

UNIVERSAL HEALTH PRECAUTIONS

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Background

- In 1985, largely because of the emergence of HIV/AIDS, guidelines for protecting healthcare workers from becoming infected with HIV and other Blood borne infections (e.g., HCV) were quickly developed and became known as Universal Precautions (UP).
- Universal precautions protect staff and patients from hospital acquired infection.

DEFINITIONS

- Infections - are caused by pathogens (germs)
- Infection control – the set of methods used to control and prevent the spread of disease
- Communicable disease – disease spread from one person to another
- Infectious disease – disease caused by a pathogen (germ or bacteria)

DEFINITIONS

- ▶ Contaminated – means dirty, soiled, unclean
- ▶ Disinfection – cleaning so that germs (pathogens) are destroyed
- ▶ Mode of transmission – the way germs are passed from one person to another

MODES OF TRANSMISSION

- ▶ Body fluids – tears, saliva, sputum (mucus coughed up), urine, feces, semen, vaginal secretions, pus or other wound drainage, blood
- ▶ Touching the infected person or their secretions
- ▶ Touching something contaminated by the infected person.
- ▶ Droplets – coughing, sneezing, laughing, spitting, talking

PORTALS OF ENTRY

- Any body opening of an uninfected person which allows pathogens to enter
- Nose, mouth, eyes, rectum, genitals and other mucous membranes
- Cuts, abrasions or breaks in the skin

What are Universal Precautions

Universal precaution are control guidelines designed to protect workers from exposure to Diseases spread by Blood and other Body fluids.

CDC

Why Universal health Precautions.

The concept of Universal Health Precautions emphasizes that all our patients should be treated as though they have potential blood born infections, and can infect the caring health care workers.

Body fluids to be treated with Universal Precautions

- | | |
|----|---|
| 1. | <ul style="list-style-type: none">➤ Cerebrospinal fluid➤ Peritoneal fluid➤ Pleural fluid➤ Pericardial fluid➤ Synovial fluid➤ Amniotic fluid➤ Urine➤ Semen➤ Vaginal secretions |
| 2. | Any other fluid containing visible blood including saliva |
| 3. | Tissues & organs |

UNIVERSAL PRECAUTIONS

- Wear gloves if you may come in contact with blood, body fluids, secretions and excretions, broken or open skin, human tissue of mucous membranes
- Bag all disposable contaminated supplies
- Clean all surfaces that may be contaminated with infectious waste, such as beds, wheelchairs and shower chairs

Universal precautions includes

1. Care of the skin
2. Hand washing
3. Protective Apparel
4. Procedure for safe handling of sharps
5. Procedure for safe disposal of sharps
6. Management of blood and body fluid spillages
7. Waste disposal

Care of the skin....

- Bacteria and viruses cannot penetrate intact skin. It is therefore vital to keep the skin in good condition and prevent cracking , chapping and drying of the skin.
 - regularly check skin for cuts and cover with a waterproof dressing.
 - Following removal of gloves, wash hands
 - Ensure thorough drying of skin following hand wash.

HAND WASHING

- There is no Health precaution like Hand washing.
- Hand washing is considered the simplest and most important
- action to prevent infection transmission
- Washing with simple toilet soap - reduces the rate of transmission of common infections including the HIV.



Your Hands can be Dangerous...



Wash them with Soap & Water
to keep bacteria away

Hand Hygiene is the single most effective intervention to reduce the cross transmission of Nosocomial infections



Hand washing Indications

BEFORE:

- Starting Work
- Examining a Patient
- Administering an Injection
- Handling Disinfected Instruments
- Putting on Gloves
- Going Home

AFTER:

- Examining a Patient
- Handling Instruments or Potentially Contaminated Items or Body Secretions & Excretions
- Removing gloves
- Using the toilet or washrooms
- Sneezing or Coughing



HAND WASHING

- Remove any jewelary or watch
- Wet hands with warm, running water
- Add soap
- Rub hands vigorously for 20 seconds, washing all surfaces
- Rinse, keeping fingers pointing down
- Dry with paper or clean cloth towel
- Turn off faucet with towel and open door with towel

How to Wash our hands



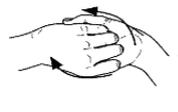
Procedure 1
Wet hands and wrists. Apply soap.



