

Section: UTMB On-line Documentation	01.32 – Policy
Subject: Infection Control & Healthcare Epidemiology Policies and Procedures	07.11.18 - Revised
Topic: 01.32 - Exposure Control Plan	1994 - Author

01.32 - Exposure Control Plan

Purpose: To provide a plan for the prevention of exposure of hospital staff and students to blood and body fluids.

Audience: All employees of UTMB hospitals, clinics, contract workers, volunteers, and students

Standard Precautions Policy: This program is based on the assumption that blood and other body fluids from all patients may be infectious. This system will protect healthcare workers (HCW's) and students from bloodborne infectious agents such as Hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV) as well as many other infectious diseases encountered in hospitalized patients (including those that are undiagnosed). All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering and generation of droplets of those substances. Personal Protective Equipment (PPE) should be used when contact with any potentially infectious body fluid, tissue or organ (blood, plasma, serum, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, breast milk, saliva in dental procedures, any body fluid that is bloody and when the identity of the body fluid is uncertain and any unfixed tissues or organs) may be encountered. One should not rely on a diagnosis of infection to be made before precautions are instituted. Rather, by assuming that all blood, body fluids and tissues identified above are potentially infectious, measures are taken to safely handle these body substances. In addition, the consistent use of barriers, particularly gloves, by HCW's and students protect patients from the organisms that can be transmitted from patient to patient by personnel and students. This policy focuses on the use of barriers to prevent contact with blood, other body fluids, and unfixed tissues.

Exposure Control Plan: This Exposure Control Plan is based on OSHA regulations (29 CFR Part 190.1030) and Chapter 81, Health and Safety Code, Subchapter H. It will focus on engineering controls, changes in work practices and PPE for the protection of HCW's and students. It will be reviewed annually and revised as indicated.

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Education of Employees on Prevention of Blood and Body Fluid Exposures All new employees are educated on the prevention of blood and body fluids exposures. See Appendix A.

All employees whose job puts them at ongoing risk for exposure to blood and body fluids are required to take annual online training on prevention of blood and body fluids exposure. See Appendix B.

General Precautions: These general precautions apply to all HCW's and students who have any risk for exposure to blood, other body fluids, fluids that may be body fluids or unfixed tissues.

Exposure Determination: Employees who, during the course of their work, are potentially exposed to blood, body fluids, and unfixed tissues will be identified. This data on risk classification will be maintained in Human Resources.

Eating & Drinking: HCW's and students shall not eat, drink, apply cosmetics or lip balm or handle contact lenses in work areas including nursing units, areas where diagnostic procedures are performed, areas where treatments are administered, areas where equipment and material contaminated with blood and body fluids are processed and the clinical laboratories.

Storage of Food: Storage of food and drink in refrigerators, freezers, and cabinets or on shelves or countertops where blood and other potentially infectious materials are present is prohibited.

Barriers: PPE for protection of healthcare workers and students from contamination by blood and other body fluids shall be found at a clearly marked location on each unit. Employees must always use PPE unless an employee temporarily and briefly declines use of PPE when under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances shall be investigated and documented in order to determine whether change can be instituted to prevent such occurrences in the future.

- HCW's and students must wash hands before and after each patient contact, and any time they become accidentally contaminated with blood or other body fluids.
- Gloves must be worn for phlebotomy, for inserting intravascular catheters, intubation, suctioning and for any other procedures where

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hands may become contaminated with blood or other body fluids. All sizes of gloves shall be available. Hands must be washed after removing gloves. The following are guidelines for glove use:

- Use sterile gloves for procedures involving contact with normally sterile areas of the body.
- Use examination gloves for procedures involving contact with mucous membranes, unless otherwise indicated, and for other patient care or diagnostic procedures that do not require use of sterile gloves.
- Gloves must be changed between patients.
- Gloves must be replaced as soon as practical when they become contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.
- Gloves must not be washed or disinfected for reuse.
- General purpose utility gloves (i.e., rubber household gloves) for non-patient contact (i.e., housekeeping, transportation, laboratories, etc.), where tasks involve potential blood and body fluid contact but where a high level of manual dexterity is not required, shall be used. Utility gloves may be decontaminated with an appropriate disinfectant and reused but shall be discarded if they are peeling, cracked or discolored, or if they have punctures, tears, or other evidence of deterioration.
- When a healthcare worker or student discovers that he or she is allergic to the gloves provided, this fact shall be reported to their supervisor. Gloves made from a material to which the employee or student is not allergic shall be made available.

Barriers:
Gowns

Impervious gowns must be worn when a particular task may result in contamination of clothing due to splashing or spattering of blood or other body fluids. Hands must be washed after gowns are removed. Disposable gowns must be discarded as regular waste unless significantly contaminated with blood/bloody body fluids in which case they shall be discarded in a red bag as biohazardous waste. Reusable gowns must be placed in an impervious laundry bag with a minimum of agitation, and sent to the Texas Medical Center laundry. All garments which are penetrated by blood, or other body fluids, must be removed immediately or as soon as feasible and placed in the appropriate container for disposal. All personal protective equipment must be removed prior to leaving the work area and placed in the

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designated receptacle.

Barriers: Masks and goggles or glasses with solid side shields or masks with eyeshields incorporated that provide side protection or chin length face shields must be used any time there is a potential for blood or body fluids to contaminate mucous membranes. If mucous membranes become contaminated with blood or other body fluids, flush immediately with water.

Masks & Goggles

Barriers: Surgical caps or hoods and fluid resistant knee-high booties must be worn in instances when gross contamination can reasonably be anticipated. They should be removed when soiled followed by handwashing. New booties should be donned if there is a continuing risk of contamination with blood or body fluids during the procedure.

