



Blood Borne Pathogens

Safety at workplace

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Caring for what matters most

Asian Institute of Medical Science

A SUPER SPECIALTY HOSPITAL & CANCER CENTRE



**Safety is an essential component
of all activities**

**both within the work place
and outside the work place**



Components of Hospital Safety Programme

- Infection control
 - Emergency and disaster preparedness
 - Laboratory safety
 - Occupational health and safety
-

Components of Hospital Safety Programme

Infection control Programme

- Established by the hospital for the well being & safety of patients, staff & visitors to make an environment that secures the.....

**“Lowest possible Hospital-Acquired Infection-
Rate”**



Components of Hospital Safety Programme

Occupational Health and Safety

The promotion and maintenance of the highest degree of

- Physical,
- Mental and
- Social well-being of workers in all occupations;

To summarize, the adaptation of work to man and of each man to his job

Risk Associated with Hospital as a Workplace



- Biological Hazards
- Blood Borne Pathogens/
Needle Sticks/Sharps
- Chemical Hazards/
Hazardous Chemicals
- Compressed Gas
Cylinder
- Electrical Safety
- Engineering Controls
- Ergonomics
- Fire Safety
- Infectious Diseases
- Latex Allergy
- Noise
- Slips/Falls/Trips
- Stress
- Tuberculosis
- Workplace Violence
- Radiation Hazards



Blood Borne Pathogens/ Needle Sticks/Sharps injury

Safety at Workplace

The Problem



- CDC estimates ~385,000 sharps injuries annually among hospital-based healthcare personnel (>1,000 injuries/day)

Most healthcare workers are at risk.

- Increased risk for blood borne virus transmission
- Costly to personnel and healthcare system

What are your chances of getting infection?

- HEPATITIS B: 1 in 5 (If you are not vaccinated)
- HEPATITIS C: 1 in 50
- HIV: 1 in 300

Costs of Sharps Injuries



- Baseline and follow-up laboratory testing
- Treatment of exposed personnel
- Lost productivity
- Time to complete paperwork
- Loss of income / loss of career
- Emotional costs
- Societal costs

O'Malley, et. al. Costs of Management of Occupational Exposure to Blood and Body Fluids.

ICHE, July 2007, v 28, No. 7.



Preventing Sharps Injuries is Our Goal!

How Do Sharps Injuries Happen?

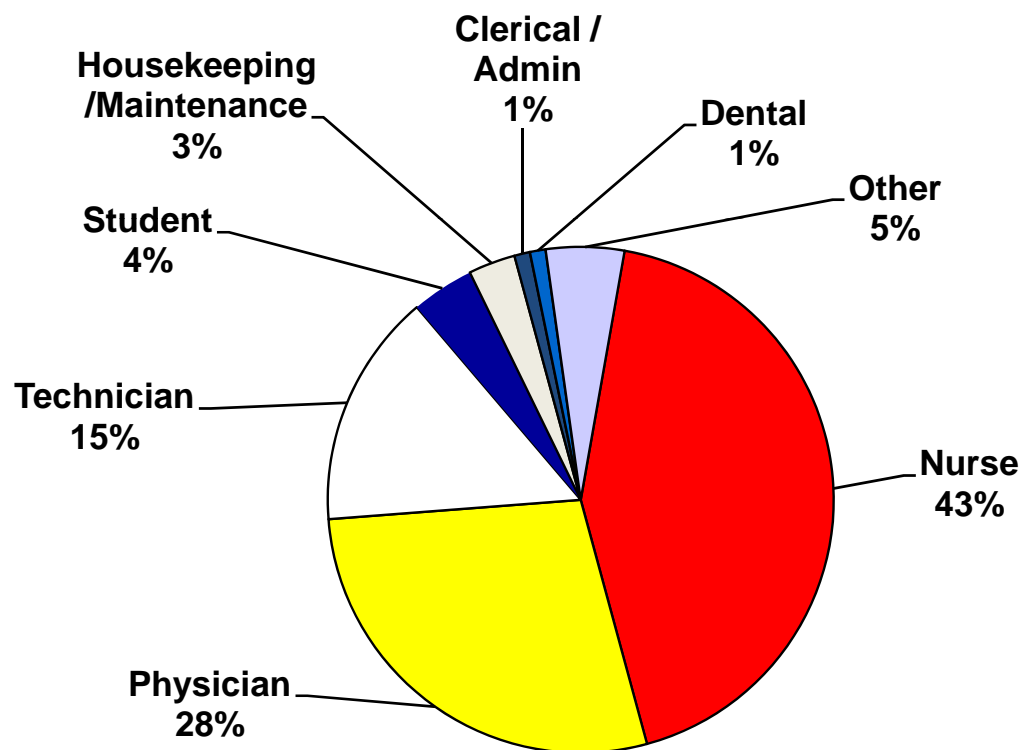
- Who gets injured?
- Where do they happen?
- When do injuries occur?
- What devices are involved?
- How can they be prevented?