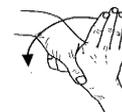
Procedure 2
Right palm over left, left over right.



Procedure 3
Palm to palm, fingers interlaced.



Procedure 4
Back fingers to opposing fingers interlaced.



Procedure 5
Rotational rubbing of right thumb clasped in left palm and vice versa.



Procedure 6
Rotational rubbing backwards and forwards with tips of fingers and thumb of right hand in left and vice versa.

NOTE: Repeat procedures 1-6 until the hands are clean. Rinse hands and pat dry.

What to be used for hand washing

- In most circumstances Non medicated soaps and detergents are effective in removing most transient contaminants.
- In demanding circumstances, in handling potentially harmful infections, use Ethyl or Isopropyl alcohol.
- Detergent formulations containing Chlorhexidine Povidone, or Hexachlorophene are effective in prevention of spread of infections.

WATERLESS HAND SANITIZER

- Make sure all visible dirt is removed from your hands
- Apply a dime sized amount of waterless hand sanitizer to the palm of one hand or use a waterless hand sanitizer wipe
- Rub hands together covering all surfaces of hands and fingers
- Rub until waterless hand sanitizer is absorbed
- Remember, waterless sanitizers are not effective if dirt is visible on your hands

USING PROTECTIVE BARRIERS.....



- #The wearing of protective apparel provides the healthcare worker with a barrier between themselves and potential blood and bodyfluid.
- #Common barriers are gloves, aprons, masks, eye protectors, caps, and sturdy footwear.

Use of Gloves

Use of a pair of disposable plastic gloves can protect if chances of contact with Blood or Body fluid is anticipated/inevitable.



WHEN SHOULD I USE GLOVES ?

- When you may come in contact with blood or any body fluids, open wounds, or mucous membranes
- Performing or helping with mouth care
- Performing or helping with perineal care
- Performing care on a consumer who has broken skin
- When you have open sores or cuts on your hand
- When disposing of soiled bed linens, gowns, dressings and pads

PUTTING ON GLOVES

1. Remove any sharp jewelry
2. Remove glove from box. Gloves come in small, medium and large. Most are rubber latex and are pre-powdered. Those who are allergic to latex should use vinyl gloves.
3. Hold glove with your thumb and forefinger and insert hand into gloves
4. Work fingers into proper places

REMOVING GLOVES WITHOUT CONTAMINATING YOUR HANDS

- 1. Pinch the palm of one glove and pull away from the palm.
- 2. Push the fingers of the pinching hand up inside the other glove, stretching the material of the glove towards the cuff of the other glove until it emerges by the wrist.
- 3. Pull the fold down until the glove is almost off (you will be pulling the glove inside-out).

REMOVING GLOVES WITHOUT CONTAMINATING YOUR HANDS

- 4. DO NOT take the glove completely off.
- 5. Hook the ungloved thumb between the wrist and the skin of the other gloved hand and pull down, pulling both gloves off. (Both gloves will now be inside out.)
- 6. Dispose of the gloves properly.

Use of Mask, Cap, Eye Wear

- Will certainly protect us from splashes of Blood or Body fluids.
- It equally protects our patients.
- Stringent use of Mask and Cap can save several Lives in the Hospital



Use of Foot wear

- Wearing foot wear covering entire sole protects the entry of Microbes from the contaminated floors with Blood and Body fluids.
- Remember many of us have cracks on our feet.

Use of Impervious Gown

A simple thin Plastic apron underneath the linen is of great help in preventing the soaking our inner clothes and exposure to harmful microbes.

Rationale for Barrier Use

BARRIER	PROTECTS PATIENTS	PROTECTS HEALTH CARE WORKERS	PRECAUTIONS
Gloves	Prevent microorganisms on the service provider's hands from coming in contact with the client	Prevent the service provider's hands from coming in contact with the client's blood or other body fluids, mucous membranes, and non-intact skin, as well as instruments, other items, or surfaces that have been contaminated with blood or other body fluids	
Mask	Prevent droplets from the service provider's (and other persons in the clinic) nose and mouth which contain microorganisms that are expelled during talking, coughing and breathing from contact with the client	Prevent the mucous membranes of the service provider's nose and mouth from being exposed to splashes of blood and other body fluids; also protects from droplets containing microorganisms.	Mask should cover nose, mouth, and cheeks and extend below the chin.