Surgical Caps or Hoods, Shoe Covers or Boots

Barriers: CPR Disposable mouth barriers or reusable resuscitation bags for cardiopulmonary resuscitation (CPR) shall be provided on patient units and in treatment areas. After use, reusable resuscitation bags shall be placed in a plastic bag and returned to sterile processing for cleaning and sterilization.

Cleaning Up Spills: Cleaning up spills of blood, other body fluids, and unfixed tissues:

- Gloves must be worn.
- Forceps shall be used to pick up any sharp objects such as broken glass or plastic before the fluid is wiped up. Heavy general purpose utility gloves must be worn to clean up spills if broken glass or plastic is present.
- The spilled substance shall be thoroughly wiped up using disposable absorbent material (i.e., paper towels) which are then discarded as regular waste. If the absorbent material is saturated (dripping) with blood/bloody body fluids, then the absorbent material shall be discarded as biohazardous waste.
- The area of the spill will then be covered with a 1:10 dilution of sodium hypochlorite*. After 5 minutes, the sodium hypochlorite can be removed with absorbant material and the latter discarded as regular waste.

Contaminated Equipment:

- Gloves must be worn when handling contaminated instruments or equipment.
- All instruments to be returned to sterile processing shall be placed in bins with lids.

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- All equipment contaminated with blood or other body fluids shall be decontaminated by appropriate means prior to servicing (i.e., in the dirty utility room of the patient care area).
- Gloves must be worn by the person who decontaminates the equipment.
- When equipment cannot be decontaminated prior to servicing, a sticker displaying the biohazard symbol shall be attached.
- The area(s) contaminated shall be written on the front of the sticker.
- UTMB will provide to healthcare workers certain safety products designed to prevent sharp object injuries. Healthcare workers will be engaged in the selection of these safety products. For their protection, healthcare workers are required to use these products. These products include but are not limited to safety needles for: venipuncture, intravenous lines, finger/heel sticks, intramuscular injections and general needle/syringe usage. The requirement to use these products does not apply to those devices that are not available with a safety feature or that must be modified for certain procedures and the modification precludes the use of the safety feature.

Devices with
Engineered
Sharps
Protection and
Needleless
Systems:

- Needleless systems including intravenous administration sets and devices to withdraw medications from vials will be used, when possible, throughout the UTMB Health System.
- All sharps devices with safety protection will be reviewed annually and compared with new safety devices available commercially. New devices that have more effective sharps protection will be selected to replace sharps currently in use.
- New safety devices will be assessed by personnel who use sharps devices in their daily work.
- Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed except as described in the section on needle removal below. Shearing or breaking of contaminated needles is prohibited.

Venipuncture:

- Venipuncture and insertion of steel needles or plastic catheters into any intravascular space shall be carried out with great care.
- Gloves must be worn.
 - Vacutainers with sharps protection shall routinely be used for venipuncture.
 - In the extraordinary circumstance where blood cannot be obtained

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using a vacutainer, a needle and syringe with sharps protection shall be used. However, in transferring blood from syringes to vacutainers, NEVER FORCIBLY INJECT blood into the tubes. **Forcible injection of blood through the rubber stopper of tubes without a vacuum may cause the top to pop off and spray blood on the operator. Tubes without a vacuum shall be discarded and replaced by tubes with a vacuum.**

Needle
Removal:

Needles shall never be removed from a syringe or vacutainer holder, and they shall be disposed of as a unit in a puncture-resistant leakproof container. One exception to this rule is removal of needles from syringes used to obtain arterial blood, or recapping dental needles used for local anesthesia or needles used for titrating IV sedation.

- Needles must never be placed on the patient’s bed, on environmental surfaces in the patient’s room, or left attached to the administration set and hung over the IV pole.
- The top of a puncture-resistant leak proof (sharps) container should always be viewed prior to approaching it with a sharp for disposal to avoid puncture injury from a needle sticking out of the opening. Never try to “stuff” needles into a full box. Always relace the sharps container when it is three quarters full.
- When sharps containers are $\frac{3}{4}$ full, they shall be carefully sealed and packaged for disposal. During removal and packaging, needle disposal containers shall be held in the upright position to avoid leakage of blood or other body fluids.
- Needles and sharp objects shall be discarded as quickly as possible after use in a puncture-resistant leakproof (sharps) container.
- Sharps containers will be located as close to treatment areas as possible, but not mounted too low which might allow access by children.

Blood and
Body Fluid
Exposure:

Exposed HCW’s should report to the Employee Health Clinic (EHC) from 7:30am to 4:30pm Monday through Friday and exposed students to Student Health from 8:00am to 5:00pm Monday through Friday as soon as possible. During evenings, weekends and holidays, exposed HCWs and students should report to the Emergency Department. Exposure of a healthcare worker or student is defined as follows:

- Puncture of skin or laceration by a sharp object contaminated with blood, blood-tinged fluids or other potentially infectious body fluids.
- Contamination of mucous membranes (eyes, nose, mouth) by blood, blood-tinged fluids or other potentially infectious body fluids.
- Contamination of non-intact skin (cuts, scratches, abrasions, dermatitis, etc.) by blood, blood-tinged fluids, other potentially infectious body fluids or unfixed tissues.
- Contamination of intact skin by blood, blood-tinged fluids, or other potentially infectious body fluids that is prolonged or involves an

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Laboratory
Specimens

extensive area.

