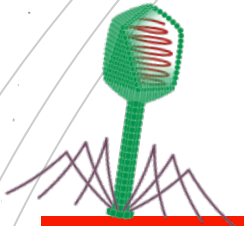
DEPAUL UNIVERSITY

ENVIRONMENTAL HEALTH & SAFETY

Bloodborne Pathogens Training



What are BBPs?

Bloodborne pathogens (BBPs) are microorganisms in human blood that can cause disease.

The BBPs we are most concerned about in the US are:

Human Immunodeficiency Virus (HIV)

Hepatitis B Virus (HBV)

Hepatitis C Virus (HCV)

Other Potentially Infectious Materials (OPIM)

- Other than blood, certain body fluids can also carry BBPs. We call these “other potentially infectious materials” (OPIM).
- OPIM are mainly internal body fluids that you are highly unlikely to encounter.
- Body fluids that **DO NOT carry BBPs** include: vomit, urine, sweat, tears and saliva **UNLESS** they also contain visible blood.
- In any situation where it is impossible to distinguish between body fluids, treat them all as blood/OPIM.

Your occupational exposure

You are required to take this training because you have occupational exposure to blood/OPIM. That means your job duties include task(s) that could expose you to blood/OPIM, such as:

- Performing first aid or CPR
- Cleaning up blood/body fluids
- Working with human cell lines not certified free of HBV in a laboratory

Even if you are not usually exposed to blood/OPIM, it is still important to be aware of the hazards and know how to react if you find yourself in such a situation.

OSHA's Bloodborne Pathogens Standard

OSHA created a Bloodborne Pathogens Standard to protect employees with occupational exposure to BBPs.

DePaul has many requirements under this standard:

- Providing this training annually
- Providing employees with proper personal protective equipment (PPE)
- Maintaining a written Exposure Control Plan
- Offering employees hepatitis B vaccination for free
- Covering the cost of any medical treatment needed due to an exposure

OSHA = Occupational Safety and Health Administration

You can view the full text of the BBP Standard at
https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030

DePaul's Exposure Control Plan (ECP)

- The DePaul ECP is maintained on the EHS website
- Provides guidance for identifying positions and tasks with occupational exposure at the unit level
- Describes general safe work practices and procedures
- Outlines employees' rights to receive the hepatitis B vaccination as well as confidential medical evaluation and follow up in case of an exposure, at DePaul's expense
- Some departments maintain their own ECP specific to their operations
- Others use the DePaul ECP along with Appendix A which contains unit-specific information
- The DePaul ECP **must be** supplemented with Appendix A in order to serve as a complete ECP for a unit
- Ask your supervisor how to access your unit's ECP

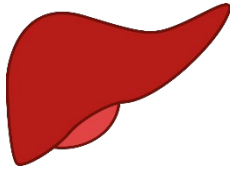
Bloodborne Diseases

Before we go over how to protect ourselves from BBPs, let’s learn more about the diseases they can cause.

HIV

- Virus that affects the immune system
- Some people develop flu-like symptoms initially, but many do not have symptoms
- The virus can lay dormant for a decade or more (but does not always)
- If untreated, it will eventually progress to Aquired Immunodeficiency Syndrome (AIDS)
- These days, people with HIV can live nearly as long as those without it as long as they are treated early on
- HIV does not survive for long on surfaces
- The only way to know if you have HIV is to get tested

HBV & HCV similarities



- Viruses that affect the liver
- As with HIV, Hepatitis B and C often cause no symptoms. If symptoms are present, they can include common things like: fever, fatigue, loss of appetite, nausea, abdominal pain and vomiting
- Some stranger symptoms are dark urine, gray stools, joint pain and jaundice (yellowing of the skin and eyes)
- Some people are able to clear these viruses without treatment
- Others will develop a chronic (lifelong) infection which can cause cirrhosis (scarring of the liver), liver cancer, or even death
- As with HIV, testing is required to diagnose

HBV & HCV differences

Hepatitis B

- ~5% of cases become chronic
- Safe and effective vaccine available
- Can survive on surfaces for 1 week

Hepatitis C

- More than 50% of cases become chronic
- No vaccine, but existing treatments can now cure over 90% of people
- Can survive on surfaces for up to 3 weeks

Hepatitis B Vaccination

- Series of 3 shots in the arm over the course of ~6 months
- Yeast-based vaccine, contains no live virus
- More than 90% of vaccinated people develop immunity
- Immunity is thought to last 20-30 years; studies are ongoing
- Learn more about Hepatitis B vaccination and its benefits

Hepatitis B Vaccination

- If you were vaccinated 20-30 years ago, you can schedule an appointment with a medical professional to determine whether they recommend revaccination
- **If you decline vaccination:** You can still choose to receive it any time you wish while in a position with occupational exposure

Talk to your supervisor who will help you make an appointment.

How do BBPs spread?

For BBPs to spread, infected blood/OPIM from one person must enter the bloodstream of another person.

This is called an **exposure incident**.

In the workplace, this can happen in 3 ways:

1. Through non-intact skin: areas with cuts, rashes, acne, etc.
2. Through mucous membranes (tissues of the eyes, nose and mouth)
3. By puncture with a contaminated object (like a used needle)

Exposure Incident Example

You find a used bandage on the floor. You don't want to go get gloves, so you pick it up with bare hands. You then realize that some of the blood from the bandage has smeared onto a small cut on your hand. **This is an exposure incident!**

Note that wearing gloves when picking up anything that may contain blood/body fluids and covering your own cut with a bandage would have prevented this exposure incident.