Who Gets Injured?



Occupational Groups of
Healthcare Personnel
Exposed to Blood/Body
Fluids,

NaSH June 1995—
December 2003 (n=23,197)



When Do Sharps Injuries Occur?

- During use 41%
- After use/before disposal 40%
- During and after disposal 15%
- Other 4%

Source: NaSH, June 1995—December 2003

Where Do Sharps Injuries Occur?



- Patient Room (Inpatient & ICUs) 39%
- Operating Room 27%
- Outpatient 8%
- ER 8%
- Laboratory 5%
- Other 13%

What Devices are Involved in Sharps Injuries?



Six Devices Account for 78% of All Injuries

- Disposable Syringes with needles 30%
- Suture Needles 20%
- Winged-Steel Needles 12%
- Scalpels 8%
- Intravenous Stylets 5%
- Phlebotomy Needles 3%



What Strategies Exist to Eliminate Sharps Injuries?

- Eliminate or reduce the use of needles and other sharps
- Use devices with safety features to isolate sharps
- Use safe practices to minimize risk for hazards

First Strategy:



Eliminate or Reduce Unnecessary Needle Use

How Can Needle Use Be Eliminated or Reduced?



- Use needle-free IV delivery systems
- Use alternate routes for medication delivery and specimen collection when available and safe for patient care
- Streamline specimen collection systems
- Other ideas?

Next Strategy:

