Introduction

Bloodborne pathogens are microorganisms such as viruses or bacteria that are carried in blood and can cause disease in humans.

In 1991, OSHA issued regulations addressing job exposure to bloodborne pathogens to protect individuals who might be exposed to blood and other body fluids as part of their job.

The Tarleton State University Bloodborne Pathogen Program was implemented in 1994.
Who might be at risk?

Professions at risk of exposure include all which require contact with someone bleeding and also those responsible for the cleanup of blood and other infectious material.

- Health Center Personnel
- Police Officers
- Maintenance
- Athletic Trainers
- Sports Medicine
- Nurses
- Environmental Services
- Health and Physical Education employees
- Housing and Residence Life employees
Where may bloodborne pathogens be present?

- Blood
- Semen
- Saliva
- Vaginal Secretions
- Cerebrospinal Fluid
- Synovial Fluid
- Pleural Fluid
- Peritoneal Fluid
- Pericardial Fluid
- Amniotic Fluid
- Any body fluid visibly contaminated with blood
- Any unidentifiable body fluid
Common Examples of Bloodborne Pathogens

- Hepatitis
- HIV
- Syphilis
- Malaria
Hepatitis Viruses

Hepatitis B virus (HBV), Hepatitis C virus (HCV), and Hepatitis D virus (HDV) are transmitted by percutaneous and mucosal exposures to blood and Other Potentially Infectious Materials (OPIM).

The major infectious bloodborne pathogen encountered in the workplace is the Hepatitis B virus.
Hepatitis B Virus

• HBV is a potentially life-threatening bloodborne pathogen.
• It consists of a severe liver infection with initial flu-like symptoms.
• It may be present in the body for up to six months before symptoms occur.
• Can cause cirrhosis of the liver and primary liver cancer.
Hepatitis B Virus

In case of accidental exposure vaccinations for HBV will be provided “free of charge” by Tarleton State University.

If the employee chooses to reject the vaccination, it must be stated in written form.

Employees who initially decline the vaccine can elect to receive it at a later time free of charge.
HBV Vaccine

If the employee chooses to reject the vaccination, it must be stated in written form.

It shall state:

“I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.”

(OSHA Standard 1910.1030 App A)
Exemptions for Vaccine

Employers are not required to offer the vaccine to workers who provide first aid as a secondary job duty.

A secondary job duty is one that is done on an “as needed” basis and is not the individual’s primary job function.
Human Immunodeficiency Virus (HIV)

HIV attacks the body’s immune system, causing the disease known as the Acquired Immune Deficiency Syndrome (AIDS).

Currently, there is no vaccine to prevent infection or cure.

HIV cripples the body’s defenses, allowing life threatening infections and cancers to develop.
Routes of Entry

- Sexual Contact
- Sharing of hypodermic needles
- From mothers to their babies at/before birth
- Accidental puncture from contaminated needles, broken glass, or other sharps
- Contact between broken or damaged skin and infected body fluids
- Contact between mucous membranes and infected body fluids
Pathogens can enter the body through:

**Damaged Skin:**
- Open sores
- Cuts
- Abrasions
- Acne
- Any sort of damaged or broken skin such as sunburn or blisters

**Mucous Membranes:**
- Eyes
- Nose
- Mouth
Exposure Control Plan

A plan that states and gives information about which jobs are at the highest risk of exposure, work practice controls, use of PPE, training, medical surveillance, Hepatitis B vaccinations, and the use of signs and labels.

Tarleton’s Exposure Control Plan can be found at:

http://www.tarleton.edu/safety/programs/BBP_Program_Aug09.pdf
Universal Precautions

Universal Precautions will be followed which state that all human blood and certain body fluids are considered to be infectious with HIV, HBV, or other bloodborne pathogens regardless of the perceived status of the source.

Always treat all body fluids as if they are potentially infectious material!
Engineering and Work Practice Controls

These are specific procedures to be followed to reduce exposure to bloodborne pathogens or infectious material.

- Proper use of Personal Protective Equipment (PPE).
- Placing contaminated material in specified containers.
- Proper hand washing following exposure.
PPE

• This is specialized clothing or equipment worn by an employee for protection against infectious materials.

• It is provided at no cost to the employee.