- When a needlestick or injury with other types of sharps occur, the wound should be cleansed immediately with povidone-iodine, chlorhexidine, or 70% isopropyl alcohol and washed off. The sharps injury should be reported immediately to the employee's or student's supervisor. An employee will be sent to the Employee Health Clinic, and a student will be sent to Student Health immediately. After hours or on weekends or holidays, the employee or student will be sent to the Emergency Department.
- Employees and students with sharps injuries will be cared for based on Infection Control Policy: 01.02 Bloodborne Pathogens (BBP) Occupational Post-Exposure Prophylaxis.
****Off-site clinics refer to your agency specific policy for instructions****

All laboratory specimens shall be placed in leakproof containers (e.g., specimen cups, culettes, vacuum tubes) and then bagged in single, biohazard specimen bags. The requisition slip shall not be placed in the bag or stapled through the bag, but rather, placed in the outside pocket. When specimens are sent to other outside laboratories, the containers in which the specimens are placed must be labeled with a biohazard sign. If outside contamination of the primary container occurs, the primary container shall be placed within a second container which prevents leakage during handling, processing, storage, transport or shipping and is labeled or color-coded according to the requirements of this standard. If the specimen could puncture the primary container, the primary container shall be placed within a secondary container which is puncture-resistant in addition to the above characteristics. Laboratory specimens may be sent through the tube system. Place specimen in a biohazard bag with request slip in outside pocket into a Zip N' Fold pouch. The pouch should be sealed appropriately. If a pneumatic capsule is received that appears grossly wet or soiled, wear gloves before handling the capsule and removing the contents. Be aware that there may be broken glass or plastic inside! Remove sharp objects (broken glass or plastic) using forceps. Discard any wet or soiled padding as infectious waste. Clean the inside and outside surfaces of the pneumatic capsule with a **1:10 dilution of sodium hypochlorite**. Call the physical plant dispatcher and notify them of the contamination of the tube system.

Arterial
Puncture:

Arterial puncture shall be carried out with great care.

- Gloves must be worn.
- After obtaining the arterial sample, great care shall be exercised when replacing the cap on the needle of the syringe. The one-handed

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technique, with the cap lying on a flat surface, shall be used. The syringe shall be held in one hand and the needle inserted into the cap. The cap will be snapped into place by pushing the cap against a vertical surface. The capped needle shall then be removed from the syringe and immediately placed in a sharps container. The hub of the syringe will be plugged with the rubber cap from the kit.

- In the Infant Special Care Unit arterial blood for blood gas determinations shall be obtained with a scalp vein needle with engineered sharps protection. After removal from the artery, the scalp vein needle sharps protection device shall be immediately deployed.

Biohazard
Waste
Disposal in
Hospitals and
Clinics:

- Biohazardous waste includes:
 - Microbiological waste
 - Pathological waste
 - Human blood and blood products (disposable items saturated (dripping) with blood/bloody body fluids)
 - Bulk Blood (100cc or more)
 - Sharps Containers
- Single-use biohazard boxes are used for disposal of biohazardous waste. If waste contains free liquids, a sufficient amount of LiquiLoc solidifier shall be added to the container to absorb 150% of the free liquids.

Needles and other sharp instruments must never be placed in trash bags.

Soiled Linen:

Soiled linen must not be sorted or rinsed in patient care areas but shall be bagged in an impervious laundry bag and sent to the Texas Medical Center laundry. Laundry from patients in isolation shall not be segregated. Medical instruments and sharps must not be placed in the laundry bag.

Pinprick
Testing:

Pins or needles used for pinprick sensory testing shall be used on only one patient and then disposed of in a puncture-resistant leakproof (sharps) container.

Body
Secretions
Disposal:

Secretions and body fluids from patients can be safely discarded in disposable drainage receptacles which are placed into a red bag (i.e., chest drainage (pleurovacs) suction canisters, etc.). If the drainage receptacle is not disposable, the fluid may be discarded in the sink. Pour the fluids carefully to avoid splashing and follow with copious amounts of water. Eye protection should be worn.

Patient

Patients who are being transported require no special precautions other

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Transport: than precautions currently in effect on the unit.

Deceased Patients: Deceased patients shall be wrapped appropriately so that leakage does not occur. HCW's carrying out these procedures must wear gloves and other barriers indicated by the physical condition of the patient and likelihood of contamination of clothes and mucous membranes.

Refrigerator Freezers: All refrigerators, freezers or other areas where blood and body fluids are stored must be labeled with the biohazard symbol.

OSHA Document: Copies of OSHA regulations entitled "Occupational Exposure to Bloodborne Pathogens; Final Rule" are available in Healthcare Epidemiology.

ER & Trauma:

- Since the time available to don protective gear (i.e., gowns, gloves, goggles, masks and impermeable booties) prior to exposure to large amounts of blood may be very limited, HCW's and students assigned to the Trauma Center shall be prepared to don protective gear on short notice.
- With a large number of HCW's and students working in a very limited area around a trauma patient, great care should be exercised with needles and other sharp objects to prevent personnel from accidentally sticking each other.

Labor & Delivery:

- Gowns made of impermeable material, gloves, protective booties, masks and safety goggles or glasses with solid side shields or masks with eyeshields incorporated must be worn by the operative team including students during vaginal delivery and caesarian sections. It is strongly recommended that the members of the operative team and students wear two pairs of gloves.

OR and PACU:

- Members of the operative team including students, should wear goggles or glasses with solid side shields or masks with eyeshields incorporated. It is strongly recommended that members of the operative team and students wear two pairs of gloves.

Biopsy specimens shall be dropped directly into a leakproof container held by a circulating nurse to avoid contamination of the outside of the containers. The specimens shall be dropped very carefully to avoid splashing solution. The caps shall be applied tightly and the specimens bagged in single, biohazard specimen bags. The requisition slips shall not be placed in the bags or stapled through the bags. Requisition slips shall be placed in the outside pocket of the bag.

Dentistry and Oral Surgery:

- All HCW's participating in a dental or oral surgery procedure on any patient must wear gloves and goggles or glasses with solid side

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shields and masks or masks with eyeshield incorporated. All linen must be placed in impervious laundry bags.