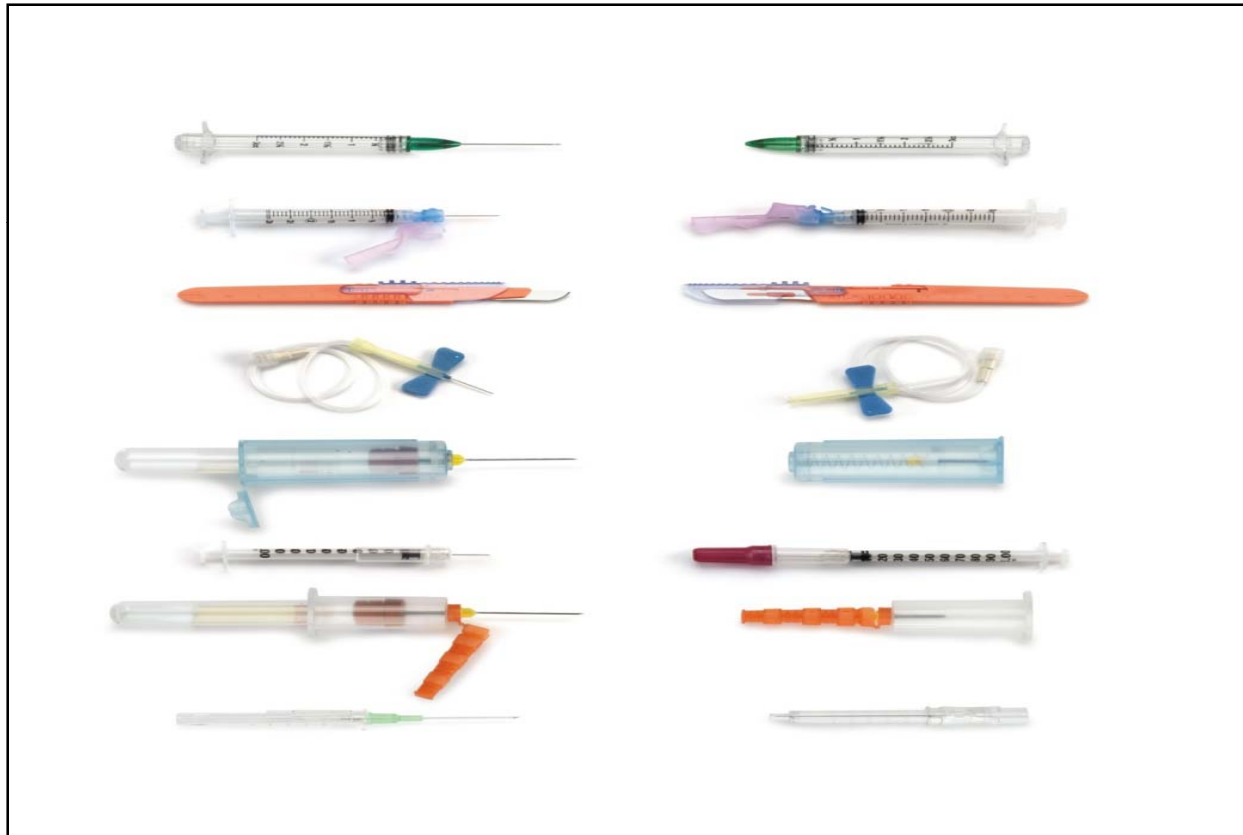


**Use Devices with Safety Features
Engineered to Prevent Sharps Injuries**

Safer Sharps Devices



Engineered to Prevent Sharps Injuries



Safety Devices: Key Features



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- Are integrated into the device
- Provide immediate protection after use and throughout disposal
 - Few devices provide protection during use
- Keep the worker's hands from having to move in front of sharps

Injuries Related to Work Practices



- Injuries occur because of the following:
 - Passing or transferring equipment
 - Recapping contaminated needles
 - Colliding with coworkers
 - Decontaminating/processing used equipment
- Injuries occur from sharps left in unusual places:
 - Laundry
 - Mattresses
 - Tables, trays, or other surfaces

EXAMPLES OF HIGH-RISK SITUATIONS

DURING PATIENT CARE:

- Inserting or withdrawing a needle
- Inserting needles into IV lines
- Handling or passing sharps

EXAMPLES OF HIGH-RISK SITUATIONS

IMMEDIATELY AFTER SHARP USE:

- Recapping a needle
- Transferring or processing specimens

Sharps Safety Practices



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Certificate No: M-0460



- Be prepared
- Be aware
- Dispose with care

Be Prepared



Before Beginning a Procedure

- Organize equipment at the point of use
- Make sure work space has adequate lighting
- Keep sharps pointed away from the user Locate a sharps disposal container, or have one nearby
- Assess the patient's ability to cooperate
- Get help if necessary
- Ask the patient to avoid sudden movement

Be Aware



During a Procedure

- Maintain visual contact with sharps during use
- Be aware of staff nearby
- Control the location of sharps to avoid injury to yourself and others .
- **STOP** – if you feel rushed or distracted
- Focus on your task

Be Aware



During a Procedure (cont'd)

- Do not hand pass exposed sharps from one person to another
- Use predetermined neutral zone for placing/retrieving sharps
- Alert others when sharps are being passed
- Activate safety feature of devices with engineered sharps injury prevention features as soon as procedure is completed
- Observe audible or visual cues that confirm the feature is locked in place

Clean Up and Dispose with Care



During Cleanup

- Be accountable for the sharps you use
- Check procedure trays, waste materials, and bedding for exposed sharps before handling
- Look for sharps/equipment left behind inadvertently