• It must be removed when leaving area or upon contamination.
Types of PPE

- Gloves
- Gowns
- Aprons
- Lab coats
- Eye protection
- Face shields
- Masks
- Shoe covers
Plumbers

Plumbers need to take extra care such as wearing gloves, eye protection, and/or other PPE when working with toilets and sewage waste lines.

The pipes could burst and waste water or other potentially infectious material could splash onto the face and/or onto wounds causing an exposure incident.

After working with this type of material, proper clean-up procedures and disposal of tools and personal protective equipment should be followed.
Gloves provide a barrier and shall be worn if contact with any body fluid is anticipated.

When using disposable gloves do not attempt to wash or decontaminate them.

When contaminated, torn, or punctured, replace gloves immediately or as soon as feasible.
Gloves

Prior to putting on gloves, long hair should be pulled back and secured with a clip to keep it off your face.

This is to avoid the necessity of brushing it out of the way with potentially contaminated gloved hands.

Practice putting on and removing gloves using the following procedure. This aids in the prevention of accidental exposure.
Glove Removal Procedure

1. Gather any contaminated material and hold it in one hand.

2. Using the index finger of the opposite hand, pull the outside surface of the glove downward towards the fingers (turning the glove inside out and avoiding contact with your skin).

3. Continue holding glove with opposite gloved hand.
4. Slide the index finger of your bare hand inside the glove on the opposite hand (avoiding contact with the outside contaminated surface of the glove).

5. Peel off glove turning it inside out around the other glove.

6. Holding the inside non-contaminated side of the glove, place it into a proper biohazard container.

7. Thoroughly wash hands with disinfectant soap and warm water.
Gowns/aprons

Gowns are used to protect the clothing of the wearer from becoming saturated and causing an exposure incident.

These are used in situations where the potential for spraying or splashing of blood or body fluids exists.

They should also be used during the clean-up process when large amounts of blood and other body fluids are present.
Eye Protection

Goggles, chin-length face shields, and glasses with solid side shields provide protection from splattering fluids and protection from incidental touching of eyes and/or face with gloved hands.

To further reduce exposure avoid touching eyewear while wearing gloves.
Contamination of PPE

After use, all gowns and gloves should be carefully removed and placed into a biohazard bag or container.

All other disposable materials used in the cleaning and disinfecting process are also to be placed in a biohazard bag or container.
Engineering Controls

Engineering controls are devices such as:
- Sharps disposal containers
- Self-sheathing needles
- Biohazard containment bags
- Biohazard labeling
Sharps

All contaminated sharps are discarded as soon as feasible in sharps containers located as close to the point of use as possible in each work area.

Always place used needles and blades into sharps container immediately after use.
Syringe Clean-up

Syringes that are discovered may be contaminated with potentially infectious material.

These items should not be moved unless gloves are worn and a sharps container is present for proper disposal.
Sharps Containers

Sharps containers are closeable, puncture resistant, leak-proof on sides and bottom, and labeled with a biohazard symbol or wording.

These containers are to be maintained upright throughout use, not allowed to overfill, routinely replaced, and disposed of in accordance with federal, state, county, and local requirements.
Warning labels are required on:

- Containers or bags containing contaminated materials or regulated waste.
- Refrigerators and freezers containing blood and/or other potentially infectious materials.
- Other containers used to store, transport, or ship blood or other potentially infectious materials.
Biohazard Labeling

All warning labels must have the biohazard symbol and be printed on a fluorescent orange or orange red background with lettering of contrasting color.

Red bags or containers may be used as a substitute for labels.
Work Area Restrictions

In areas where there is reasonable likelihood of exposure, employees are not to eat, drink, apply cosmetics, smoke, or handle contact lenses.

Do not store food or beverages in or around areas such as refrigerators, freezers, shelves, cabinets, or on bench tops where blood or other potentially infectious materials are present.
Incidents

Unexpected and extraordinary circumstances sometimes arise where employees are required due to the nature of their position to perform body fluid cleanup activities (environmental services personnel, campus police, maintenance).

These employees should treat all clean-up processes as if the material is infectious.
Clean-up Procedures

These steps should be followed when cleaning up an area contaminated with body fluids.

If something is contaminated and cannot be properly cleaned, a biohazard tag explaining the situation must be attached until it can be properly decontaminated.
Sometimes incidents with broken glass may be encountered while at work.