- All equipment contaminated with blood, other body fluids or unfixed tissues must be decontaminated by appropriate means prior to servicing (i.e., in the dirty utility room of the patient care area).
 - Gloves must be worn by the person who decontaminates the equipment.
 - When equipment cannot be decontaminated prior to servicing, a sticker displaying the biohazard symbol shall be attached. The area(s) contaminated shall be written on the front of the sticker.
- Phlebotomy trays shall be red or will be labeled with the biohazard symbol.
- All non-disposable equipment that comes into contact with blood or body fluids shall be disinfected with a **1:10 dilution of sodium hypochlorite**.
- Mechanical pipetting devices shall be used for the manipulation of all liquids in the laboratory. Mouth pipetting is prohibited.
- Laboratory coats or aprons shall be worn while working with potentially infectious material. Soiled laboratory coats or aprons shall be removed prior to leaving the laboratory.
- Gloves must be worn to avoid skin contact with blood and other body fluids as well as surfaces, materials and objects that may be contaminated by them. Gloves must be worn when removing specimen containers from Ziploc bags as specimens are received in the laboratory.
- When potentially infectious materials are processed, all procedures shall be carefully performed to minimize the creation of droplets and aerosols
- Biological safety cabinets (class II) and other primary containment devices (e.g., centrifuge safety caps) must be used whenever procedures are conducted that have a high potential for creating aerosols or infectious droplets. These include centrifuging, blending, sonicating or vigorous mixing.
- If spill kits are used, the spill shall first be covered with absorbent powder, fluids carefully removed with the use of gloves, and the area disinfected (see kit directions).
- Fingers, pencils, instruments and other foreign objects shall not be placed in the mouth.
- Should a centrifuge accident occur and the inside of the centrifuge become contaminated with blood or body fluids, the centrifuge must be decontaminated using very careful technique. Report the incident to the laboratory supervisor immediately.
- Gloves shall be worn for the decontamination process.

Pathology:
Laboratory
Medicine

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- Broken fragments of glass or plastic shall be picked up with forceps and placed in a puncture-resistant leakproof (sharps) container for disposal. Heavy gloves shall be worn to clean spills if glass or plastic is present.
- The centrifuge shall be disinfected with a hospital-grade disinfectant that is allowed to remain on surfaces for 15 minutes before further cleaning.
- All tubes, caps, etc, shall be disinfected with a **1:10 dilution of sodium hypochlorite**.
- Transparent plastic shielding shall be used between the droplet-collecting area and the operator of fluorescent activated cell sorters.
- All blood and body fluids shall be discarded by carefully pouring them down the sink. Specimens that cannot be discarded in the sink shall be placed in fluid-tight containers and then be placed in biohazard boxes.
- All HCW's and students must wash their hands with soap and water before leaving the laboratory.
- When specimens of blood, other body fluids or unfixed tissues are sent from the laboratory at UTMB to locations outside of UTMB, they shall be placed in containers labeled with the biohazard symbol. These labels shall be fluorescent orange-red or predominantly so, with lettering or symbols in a contrasting color. Any specimens that are sent through the U.S. Mail shall meet the specifications of the U.S. Postal Service and/or Department of Transportation. HCW's shall be trained on proper handling of specimens for shipment.
- All equipment contaminated with blood, other body fluids, or unfixed tissues shall be decontaminated by appropriate means prior to servicing (i.e., in the dirty utility room of the patient care area).
 - Gloves must be worn by the person who decontaminates the equipment.
- When equipment cannot be decontaminated prior to servicing, a sticker displaying the biohazard symbol must be attached. The area(s) contaminated shall be written on the front of the sticker.

Surgical
Pathology:

- HCW's and students must wear gloves and plastic disposable aprons. Safety goggles or glasses with solid side shields and masks or masks with eyeshields incorporated must be worn.
- All HCW's (e.g. laboratory technicians, residents, faculty) and students working with unfixed tissue must wear gloves.
- Personnel shall be very careful with microtome knives when preparing histologic sections with the cryostat.

Autopsy

- Barrier clothing must be worn by those participating in and/or

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- Service:
- observing an autopsy.
 - Impermeable gown
 - Two pairs of gloves
 - Mask
 - Goggles or glasses with solid side shields
 - Impermeable booties
 - Handling and disposal of sharps.
 - All sharps including needles, scalpel blades and saw blades shall be handled with great care.
 - All disposable sharps shall be placed in a puncture-resistant leakproof (sharps) container immediately after use.
 - Sharps containers shall be sealed and appropriately discarded when $\frac{3}{4}$ full.
 - Steps shall be taken to minimize generation of aerosols by electric saws.
 - Surfaces in the autopsy suite ordinarily touched by ungloved hands shall not be touched by the gloved hands of those performing autopsies.
 - A person not involved in the performance of the autopsy (circulator) shall be present in the room during each autopsy.
 - This person provides assistance to the autopsy team (e.g., answers the phone, completes paperwork, obtains supplies, provides specimen containers, etc.).
 - Specimens shall be carefully (to avoid splashing) dropped into specimen containers held by the circulating person to prevent contamination of the outside of the containers.
 - Instruments, the autopsy table and all other surfaces contaminated with blood, other body fluids or tissue must be cleaned and then disinfected using a **1:10 dilution of sodium hypochlorite**.
 - All disposable materials contaminated with blood/bloody body fluids or tissues shall be discarded as biohazardous waste.
 - All soiled laundry shall be considered contaminated and shall be handled using gown & gloves.

References:

1. Federal Register, December 6, 1991, Part II; Department of Labor, Occupational Safety and Health Administration: 29 CFR Part 1910.1030 Occupational Exposure to Bloodborne Pathogens; Final Rule.
2. Chapter 81, subchapter H of the Health and Safety Code. Title 25

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Health Services, Chapter 96 Bloodborne Pathogen Control.

3. Occupational Safety and Health Administration. Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards, OSHA 3186-OER, 2003.

