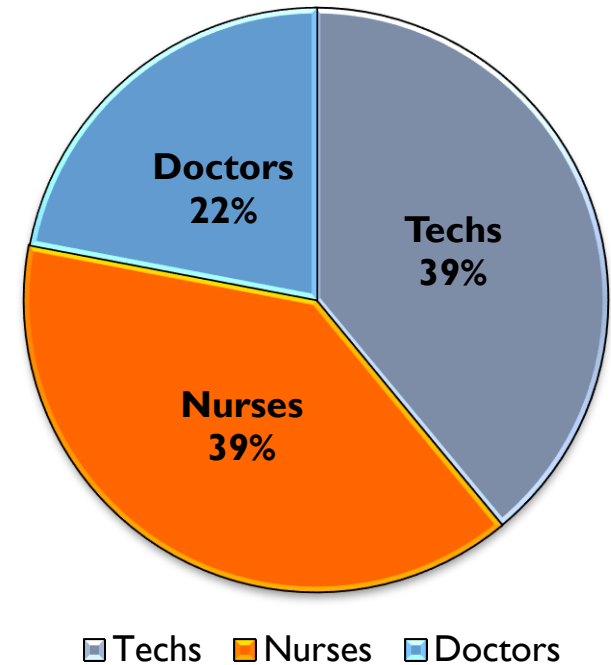


NSI - DEATH

Deaths Related to Needlestick Injuries



Needlestick Injury Deaths by Profession



NSI - SOUTH AFRICA

Procedure or incident related to needlestick injury

Procedure or incident	Number	Percentage
Recapping a needle	13	28.9
During surgery/suturing	0	0
Putting up IV line/administering injections	8	17.8
While managing a restless patient	10	22.2
Hidden sharp	2	4.4
Collision with a colleague	0	0
During disposal of used item	8	17.8
Cleaning up after a procedure.	1	2.2
Others	3	6.7



Body fluids that are infectious:

- Blood
- Cerebrospinal fluid
- Pleural, pericardial, synovial fluid
- Ascitic fluid
- Amniotic fluid.
- Human bite (common in psychiatric HIV positive patients)



HIGHER RISK:

- deep puncture
- hollow needle
- visible blood on device
- needle placed directly in artery/vein
- source pt. has high viral load, low CD4



LOW RISK:

- superficial scratch
- solid needle
- mucous membrane involvement-
eyes/mouth
- non intact skin- chapped, abrasions,
dermatitis



Non-infectious Body fluids

- Tears
- Faeces
- Urine
- Saliva
- Nasal secretions
- Sputum
- Vomit
- Sweat



- The risk of transmission of these diseases following percutaneous exposure among healthcare worker is high:
 - HB e Ag + at 20-40%
 - HCV at 1-10%
 - HIV at 0.1-0.3%