If a fellow employee is injured by the broken glass:

1) Put on PPE, and if trained in first aid, treat injured employee as necessary.
2) After injury has been treated and employee relocated, implement clean-up procedures.
Broken Glass Clean-up

When cleaning up broken glass that has caused injury or is of unknown origin, treat the glass as potentially infectious material.

1) Put on the proper PPE and extra thick non-absorbent gloves.

2) Secure the area by placing a tape barrier around the contaminated area.

3) **DO NOT pick up glass with your hand, even while wearing gloves.** Instead do it by mechanical means such as a broom and dustpan.

4) Place the broken glass into a sharps container at the site.

5) Then continue clean-up following the spilled-fluid cleanup protocol.
Spilled Fluid Clean-up

1. Prepare for clean-up by utilizing proper PPE (gloves, eyewear, gown).
2. Place a tape barrier around the contaminated area.
3. **Do Not Mop or Wipe Up Fluids!**
   (this may cause splattering of the fluid).
   - Use an absorbent material to soak up fluid.
4. Sweep up absorbent and place into biohazard containment bag.
5. Decontaminate area using an approved disinfectant or a 1:10 bleach/water solution.
   Apply to area and then let air dry.
6. Remove tape and any contaminated disposable PPE and place into biohazard containment bag.
Clean-up of Small Contaminated Items
(clothes, washable tools)

1. Prepare for clean-up by using proper PPE (gloves, eyewear, gown).
2. Do not rinse material (could cause splashing).
3. Fill sink with water and approved disinfectant (or a 1:10 bleach water solution).
4. Submerge item and scrub it accordingly.
5. Clean and disinfect sink.
6. Dispose of contaminated (disposable) PPE and scrubbers in biohazard containment bags.
According to the Centers for Disease Control:

The Hepatitis B virus can survive for at least one week in dried blood on a surface.
Environmental Services Personnel

Environmental Services personnel may occasionally encounter sanitation incidences in the bathroom facilities.

All aforementioned precautions should be followed (i.e. wearing PPE and using proper disposal techniques).
Feces and vomit:

Do Not place human or animal feces in the trash, instead:

A) Flush it down a toilet that is part of the sanitary sewer system.

B) Animal feces can be buried on site.

C) Or, it may be washed down a drain that is part of the combined sanitary system where it will end up at a treatment plant. (It is a violation of state and federal codes to wash it into a storm drain.)
“Environmental Services Personnel Note”

Never use any body part such as feet, hands, etc. to compact trash!
Accidental exposure can occur as a result of this action.
Environmental Services Personnel Continued:

Condoms are considered as biohazard waste and must be properly disposed of in biohazard bags.

Feminine hygiene products are not considered as potentially infectious material and may be placed into a lined waste container.
Accidental Exposure

An exposure incident is a specific eye, mouth, nasal membrane, non-intact skin, or pierced skin contact with blood or other body fluid or tissue.

In case of accidental exposure, immediately:
• Wash exposed area with disinfectant soap and warm water.
• Flush splashes to nose, mouth, or skin with water.
• Irrigate eyes with water or saline.

If washing facilities are not present use an antiseptic cleanser until hands can be thoroughly washed.
Accidental Exposure

In the event of an accidental exposure, report the incident to the immediate supervisor.

The report should include:

• How, where, and when the incident occurred.
• The name of the person whose blood was contacted.

Then turned into the Office of Risk Management & Safety
Accidental Exposure Follow-Up

When the report has been completed, medical evaluations, tests, treatment, and counseling will be provided if desired.

Any required blood testing after an accidental exposure must be accomplished within ten days to ensure the applicability of workers’ compensation.
Review

Avoid accidental exposure by:

- Being preventative
- Following all safety precautions.
- Practicing universal precautions (Use of PPE).
- And by discarding properly.

Training shall be conducted for employees prior to initial assignment with annual refresher training thereafter.
For more information about Bloodborne Pathogens please visit the Bloodborne Pathogens section of the Tarleton State University Safety Manual at:

http://www.tarleton.edu/safety

For Questions or Comments:
Call Risk Management & Safety at: (254) 968-9237
or E-mail: cjordan@tarleton.edu
Quiz

In order to receive credit for bloodborne pathogen training you must answer each of the following questions correctly.

Click Here to Begin BBP Quiz