**Appendix A
 Education for New Employees on Prevention of Blood and Body Fluids Exposures**

STANDARD PRECAUTIONS
BLOOD-BORNE PATHOGENS
OCCUPATIONAL EXPOSURES

BRENDA TYLER, B.S., BIOLOGY
 SENIOR INFECTION PREVENTIONIST
 HEALTHCARE EPIDEMIOLOGY

STANDARD PRECAUTIONS

- > Infection control practices used in the care of **ALL** patients, not just patients you know to be infectious
- > You should treat the blood and body fluids of **ALL** patients as if they were infectious
- > Designed to protect HCWs from blood borne pathogens and to prevent HCWs from spreading pathogens among patients

ELEMENTS OF STANDARD PRECAUTIONS

- > Hand Hygiene
- > Personal Protective Equipment (PPE)
- > Respiratory Hygiene/Cough Etiquette
- > Proper Disposal Of Biohazardous Waste
- > Safe Handling Of Needles and Sharps
- > Environmental Cleaning
- > Safe Handling Of Contaminated Equipment



HAND HYGIENE

HAND HYGIENE

- > CDC estimates that 90,000 patients die each year of HAIs, making them one of the ten leading causes of death in the U. S.
- > Compliance with hand hygiene is a national problem. CDC estimates that compliance is around 30% nationwide
- > The **single most important** thing you can do to protect yourself and patients from harmful pathogens

HAND HYGIENE

- > <http://www.health.gov/hcq/trainings/partnering-to-heal/index.html>

HAND HYGIENE

- ☆ Lotion Soap
 - ☆ General patient contact
- ☆ Antimicrobial Soap
 - ☆ Before invasive procedures
 - ☆ After caring for patients with resistant organisms
- ☆ Alcohol-based Hand Rub

WHICH HAND HYGIENE METHOD IS MORE EFFECTIVE AT KILLING BACTERIA?

- Soap and water
- Alcohol-based hand rub

Alcohol-Based Hand Rubs Are More Effective In Killing Bacteria Than Soap & Water



They kill more quickly than hand washing with soap and water
 They require less time to use

Alcohol-Based Hand Rubs



Automated Purell Dispenser



Manual Pump

How Long Should I Rub My Hands Together When Washing With Soap and Water?

- 5 seconds
- 15 seconds
- 40-60 seconds
- until they seem clean



HANDWASHING

- Wet hands with water
- Apply soap
- Rub hands together for 40-60 seconds, covering all surfaces, focusing on fingertips and fingernails
- Rinse under running water and dry with disposable towel.
- Use the towel to turn off the faucet.

How Long Should I Rub My Hands Together When Applying An Alcohol-Based Hand Rub?

- 5 seconds
- 15 seconds
- 1 minute
- until your hands are dry



Alcohol-Based Hand Rub

- Apply to palm of one hand
- Rub hands together, covering all surfaces, focusing in particular on the fingertips and fingernails, until dry. Use enough rub to require at least 15 seconds to dry

When Should I Practice Hand Hygiene?

- ☞ Before touching a patient, even if gloves will be worn
- ☞ After patient contact, or touching the patient's immediate environment
- ☞ Immediately after removing gloves
- ☞ After touching blood, body fluids, secretions, excretions, contaminated items

When Should I Practice Hand Hygiene?

- Before performing an aseptic task(e.g., placing an IV, preparing an injection)
- Before inserting any invasive device
- Before eating
- When visibly soiled

But I Didn't Touch The Patient, Why Should I Practice Hand Hygiene?

- Bacteria can survive for days or weeks on patient care equipment or other surfaces
- Surfaces in the patient care environment, including bed rails, IV pumps, overbed tables, computer key boards are often contaminated with bacteria
- It's important to practice HH after you leave the room, even if you only touched patient care equipment or other surfaces



Wearing Gloves Does Not Replace The Need For Hand Hygiene!

- **Gloves may have small, non-apparent defects**
- **Gloves may be torn during use**
- **Hands can become contaminated during glove removal**

Be A Role Model



- Colleagues, trainees, and other staff watch what you do
- Research has shown that the actions of clinicians influence the behavior of others
- Show your colleagues that hand hygiene is an important part of quality care
- Your patients watch you too. Your actions send a powerful message to them
- Show your patients that you are serious about their health

OKAY, I KNOW ABOUT HAND HYGIENE NOW, SO WHAT ADDITIONAL STANDARD PRECAUTIONS SHOULD I PRACTICE?

PERSONAL PROTECTIVE EQUIPMENT



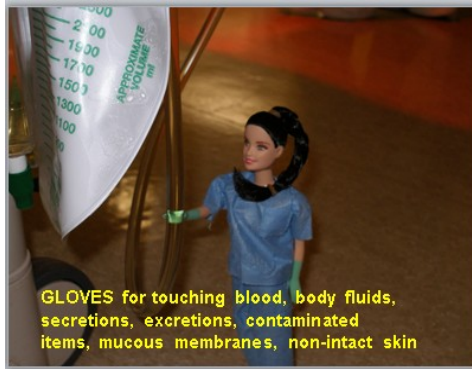
CHOOSE YOUR PPE ACCORDING TO ANTICIPATED EXPOSURE TO BLOOD/BODY FLUIDS

When Should I Wear PPE?

You should wear personal protective equipment (PPE) when exposure to blood, body fluids, excretions, secretions, mucous membranes, or non-intact skin is anticipated.

PPE includes:

- **Gloves** – when hand contamination is anticipated
- **Masks and eye protection** – when splashes or sprays may occur
- **Gowns** – when soiling of clothes may occur



Isolation Categories

- Airborne Precautions
- Droplet Precautions
- Contact Precautions
- Modified Contact Precautions
- Extended Contact Precautions
- All levels of isolation

- Note that the signs are color-coded
- The appropriate precaution sign should be selected from those shown above and placed on the patient's door
- Place the same type of precaution sticker on the patient's chart

Contact Precautions

Modified Contact Precautions
 Extended Contact Precautions

- Wear A Gown & Gloves when entering a patient's room
- Dispose Of Gown & Gloves inside patient's room
- Practice Hand Hygiene before entering and after exiting patient's room

PROPER DISPOSAL OF BIOHAZARDOUS WASTE

- Biohazardous waste includes items saturated with blood and body fluids, chemotherapy products, sharps containers, etc.

