

Blood Borne Pathogen Training

For Employees of Shawnee Schools

Prepared by Elaine Troyer, RN

As an employee of a school, it's probably not one of the challenges that you signed on for, but unfortunately almost every school employee must deal with the threat of **BLOODBORNE PATHOGENS**.

As sure as children fall while learning to walk, students experience cuts, bruises and other injuries. In today's environment, it is critical that school personnel plan a safe response to children in need. Whether in the classroom, on a playing field, or on a school bus, all school employees must know the potential danger of **bloodborne pathogens**.





OSHA Standards

(Occupational Safety and Health Administration)

OSHA has issued a standard which outlines a method for you and the school system to follow in order to substantially reduce the risk of contracting a bloodborne disease while on the job. This standard can protect you from bloodborne pathogens.

OSHA Exposure Control Plan

- Defines who is at risk.
- Outlines procedures to minimize or eliminate exposures to blood-borne diseases.
- Outlines procedures to follow in event of exposure.



What are bloodborne pathogens?

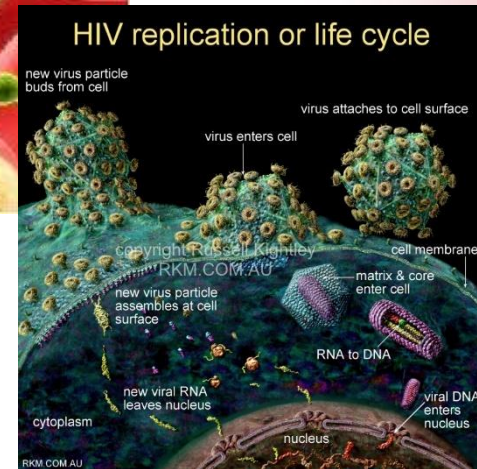


- Pathogens are infectious materials which can be in human blood and body fluids that may cause disease in humans.
- Exposure to these pathogens can result in serious illness or death.



Bloodborne Pathogens That Can Put You at Risk

- Hepatitis B Virus (HBV)
- Hepatitis C Virus (HCV)
- Human Immunodeficiency Virus (HIV)



Hepatitis B Virus (HBV)

- Causes infection of the liver.
- Can lead to cirrhosis, liver cancer and death.
- 20% risk of infection with a contaminated sharp.
- **Virus can survive in dried blood up to 7 days.**
- Poses a greater risk to school personnel than HCV or HIV due to easier transmission.



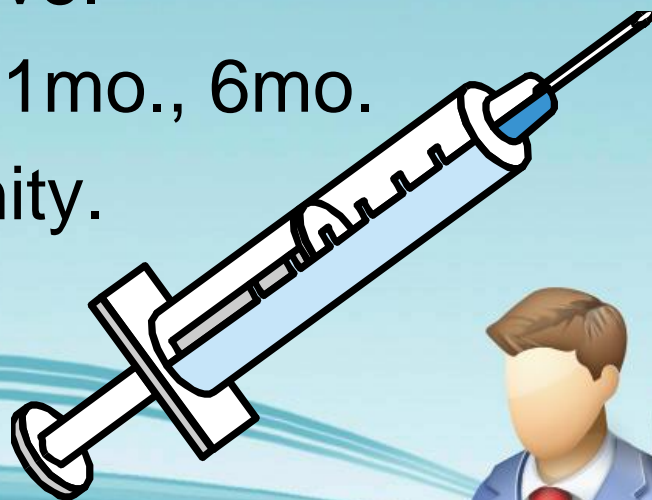
Symptoms of Hepatitis B

- Fatigue
- Loss of appetite, nausea
- Jaundice (yellowing of skin and eyes)
- Fever
- Abdominal pain, joint pain
- 30-50% have no symptoms
- Preventable



Hepatitis B Vaccine

- One of the best ways to prevent HBV infection.
- Recommended for all employees.
- Provided by Shawnee Schools at no cost.
- Given by school nurse.
- Safe and effective.
- 3 shots- initial , 1mo., 6mo.
- Life long immunity.