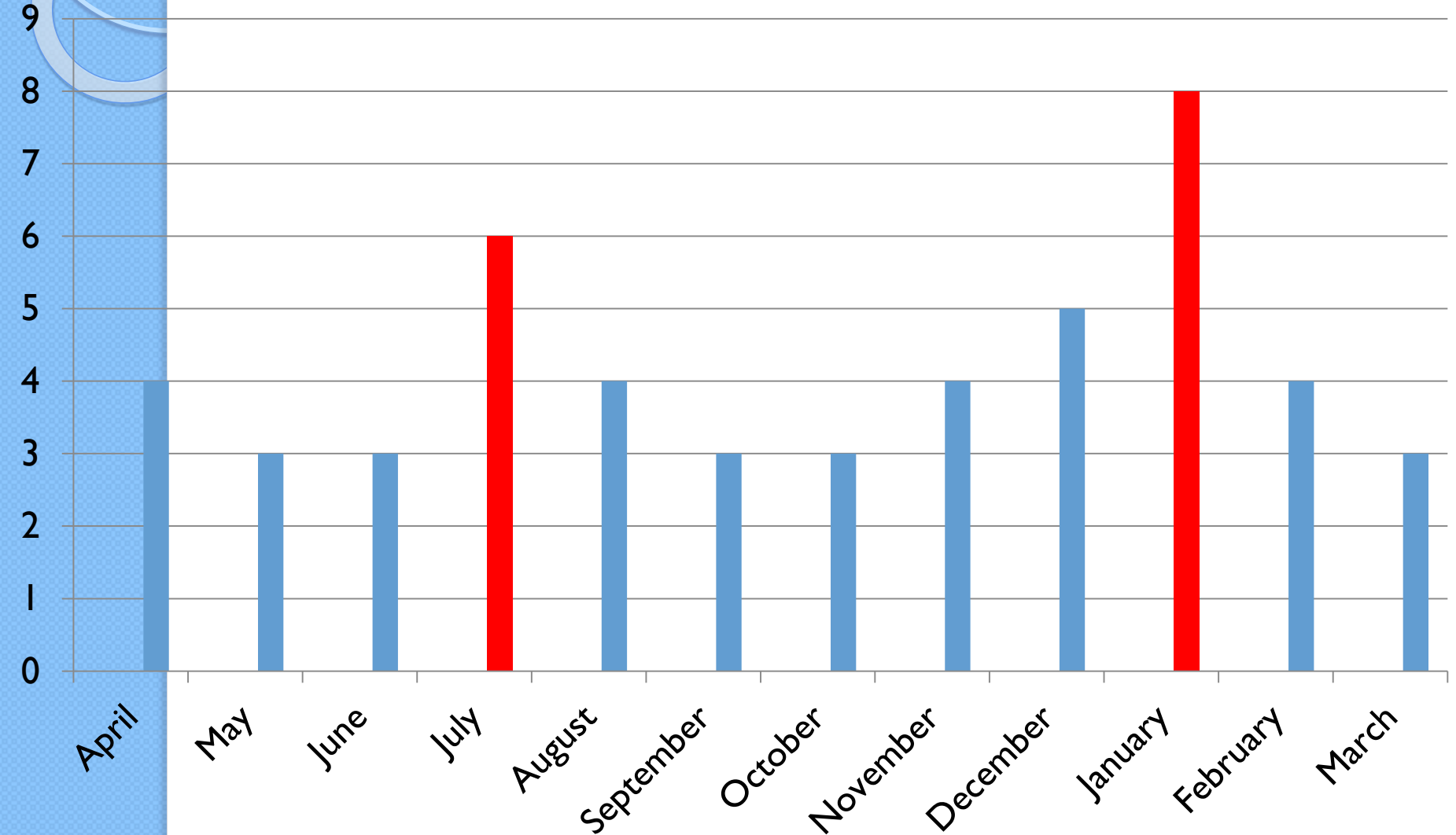
NSI - SOUTH AFRICA

Why don't we report NSI?

Reasons	Frequency	Percentage
Fear of HIV testing	3	41.1
Did not know where/to whom to report	1	13.6
Fear of disciplinary action	2.3	31.7
Fear of confidentiality	1	13.6
Total	7.3	100



Needle Stick Injuries- high in January and July



NSI - SOUTH AFRICA

The Zungu study conducted among nursing students at a University in South Africa:

- 96 students participated in the study, based on a questionnaire.
- 83.3% of the respondents displayed a high level of awareness of NSI guidelines.
- 56.3% had a fair knowledge and understanding of the content of the NSI guidelines.
- Participants indicated that they clearly understood the content and specification of the prescribed SOP's, but:
 - 32.3% declared adherence to the SOP's, while.
 - **67.7%** stated that they *did not conform* to the stipulated SOPs.



NSI - SOUTH AFRICA

The Zungu study concluded:

- Proper steps are needed to *promote the awareness* of and educate students about the dangers and prevention of these NSI's.
- A need for establishment of *specific programs* for the occupational health and safety of HCW's.
 - Students undergoing training.
 - Offer post-exposure prophylaxis in a discrete yet systematic manner.
- To achieve the above points there is a need for:
 - *Joint commitment* and *collaboration* between academic institutions and health service authorities.
 - Implementation of effective workplace health and safety programs to address risk assessment, management and control, injury prevention, ongoing awareness, information and training for all HCW's.



NSI - WHAT SHOULD BE DONE?