BBPs are **NOT spread** by casual contact like shaking hands, hugging, drinking from the same glass, or using the same toilet.

BBPs are **NOT spread** through the air, so coughing and sneezing are not a concern.

Anyone's blood/OPIM can carry BBPs

- A person you know well
- A person who does not appear to be ill
- A person of any age, gender, race, sexual orientation or other characteristic

Exposure ≠ Disease

- It’s important to note that if an exposure incident occurs, it doesn’t necessarily mean that infection (and thus, disease) will.
- In fact, the chance of getting a bloodborne disease from a typical workplace incident is actually very low.
- These are not primary ways that BBPs spread.

How can we prevent exposure to BBPs?

Universal Precautions

One of the most important things you can do is practice universal precautions. This means treating all blood and certain body fluids (OPIM) as if they are known to contain BBPs.

In practice, this means:

- Responding promptly to situations that could lead to an exposure, like finding a needle or blood on the floor
- Not attempting to provide first aid or clean up blood/OPIM unless you've been trained to do so

Blood/OPIM Clean Up

- Blood and OPIM spills and any items contaminated with them must be cleaned and decontaminated promptly.
- If you encounter blood or other body fluids on campus, immediately notify Facility Operations (unless you have been given other instructions by your department).
- Our custodians are trained to handle these situations.
- If possible, secure the area so no one else can come into contact with the spill/contaminated item(s) until a custodian arrives.

Facility Operations:

Lincoln Park: (773) 325-7377 **Loop:** (312) 362-8682

General Clean Up Procedures

1. Block off access to the area.
2. Gather supplies and put on PPE (at a minimum, gloves. Wear eye protection if splashing is possible.)
3. Use a tool to pick up sharp objects, if present.
4. Use absorbent towels or solidifying powder to clean up the spill and discard in trash or biohazard container (when biohazard containers are required is covered in an upcoming slide.)
5. Spray a 10% bleach solution made fresh on the spill area and let it dry (other appropriate disinfectants may also be used. Follow all instructions on the label.)
6. Discard gloves in trash.
7. Wash your hands!

Do not clean up blood/OPIM unless you've been trained on specific procedures and supplies used by your department.

Found Needle Response

If you find a needle on campus, **immediately call Public Safety** and if you can, remain in the area until an officer arrives to prevent anyone else from coming into contact with it.

Do not touch the needle or attempt to dispose of it yourself. Needles must be placed in biohazardous sharps containers for disposal even if they are unused.

Public Safety:

Lincoln Park: (773) 325-7777 **Loop:** (312) 362-8400

When should red bags/bins be used?

Certain materials must be disposed of as biohazardous waste. Biohazardous waste is placed in red bags that go into red bins. Biohazardous sharps go directly into a biohazardous sharps container. Both the bags and bins are labeled with the word “Biohazard” and the symbol below.

This includes:

- Any items saturated with blood/OPIM (such that they could be squeezed out and release it), or containing an amount of dried blood/OPIM that could flake off
- Certain materials generated by labs per IBC protocol
- All needles, used or not

EHS can provide you with a 43 gal “bio bin” (on the right) if needed.
All other containers must be ordered by individual departments.

Wash your hands

- As needed while you are working
- If using gloves, after removing them properly
- Follow these steps for effective handwashing:

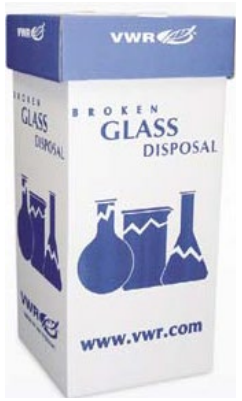
Proper handwashing is the single most effective way to prevent the spread of infection.

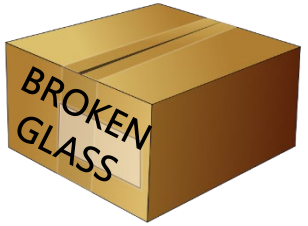
Sharp Objects

- Never use your hands to pick up sharp objects. Use tongs, forceps or a hand broom.



- Do not dispose of sharp objects (e.g. broken glass) loosely in the trash where they can injure workers.
- Instead, place them in a broken glass container (in labs) or create your own (a cardboard box labeled “broken glass.”)





If an exposure incident does occur, follow the steps on the next slide.

Exposure Incident Response

- Flush the exposed area with large amounts of water (and soap if contact was made with skin – do not put soap in eyes, nose or mouth).
- Alert a supervisor and call Public Safety for transport to nearest emergency room (ER).
- If a source individual (the person whose blood/OPIM got on someone else) is identified and agrees, they should also be transported for evaluation.
- Public Safety will make a report of the incident and notify Risk Management who will file a worker's compensation claim. Do not provide personal health insurance to the ER – tell them DePaul will cover the cost through worker's compensation.

Resources

- Human Immunodeficiency Virus (HIV): www.cdc.gov/hiv
- Hepatitis B: www.cdc.gov/hepatitis/hbv
- Hepatitis B vaccination: www.cdc.gov/vaccines/vpd/hepb/index.html
- Hepatitis C: www.cdc.gov/hepatitis/hcv/

Questions?

If you have questions about your department's specific procedures, please contact your supervisor.

If you have any general questions regarding this material, contact Environmental Health & Safety (EHS) at:

(773) 325-8985

ehsoffice@depaul.edu

Visit **ehs.depaul.edu** to learn more