Hepatitis C Virus (HCV)

- Most common chronic blood borne infection in US.
- 85% of people infected with HCV have chronic infections while only 10% of those infected with HBV are chronically infected.
- Up to 75% of people with HCV have no symptoms compared to about 50% of those infected with HBV.
- Causes liver damage, cirrhosis and liver cancer.
- Leading reason for liver transplants.
- 2% risk of infection by contaminated sharp.
- There is no vaccine to prevent HCV infection, and no cure.

Symptoms of Hepatitis C

- Same as Hepatitis B.
- May occur within 2 weeks to many years.
- Those with chronic HCV may have no symptoms for 20 years, yet during that time the infection may be slowly damaging the liver.
- Up to 75% don't know they are infected.



Human Immunodeficiency Virus (HIV)

- Attacks the body's immune system, causing it to break down.
- Infected people show signs of illness when they become unable to fight off other infections.
- No vaccine and no cure
- About 900,000 people in the US are infected with HIV.
- 6,000 new infections every day

Symptoms of HIV

- Mild flu-like symptoms initially (fever, swollen glands)
- May be free of symptoms for months to many years
- Eventually leads to AIDS and death



Who is at risk?


- Anyone who comes into contact with human blood or body fluids.
- Anyone who touches potentially contaminated surfaces or equipment.



Knowing how bloodborne pathogens are transmitted can be your first line of defense against becoming infected.

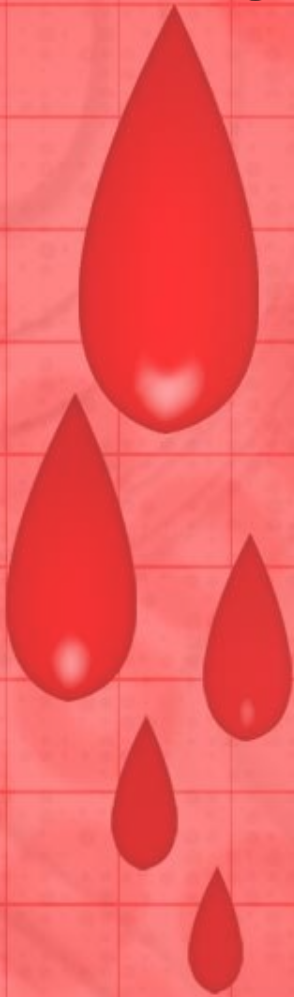


Potentially Infectious Bodily Fluids

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- A decorative graphic on the left side of the slide consists of several red, teardrop-shaped droplets of varying sizes, arranged in a vertical, cascading pattern. The background is a light red grid.
- Blood
 - Saliva, vomit, urine
 - Semen or vaginal secretions
 - Skin, tissue, cell cultures
 - Other body fluids containing visible blood

Blood borne pathogens can enter your body through:

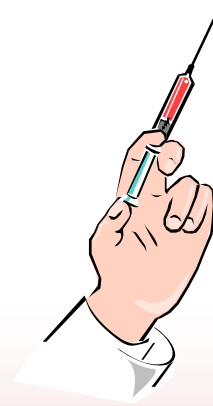
- Open cuts and nicks
- Skin abrasions
- Dermatitis
- Acne
- The mucous membranes of your mouth, eyes or nose.