Inpatient Medication Disposal

Medications / Sharps

RCRA Medications

Hazardous medications (RCRA Sticker) - full, partially used or empty of these medications:


RCRA Black Box Medications:

- Antineoplastic agents
- Chemotherapy agents
- Immunosuppressants
- Anticoagulants
- Antipsychotics
- Antidepressants
- Antibiotics
- Anticonvulsants
- Antidiabetic agents
- Antihypertensives
- Anticholinergics
- Antithrombotics
- Antivirals
- Cardiovascular agents
- Diuretics
- Enzyme replacement therapy
- Insulin
- Local anesthetics
- Monoclonal antibodies
- Neurolept analgesics
- Neurotoxic agents
- Organophosphates
- Parenteral nutrition
- Protease inhibitors
- Radioactive agents
- Sedatives
- Systemic antifungals
- Systemic antibiotics
- Systemic antiparasitics
- Systemic antituberculars
- Systemic antineoplastic agents
- Systemic antipsychotics
- Systemic antidepressants
- Systemic anticonvulsants
- Systemic antidiabetic agents
- Systemic antihypertensives
- Systemic anticholinergics
- Systemic antithrombotics
- Systemic antivirals
- Systemic cardiovascular agents
- Systemic diuretics
- Systemic immunosuppressants
- Systemic immunomodulators
- Systemic immunosuppressants
- Systemic immunomodulators
- Systemic immunosuppressants
- Systemic immunomodulators

Chemotherapy

Sharps

ENVIRONMENTAL CLEANING



MDROs In The Environment

ENVIRONMENTAL CLEANING

MDROs can be passed on to:

- Bed linens
- Bed rails
- Bathroom fixtures


They may live in the environment on surfaces for days or weeks

Disinfection of the work environment is crucial, such as

- Patient rooms
- Bedside tables
- Computers
- Counter tops
- Phones



RESPIRATORY HYGIENE & COUGH ETIQUETTE





- > COVER mouth/nose with a tissue when sneezing or coughing, OR
COUGH INTO YOUR SLEEVE
- > Wear surgical mask if tolerated or maintain spatial separation >3 ft if possible
- > Place used tissue in the trash and practice hand hygiene



SAFE HANDLING OF NEEDLES AND SHARPS

- > Needlesticks and other sharps-related injuries may expose healthcare workers to bloodborne pathogens




- > DO NOT recap, bend, break or hand-manipulate used needles in any way
- > Used sharps should be placed in puncture resistant containers
- > Located as close as possible to the point of use




Needles and Other Sharps


- › Most sharps devices available for use in our hospitals and clinics have engineered sharps protection
- › Immediately after use, the built in protective mechanism should be activated to prevent sharps injuries
- › Some examples of devices with protective mechanisms to prevent sharps injuries are shown below




venous blood collection sets



IV insertion sets




self-sheathing needles for finger sticks, point-of-care tests



Blood collection sets (butterfly needles)

1


ONE NEEDLE, ONE SYRINGE, ONLY ONE TIME.



Safe Injection Practices Coalition
www.ONEandONLYcampaign.org

The One and Only Campaign is a public health campaign aimed at raising awareness among the general public and healthcare providers about safe injection practices.

Cleaning Up a Blood Spill



Guidelines for cleaning up a blood spill containing broken glass:

1. Put on 2 pairs of gloves.
2. Pick up the glass with a mechanical device, such as a broom or scoop. Use your hands to pick up the glass. Do NOT use your hands to pick up the glass!
3. Dispose of the broken glass in a needle-disposal (sharps) container.
4. Clean up the remainder of the blood, taking precautions to avoid contact with any remaining small pieces of glass in the blood.
5. Apply a hospital-grade disinfectant to the spill area.

BLOOD-BORNE PATHOGENS

- › Infectious microorganisms in human blood that can cause disease in humans
- › The pathogens of primary concern are human immunodeficiency virus (HIV), hepatitis B (HBV), and hepatitis C, (HCV)
- › Needle sticks and other sharps-related injuries may expose HCWs to bloodborne pathogens

HOW DOES OCCUPATIONAL EXPOSURES TO BLOOD-BORNE PATHOGENS OCCUR?

- ◆ Percutaneous injury (needle stick, puncture wound, laceration with sharp object)
- ◆ Splashes into eyes, mouth or nose (mucous membranes)
- ◆ Contamination of intact skin (prolonged or extensive exposure)
- ◆ Contact with non-intact skin (chapped, abraded)

BLOOD-BORNE PATHOGENS

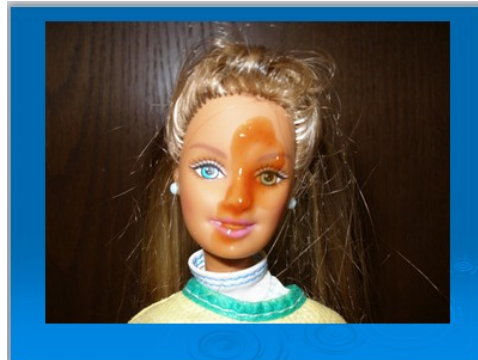
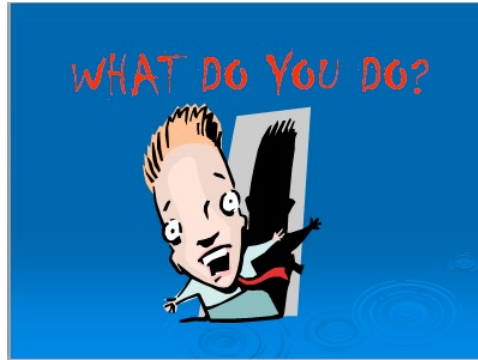
RISK OF INFECTION DUE TO NEEDLESTICKS