1. Stop whatever you are doing.
2. First aid: Flush with clorhexidine/alcohol soln. or soap & water. Express blood.
3. Inform senior.
4. GET PEP ASAP!- within ½ hour. 8-4 → Occupational Health Clinic
After hours → matrons office/Emergency Medicine Cupboard
Lamizid (3TC + AZT) – 1 tab BD
+ Aluvia – 2 tab BD

C heck source patients status.
+ → 4 weeks PEP
→ Informed consent- HIV, Hep. B.
If refuses → inform senior and counsel
5. Baseline bloods- FBC, U&E, LFT, hep. Screen and HIV ELISA.
6. See Occupational Dr. ASAP-medical report, prescribe med. – high risk- may add 2nd drug Aluvia (Lopinavir/Ritonavir).
7. Describe incident, eyewitness form.



NSI - COUNSELLING

Counselling should not be underestimated.

One is likely to encounter.

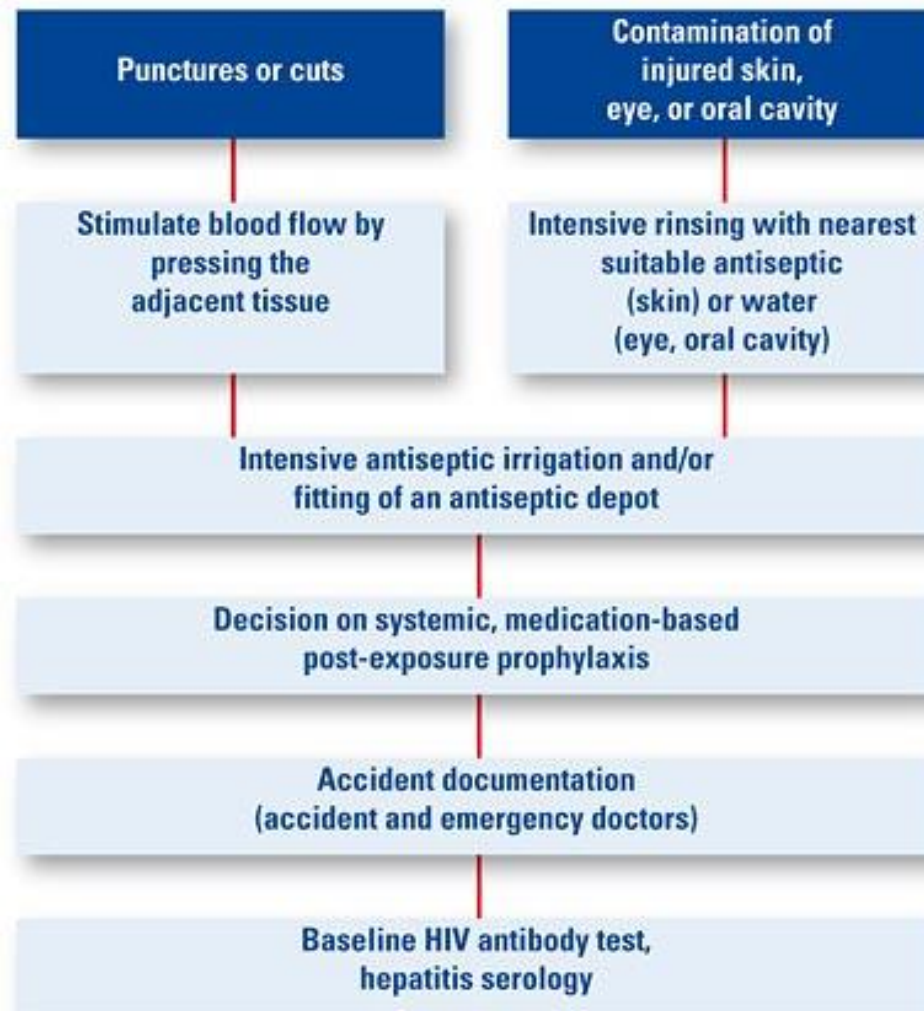
1. Fear
2. Anger
3. Anxiety
4. Sadness
5. Depression
6. Denial

Healthcare workers should be advised to:

1. practice sexual abstinence
2. avoid pregnancy
3. cease breastfeeding
4. refrain from donating blood/plasma/organs/tissue



NSI - ROUTE OF ACTION



NSI - RATIONALE FOR PEP

- If health care worker is HIV +
no prophylactic medication required.
- If source pt is HIV -
no prophylactic medication required.
- If source pt is HIV + and the staff member is negative
then prophylactic medication must be taken.
- If the source pts status is unknown and the staff member is negative
then prophylactic medication must be started.