Accidental Injury

You can become infected by cutting yourself with a contaminated sharp object, such as:

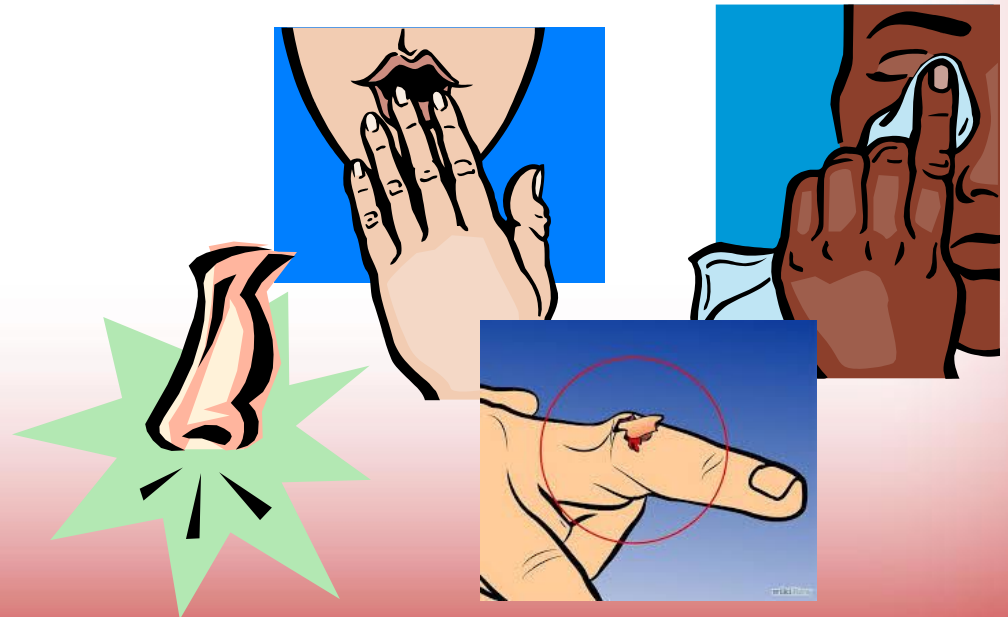
- Broken glass
- Sharp metal
- Needles
- Knives
- Exposed ends of orthodontic wires.



Indirect Transmission

Bloodborne diseases can also be transmitted by touching a contaminated object or surface and then transfer the infection to your:

- Mouth
- Eyes
- Nose
- Non-intact skin



Special Education Employees



Special-education employees should take extra caution while working with severely disabled children because they may be more:

- Vulnerable to injury.
- Likely to have special medical needs.
- Dependent on adults for personal care.



Risk from bloodborne pathogens can be greatly reduced with clear thinking, using Standard Precautions, and practicing preventive procedures like wearing gloves and washing your hands.