- ◆ **HBV- 6 to 30%**
 - ◆ If no vaccine or have not had disease
 - ◆ Vaccine available from Student Wellness
- ◆ **HCV- 7.4%**
 - ◆ Est. 242,000 undetected cases/yr in 1980's.
 - ◆ Years to decades to become chronic
 - ◆ 80% chance of becoming chronic if infected

BLOOD-BORNE PATHOGENS

RISK OF INFECTION DUE TO NEEDLESTICKS

- ◆ **HIV- 0.3 to 0.5%**
 - ◆ 57 HCW's in U.S. are HIV+ due to their jobs, "official" count
 - ◆ Majority were nurses and laboratory workers
 - ◆ 138 HCW's are HIV+ and MAY be due to their jobs
 - ◆ Remember that any blood or bloody body fluids can contain Blood Borne Pathogens



NOTE!!!

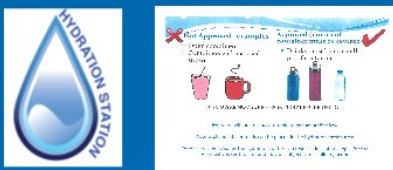
Under WCI law, an employee has 10 calendar days after exposure to have baseline tests for HBV, HCV, HIV .

(Texas Vernon's Civil Statute, Health & Safety Code Section 85.116 (c))

BLOOD-BORNE PATHOGEN PROGRAM

- Chemoprophylaxis for high risk exposures to HIV
 - Percutaneous injury (e.g. needle stick, laceration with sharp object)
 - Contact with mucous membranes or non-intact skin
- Given within 2 hours post exposure (no later than 96 hours post exposure)
 - Student Wellness (M – F, 8:00A – 5:00P)
 - Employee Health (M-F, 7:30A -4:30P)
 - ED (after hours, weekends, holidays)
 - Follow-up with Student Wellness and/or Employee Health the next business day

HYDRATION STATIONS



The diagram shows a hydration station with a water tap, a water bottle, and a cup. It includes a checklist for proper hydration station setup.

- No blood, body fluids or other potentially infectious materials like lab specimens can ever be present in the area
- Patient medications cannot be stored, prepared, delivered or administered in the area

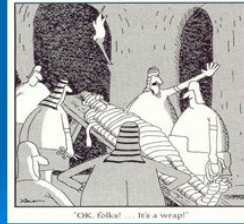
IN SUMMARY



"Stay back, you guys! This stuff has killed 99.99% of our fellow germs!"

Remember that hand hygiene is the **single most important thing** you can do to protect yourself and patients from harmful pathogens and reduce the risk of patients acquiring HAIs.

QUESTIONS?



"OK, Folks! ... It's a wrap!"

Appendix B

Annual Education for Employees on Prevention of Blood and Body Fluids Exposures

What Mandates Quality of Care of Patients?

(HAI) Health Care-Associated Infections

State of Texas Reporting System

JCAHO
(NPSG) National Patient Safety Guidelines
CMS

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Standard Precautions, Hand Hygiene and Occupational Exposure

What are Standard Precautions?

Standard Precautions are the foundation for reducing transmission of diseases during patient care in all healthcare settings

Why follow Standard Precautions?

- reduce the risk for acquiring and transmitting of healthcare associated infections (HAI) to patients and employees
- protection against possible exposure to infectious agents
- prevention and control of infection to staff, visitors, patients and families
- education on hand hygiene, standard precaution with bloodborne pathogens is a Joint Commission /National Patient Safety Guidelines
- Method of communicating critical information for prevention and control activities

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Standard Precautions

- ✧ Hand hygiene
- ✧ Respiratory hygiene/cough etiquette
- ✧ Personal Protective Equipment (PPE)
- ✧ Patient placement
- ✧ Patient resuscitation
- ✧ Environmental control
- ✧ Soiled patient care equipment
- ✧ Textiles/laundry
- ✧ Needle and Sharps
- ✧ Biohazardous Waste
- ✧ Occupational Exposures to Blood/Body Fluids

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Reduce the risk of
 Health Care-Associated Infections
 *First Use Good Hand Hygiene and Monitor Daily

<p>VAP-ventilator associated pneumonia</p> <ul style="list-style-type: none"> ◦Head of bed held between 30-45° ◦Check patient ability to breathe ◦Oral care on a regular basis ◦Sedation vacation ◦PUD and DVT 	<p>UTI-urinary tract infection</p> <ul style="list-style-type: none"> ◦Foley catheter placement aseptic technique (below the bladder, off the floor, no loops in tubing) ◦Use a securing device ◦Monitor need of catheter daily ◦DIC the Foley ASAP!!
<p>CLABSI-central-line associated bloodstream infection</p> <ul style="list-style-type: none"> ◦Choose a vein where catheter can be safely inserted and where the risk for infection is small (subclavian or internal jugular) ◦Follow CLIP adherence-sterile technique ◦Check daily if catheter is still needed ◦"Scrub the Hub" before entry 	<p>SSI-surgical site infection (most SSI occur within 30 days of surgery)</p> <ul style="list-style-type: none"> ◦Good hand and arm surgical scrub ◦Remove hair using electric clippers ◦Wear hair covers, masks, sterile gowns and gloves and keep surgery area sterile ◦Provide antibiotics within 60 minutes of surgery start ◦Clean skin with antiseptic agent at site of surgery

Hand Hygiene

Hand Hygiene is the most important means of stopping the transmission of microorganisms!
 ↓MDRO (multidrug resistant organisms)

Hand Hygiene reduces the risk of (HAI) Healthcare associated Infections:

↓SSI (surgical site infection) ↓VAP (ventilator associated pneumonia)
 ↓CLABSI (central line associated blood stream infections) ↓UTI (urinary tract infection)

When should you perform Hand Hygiene?