Clean Up and Dispose With Care



During Cleanup (cont'd)

- Transport reusable sharps in a closed container
- Secure the container to prevent spillage

Clean Up and Dispose With Care



While Disposing of Sharps

- Inspect container
- Keep hands behind sharps
- Never put hands or fingers into sharps container
- If you are disposing sharps with attached tubing
 - Be aware that tubing attached to sharps can recoil and lead to injury
 - Maintain control of both tubing and the device during disposal

Clean Up and Dispose With Care



After Disposing of Sharps

- Visually inspect sharps container for overfilling
- Replace containers before they become overfilled
- Keep filled containers for disposal in a secure area

Clean Up and Dispose With Care



If You Find Improperly Disposed Sharps in Work Environment

- Handle carefully
 - Keep hands behind sharps at all times
 - Use mechanical device if you cannot safely pick up sharps by hand



Sharps Management

Summary

Sharps Management

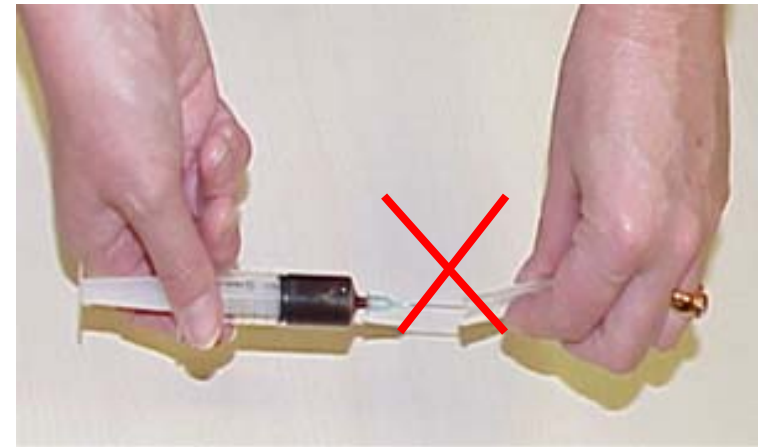


- Always dispose off your own sharps.
- Never pass used sharps from one person to another
- Directly after use, place needles in a puncture resistant container

Sharps Management



- Needles should not be recapped, bent or broken by hand, removed from disposable syringes or otherwise manipulated by hand.
- Never recap, bend or break needles.



Sharps Management



- In the case of inappropriately disposed sharps, a sharps container should be taken to the location, the sharp handled and disposed of in a manner to avoid injury, and hands washed following disposal.
 - Report inappropriate disposal

Sharps Management



- Hepatitis B Vaccination
 - A primary course of hepatitis B vaccinations over six months (0 /1/ 6)
 - Mandatory for all staff in contact with patients and patient-contaminated material
 - Titre level (HBsAb) four to six weeks after last dose



Sharps Injuries in the Operating Room

- Cuts/needlesticks occur in as many as 15% of operations
 - Risk increases with longer, more invasive, higher blood loss procedures
- Suture needle injuries are most frequent (77%)
 - Fingers used to manipulate needles and tissue
- Up to 16% of injuries occur while passing sharps



Sharps Management

For OTs

- **Needleless/no sharps alternatives**
 - Use alternative cutting methods such as blunt electrocautery and laser devices when appropriate
 - Substitute endoscopy surgery for open surgery when possible
- **Engineering controls**
 - Use round-tipped scalpel blades instead of sharp-tipped blades
 - Use blunt suture needle
- **Work practice controls**
 - Use instruments rather than fingers to hold needles
 - Give verbal announcement when passing sharps
 - Use “neutral zone” to avoid hand-to-hand passing of sharps

You are Part of the Prevention Process when You



- Adhere to safe practices and assist and support coworkers in safer practices
- Report injuries or blood/body fluid exposures, sharps injury hazards, and near misses
- Participate in training for devices and properly use sharps safety features
- Participate in surveys (e.g., safety culture) and device evaluations



It takes a team to eliminate sharps injury....

Always Handle Sharps With Care



Have a Safe Day!