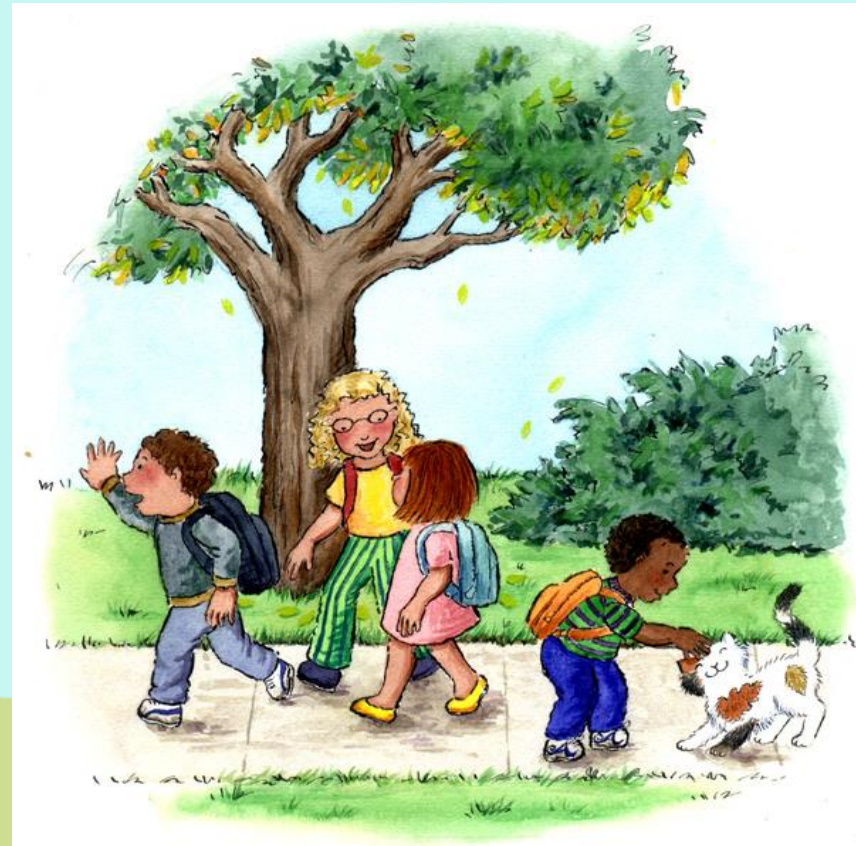


Keys to Protection

- Never touch another person's blood!
- Use Universal/Standard Precautions!
- Handwashing, Handwashing & Handwashing!

Standard Precaution Principles

- Treat all blood and body fluids as potentially infectious.
- Critical because it is impossible to tell who is infected with HBV, HCV or HIV by appearances.
- Many have no knowledge or symptoms of their disease.



Additional Standard Precautions and Body Substance Isolation Principles

1. Always use barrier protection, such as gloves, when you anticipate touching blood, body fluids or contaminated surfaces. Use single-use, disposable gloves when administering first aid. Cover any hand cuts you may have before gloving. Gloves must fit snugly and extend over the wrist. Use once, then throw away.
2. Avoid touching the outside of the contaminated gloves when removing them. Then, wash your hands, whether or not you touched the outside of the glove.



3. Discard used gloves, sharps or any other contaminated materials in an appropriate container.
 - Place sealed bag in a leak proof container where it will be secure until picked up for disposal. Follow the school's policy for disposal.
4. Wash your hands and other skin surfaces immediately after contact with blood or other body fluids. Hand washing is your main protection against contracting an infection or transmitting it to others. Wash with nonabrasive soap and running water for at least 15 seconds. Rinse. Dry with a paper towel and discard. Then turn off the faucet with a clean paper towel. Use a waterless hand washing solution as a temporary measure, if soap and water are not immediately available.



A photograph of a blood spill on a tiled floor. A yellow caution tape with the word "CAUTION" repeated in black capital letters is stretched across the scene. The floor is made of light-colored square tiles. A dark, irregular stain, likely blood, is visible on the floor. A white cloth or paper towel is placed over part of the stain. The background shows a wall and a metal railing.

UTION CAUTION CAUTION CAUTION CAUTION

5. Disinfect any contaminated surfaces or objects with an appropriate germicidal agent. Hepatitis B Virus can survive in dried blood for at least a week, so clean thoroughly. Always wear gloves. If heavy duty utility gloves are used they may be decontaminated and reused if not damaged. But throw them out, if they are.

6. Pick up broken glass and other sharp objects with a broom and dustpan or tongs, not your hands. Dispose of debris in an appropriate puncture resistant sharps container. Trash may contain sharp objects, so don't reach into or push trash down with hands or feet.



7. Always use a barrier protection if you have to resuscitate a victim. Emergency respiratory devices and pocket masks isolate you from their body fluids. Keep CPR devices in an accessible area.



Reducing your risk of exposure to bloodborne pathogens means you need to do more than wear gloves. To protect yourself effectively, use:

- Personal protective equipment
- Work practice controls
- Engineering controls
- Housekeeping
- Hepatitis B Vaccine
- Alone, none of these five approaches is 100% effective. They must be used together to protect you from bloodborne pathogens.





Personal protective equipment (PPE) can range from gloves to masks and eye protection to a gown.



Personal Protective Equipment

- The type of PPE appropriate for your job varies with the task and the anticipated exposure.
- You must be trained to use the equipment properly.
- You must use the appropriate PPE each time you perform a task with potentially infectious materials.
- The equipment must be appropriate for the task and must fit properly, especially gloves.