- ✦ Before entering and After exiting the patient's room
- ✦ Before donning gloves and After doffing (removal) gloves
- ✦ Before and After contact with a patient or patient's environment (even if gloves are worn)
- ✦ Before performing invasive procedures (central line insertion practice - CLIP)
- ✦ When hands are visibly soiled
- ✦ Before eating
- ✦ After restroom use
- ✦ Before beginning work and Prior to leaving work

HAND HYGIENE

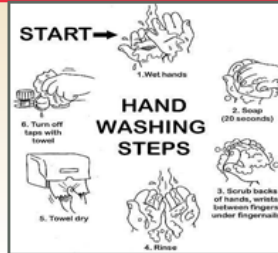
- ✦ Lotion Soap or antibacterial soap
 - ✦ General patient contact
- ✦ Antimicrobial Soap and/or Alcohol rub
 - ✦ Prior to performing an invasive procedures
 - ✦ After caring for patients with resistant organisms on Isolation Precautions



Hand Hygiene Technique

Hand washing:
 Use antimicrobial soap or antibacterial soap:

1. Thoroughly wet hands
2. Apply soap
3. Rub with friction all areas of hands and fingers for at least 10 to 20 seconds, under the fingernails and between fingers
4. Rinse hands thoroughly
5. Dry hands with a paper towel
6. Use a paper towel to turn off the faucet in the absence of foot controls



Waterless Alcohol Hand Rub

- (If hands are visibly soiled, wash hands with soap prior to application of alcohol hand rub)
1. Apply enough alcohol-based product to cover the entire surface of hands and fingers.
 2. Rub the solution vigorously into hands until dry.
 - a) Use of alcohol hand rub may result in a sticky residue on hands
 - b) Wash hands with soap periodically to remove the residue

Personal Protective Equipment (PPE)

Masks and protective eyewear (or masks with attached face shield or full face shield) respiratory masks (N95 or surgical mask) should be worn during procedures that are likely to generate splashing of blood and/or body fluids into the mucous membranes of the eyes, nose, and/or mouth.



Gloves



Mask
 Surgical or N95



Protective eyewear
 (goggles) or face shields



Impervious gown
 (Sorb sites are not PPE)

Bloodborne Pathogens

Standard Precautions are used to prevent sharp injury with exposure to Bloodborne Pathogens by employees taking advantage of the protective mechanisms on devices with sharps protection (needleless system); not bending, breaking or manipulation or recapping needles; disposition of sharp devices into sharps containers.

Examples of Bloodborne Pathogens are:

- HIV
- Hepatitis B
- Hepatitis C

Modes of transmission of bloodborne pathogens in healthcare setting:

- Cutaneous injuries by contaminated sharps devices (**needles, scalpels, etc.**)
- Mucous membrane (eyes, mouth, nose) contamination by blood, or body fluids
- Contamination of non-intact skin by blood or bloody body fluids
- Extensive and prolonged contamination of intact skin by blood

Occupational Exposure to Bloodborne Pathogens

If you have an occupational exposure to a bloodborne pathogen, follow these four steps:

- STEP 1** **Wash** the area immediately.
- STEP 2** **Flood** or irrigate properly your eyes, nose, and/or mouth (if exposed).
- STEP 3** **Notify** your supervisor or manager at once.
- STEP 4** **Seek Help** by going to the Employee Health Center or the Emergency Department after hours and on holidays.

 **NOTE:** Step 1 and Step 2 can be performed interchangeably depending on the exposure.

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Post-Exposure Prophylaxis

Post-Exposure Prophylaxis

Medication provided for HIV exposures should be taken within 2 hours of exposure.

Exposure definition

1. percutaneous injury (needlestick, puncture wound, laceration) with sharp object involving blood
2. contact of mucous membranes of the eyes, nose, or mouth
3. contact of non-intact skin (e.g. skin that is chapped, abraded) with blood or other potentially infectious fluid
4. prolonged or extensive exposure of intact skin

A post-exposure packet is available which contains information regarding evaluation, prophylaxis and follow-up for bloodborne exposures.

To print a copy of this packet and the bloodborne pathogens policy, see:
http://www.utmb.edu/Policies_And_Procedures/Departmental/Healthcare_Epidemiology_Policies/PNP_034823

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Module 7 - Summary

In this module you learned:

- Standard Precautions includes hand hygiene, Personal Protective Equipment (PPE), needles and sharps, and occupational exposures to blood/body fluids.
- Standard Precautions reduces the risk of healthcare associated infections, protects against possible exposure to infectious agents and prevents and controls infection.
- Personal Protective Equipment (PPE) includes masks, gloves, gowns and protective eyewear or face shields.

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Module 7 - Summary

- Bloodborne pathogens include HIV, Hepatitis B and Hepatitis C.
- When exposed to a bloodborne pathogen you should wash the area immediately, flood or irrigate properly for eyes, nose and/or mouth (if exposed), notify your supervisor or manager at once and seek help by going to Employee Health or the Emergency Department after hours an on holidays.
- A post exposure packet and bloodborne pathogen policy is available at http://www.utmb.edu/Policies_And_Procedures/Departmental/Healthcare_Epidemiology_Policies/PNP_034823.
- Proper hand hygiene involves first wetting hands, applying soap, rubbing with friction for at least 10 to 20 seconds, rinse hand thoroughly, dry hands with a paper towel and use the paper towel to turn off the faucet.

This concludes the content portion of this course.

You must complete the Final Assessment/Acknowledgement to receive credit for this course.

Please click the X on the course page. Then click the X on the articulate page to exit course. Once you have exited, please click the Return To Activity Progress link as shown below. Next, choose the Assessment Link and select Launch to continue.

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Title	Status	Score	
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	Required Test		
	Progress: Not Attempted		