BARRIER	PROTECTS PATIENTS	PROTECTS HEALTH CARE WORKERS	PRECAUTIONS
Eye protectors	No protection documented	Prevent the mucous membranes of the service provider's eyes from being exposed to splashes of blood or other body fluid	
Cap	Prevent microorganisms in service provider's hair or on skin shed from the service provider's head from falling on the sterile field	No protection documented	

BARRIER	PROTECT PATIENTS	PROTECT HEALTH CARE WORKERS	PRECAUTIONS
Jacket, gown & plastic apron	Prevent microorganisms on the service provider's arms, torso & clothing from coming in contact with the client	Prevents the service provider's skin from being exposed to splashes of blood or other body fluids	A waterproof apron should be worn under the jacket or gown during all procedures in which large amounts of blood & other body fluids are likely (e.g., cesarean delivery)
Shoes	Clean footwear minimises the number of microorganisms brought from other areas of the facility or the outside into the surgical/procedure area	From stepping on contaminated sharps or from falling equipment	Sturdy shoes should be worn in surgery. Health care workers should never walk barefoot in the operating room. Clean plastic or leather boots that cover the whole foot are recommended. Sandals & open shoes are not recommended.

Selection of Protective Barriers

Type of Exposure	Protective Barrier	Example
Low Risk: Contact with intact skin; no exposure to blood	Gloves not essential	Injection Minor wound dressing
Medium risk: Probable contact with blood, but splashing unlikely	Gloves Gown or apron may be necessary	Pelvic exam Handling of laboratory specimens IUD insertion IUD removal Large, open wound dressing Intravenous Drawing of blood catheter insertion or removal
High risk: Contact with blood likely; splashing probable; uncontrolled bleeding	Gloves Apron Eyewear Mask	Major surgical procedures Oral surgery Vaginal delivery

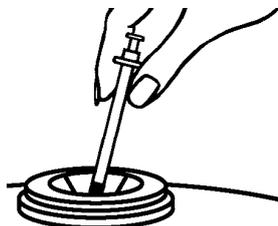
- ### Procedure for safe handling of sharps
- Needles must never be re-sheathed or recapped
 - Staff must obtain assistance when taking blood or giving injections to uncooperative or confused patients
 - Never carry sharps by the hand, if transporting always place in an appropriate container
 - Needles must never be broken or bent prior to disposal
 - Needles must never be passed from hand to hand
 - When performing phlebotomy, cannulation or giving injections, all staff must wear appropriate disposable gloves
 - Never reuse a sharp

- ### Procedure for safe disposal of sharps
- Do not dispose of sharps with other clinical waste.
 - Sharps bins to be kept in location that precludes injury to patients, visitors and staff ensuring that sharps bins are situated at a suitable height i.e. not placed on the floor or above shoulder height.
 - Always dispose of needles as a complete unit into a sharps container never disassemble prior to disposal
 - Sharps containers should be $\frac{3}{4}$ full prior to sealing and disposal
 - Never force a sharp into a sharps container

- ### Disposal of Needles and Sharps
- All used needles and sharps should be deposited in thick walled puncture resistant containers.
 - Bending, Reshaping, should be prohibited.
 - Do not recap the needles to avoid needle stick injuries,
 - All used Disposable syringes and needles should be discarded into Bleach solution at the work station before final disposal.

Dealing with Used Needle

Shredding continues to be Important Method Of dealing with used Needle



Avoid Needle Stick Injuries



Hazards of Needle stick Injuries

- HIV HBV and HCV viral infections can spread by Needle stick Injuries
- Nursing staff are at greater risk
- Several Injuries are preventable

Dealing with Needle stick Injuries

- Consider all Needle stick injuries as a serious health hazard in the era of AIDS
- All events of Needle stick injuries to be reported to the supervisory staff.
- Wash the injured areas with soap and water.
- Encourage bleeding if any.
- Prophylaxis for prevention of HIV/HBV is top priority.
- Anti retroviral prophylaxis, if necessary should started within 2 hours, (if injury is from HIV positive or high risk group).