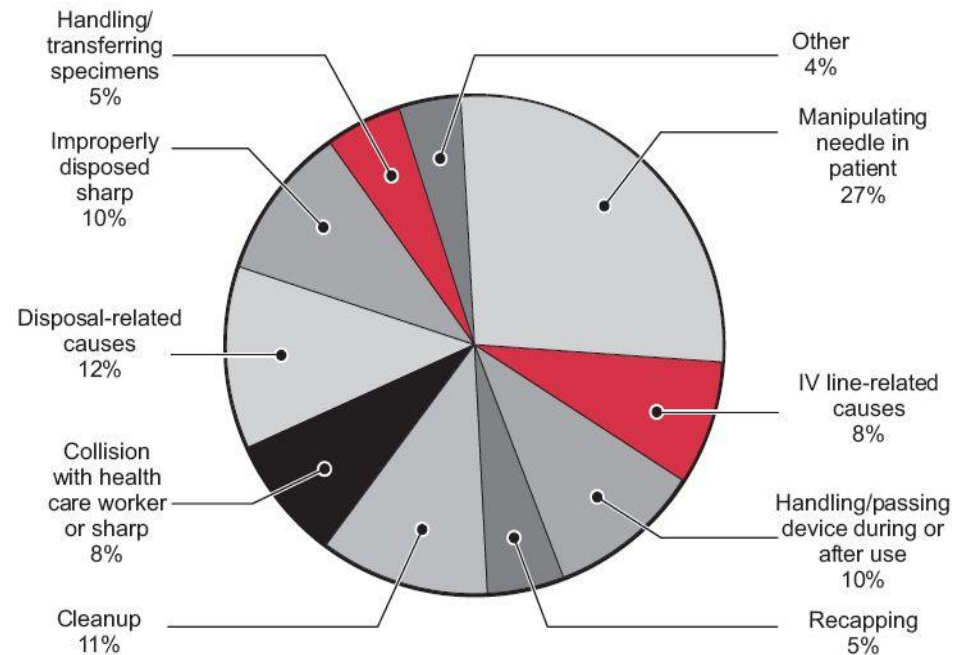
NSI - PREVENTION

When sharps injuries occur¹?

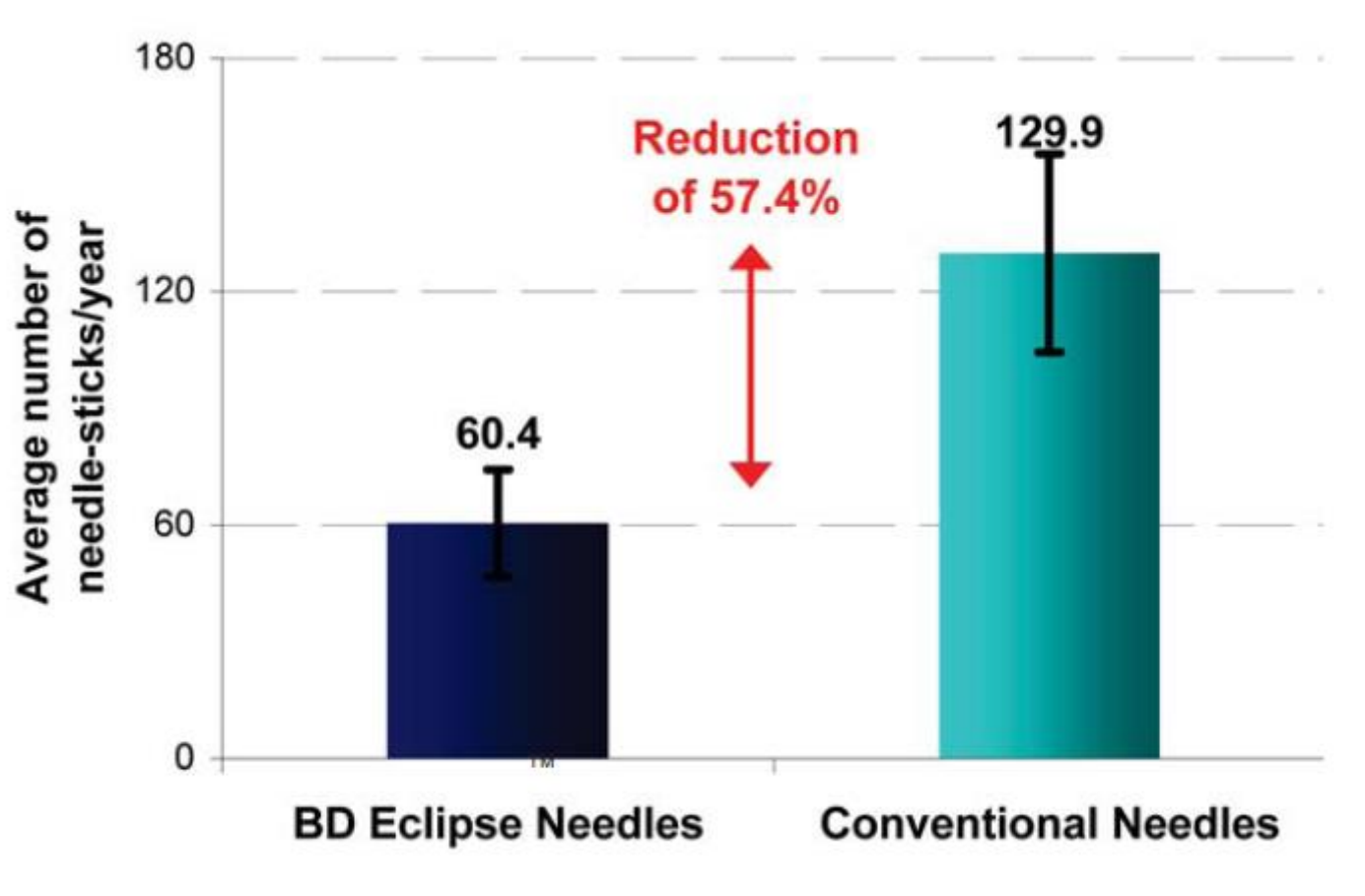
Sample collection	22%
Injection	17%
IV	16%

- Gloves, masks, goggles
- Safety sharp device
- Sharps containers, receivers
- No two handed recapping of needles
- Cover cuts on skin/abrasions with waterproof plasters

Reference nr 8



NSI - REDUCTION BY BD ECLIPSE NEEDLES



NSI - RECOMMENDATIONS FOR HCW

To protect them and their co-workers, healthcare workers should be aware of the hazards posed by needle stick injuries and should use safety devices and improved work practices as follows:

- Avoid recapping needles.
- Plan safe handling and disposal before beginning any procedure using needles.
- Use a vacutainer.
- Use a safety engineered device.
- Dispose of used needle devices promptly in appropriate sharps disposal containers.
- Report all needle stick and other sharps-related injuries promptly to ensure that you receive appropriate follow up care.
- Tell your senior and management about hazards from needles that you observe in your work environment.
- Participate in blood borne pathogen training and follow recommended infection prevention practices, including hepatitis B vaccination.



SUMMARY

- Immediate wound management.
- A report to the person in charge and a detailed record of the incident.
- A risk assessment.
- A blood sample by both the HCW and the source patient with informed consent and pre test counselling.
- A decision whether to initiate PEP
- Counselling, including advice on PEP, an explanation of monitoring and safe sex.
- Monitoring.
- Follow up at 2 weeks, 4 weeks, 6 weeks, 12 weeks and 6 months.
- Post test counselling.



THANK YOU!



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QUESTIONS

What is the most common cause of needle stick injuries?

- A-Putting up an Intravenous line/administering an injection
- B-During disposal of used item
- C-Recapping of needles
- D-While managing a restless patient



C-Recapping of needles



Which carries the highest rate of transmission following percutaneous exposure?

A-HIV

B-HCV

C-HBV



C-HBV


What is the first step after sustaining a needle stick injury?

A-See an Occupational doctor

B-Take bloods for HIV

C-Take ARV's

D-Express blood and wash area with chlorhexidine/soap and water



**D-Express blood and wash area with
chlorhexidine/soap and water**