Decontamination of Hospital Linen

- All the linen contaminated with Blood or Body fluids should be soaked in 1: 100 bleach solution for 30 minutes.
- Advised Autoclaving, as the most ideal procedure for decontaminating Linen

Spillage of Blood/Body fluids

- A common health hazard in the working environment.
 - Never wipe the spillage with working wet mop.
- Always cover the spills with paper and pour 1 % Hypochlorite or Bleaching powder to decontaminate the spills with HIV/HBV virus.

- ▶ Put on clean gloves
- ▶ Wipe up immediately by cleaning from the outside (cleanest) to the inside (dirtiest)
- ▶ Use the appropriate cleaning agent
- ▶ Never pick up glass, even with gloved hands
- ▶ Dispose of gloves and cleaning equipment and supplies

Care of Endoscopes

- Endoscopes are delicate/precious instruments.
- Follow the instruction of Manufacturers.
- It is commonly cleaned with 2 % Glutaraldehyde solution.
- Specified time schedules to be followed to decontaminate for HIV.
- Mycobacterium needs even > 2 hours for decontamination.

Decontamination of Metal Instruments

- Hold all contaminated instruments with Gloved hands.
- Subject all metal instruments to washing with soap and water.
- Treat all contaminated instruments with 2% Glutaraldehyde. For at least 30 minutes.
- Many consider sterilizing in Hot air oven if not sharp instruments.

Anesthetic Tubing's and other Equipments

- Since they are in intimate contact with Human secretion need utmost attention in decontamination.
- Treat all Non disposable as highly hazardous, if used without safe practices can infect the next patient undergoing procedures.
- Soaking in 2 % Glutaraldehyde is common practice in Developing world.

GENERAL GUIDELINES

- Use appropriate receptacles for disposal
- Do not touch the inside of any disposal container
- Do not use "re-usable" equipment again until it has been properly cleaned
- Never use disposable equipment more times than recommended by the manufacturer

Pregnant Health Care Workers

- Not at more risk than other, Health care workers.
- Should adopt Universal Health Precautions with more dedication,
- If neglected the Unborn is at grave risk of attaining congenital infections.
- The Laboratory supervisors should monitor/ guide the HCW's for adherence to scientific practices.

Operating on HIV/High risk groups

- HIV infected carries the risk of being neglected at the time of crisis.
- Law may not change for equality but motivated health workers should bring in change of attitude.
- Adherence of Universal Health precaution bring in safety to all HCW.
- Follow the precautions even in Non HIV patients as some of our patients are in window period and more dangerous than truly positive with Sero testing.

Caution on Operating HIV Sero Negative Patients

- Universal precaution apply to all our patients irrespective of Blood tests we undertake.
- We handle so many patients in emergency situation with out any details.
- Education on Universal precautions

participation of you and educating your subordinates/Juniors will make a lot of Difference in the work Environment.

Precaution for Invasive Procedures

- All HCW's who participate in invasive procedures must routinely use appropriate barrier precautions.
- All Health care workers who perform/assist vaginal, and cesarean deliveries should wear gloves and gowns when handling, the placenta, and the new born, till blood and amniotic fluid has been removed from infants.
- Amniotic fluid is rich in HIV/HBV virus, in infected mothers.

Handling Dentistry Patients

Blood , Saliva,Gingival fluid from all Dental patients should be considered infective, Dental, workers should wear surgical mask, gloves and eye wear

Caring Bleeding Patients

- Primary health care workers who handle the patients in Emergencies, and Accidents to be trained in basic principles of Universal Health care precautions.
- Mouth to Mouth resuscitation is life saving in the Critically injured accident victims. May be neglected because of fear of HIV infection.
- If the situation warrants, Bleeding from mouth can be wiped out with clean cloth, or Handkerchief, and still one can do resuscitation.

Vaccination for HBV infection

- All HCW's must take at least three doses of Vaccine, At 0 – 1 – 6 months. without discontinuation of the schedule.
- All Health care workers many not attain equal response.
- High risk HCW's should undergo estimation of anti HB s (antibodies) to know whether they were well protected.

Never forget to take Hepatitis B
Vaccine if You are a HCW