DONNING YOUR PPE

Always refer to the correct order for PPE use
from the local HSE (Health and Safety Executive), or
as recommended by the University for Disease Control.

#1



HAND HYGIENE

#2



GOWN

#3



RESPIRATORY
PROTECTION

#4



EYE
PROTECTION

#5



GLOVES



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DOFFING YOUR PPE

Always refer to the correct order for PPE use
from the local HSE (Health and Safety Executive), or
as recommended by the University for Disease Control.

#1



GLOVES

#2



EYE
PROTECTION

#3



GOWN

#4



RESPIRATORY
PROTECTION

#5



HAND HYGIENE



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Resuscitation Devices

Pocket masks and mechanical emergency respiratory devices are designed to isolate you from contact with a victim's saliva. Avoid unprotected mouth-to-mouth resuscitation. Students or co-workers may expel saliva, blood or other fluids during resuscitation.



Gloves

- Most frequently used type of PPE.
- Must wear when it is reasonably anticipated that your hands may contact blood, potentially infectious materials, mucous membranes or non-intact skin.
- Single-use disposable gloves are used for first-aid procedures.
- Heavy-duty utility gloves should be used for housekeeping.



- All equipment must be free of flaws that could impede safety.
- If PPE become penetrated by blood or other infectious materials, then remove it as soon as possible.
- If you clean up blood or body fluids:
 - Wear appropriate PPE
 - Use a solution of one part bleach to 100 parts water or one-fourth cup bleach to one gallon of water.
 - Disinfect mops and cleaning tools after the job is done.



- Since gloves can be torn or punctured, cover any hand cuts with bandages before putting on gloves.
- Replace gloves as soon as you can if they are:
 - Torn
 - Punctured
 - Contaminated
 - Defective in any way
- Never wash or decontaminate single-use disposable gloves for reuse.



Glove Removal

As important as wearing gloves is, you are not protected unless you remove them correctly.

1. With both hands gloved, peel one glove off from top to bottom and hold it in the gloved hand.
2. With the exposed hand, peel the second glove from the inside, tucking the first glove inside the second.
3. Dispose of the gloves promptly.
4. Never touch the outside of the glove with bare skin.
5. Every time you remove your gloves, wash your hands with soap and running water as soon as possible.



Using two fingers, peel the other glove off from the wrist.



PROPER GLOVE REMOVAL:



Step 1: Grab glove on outside next to wrist.



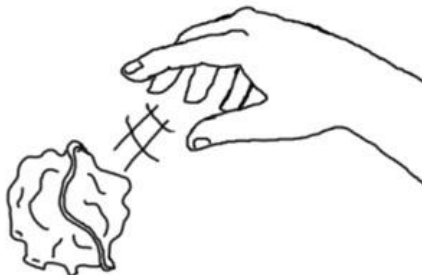
Step 2: Pull off inside-out. Place in gloved hand.



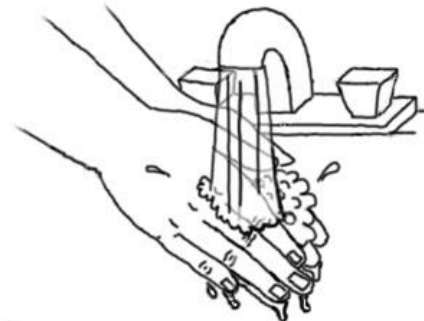
Step 3: Place fingers by wrist under glove.



Step 4: Push up inside-out and fold around glove in hand.



Step 5: Throw used gloves in proper disposal unit.



Step 6: Wash hands thoroughly.



Work Practice Controls



- Work practice controls are specific procedures you must follow on the job to reduce your exposure to blood or other potentially infectious materials. The school system will assign personnel to deal with bloodborne hazards on a regular basis.
- A person trained in bloodborne pathogens safety to give first-aid treatment to students.
- A custodian or trained person responsible for cleaning up all body fluid spills.



Handwashing

The most important work practice control is handwashing. Good handwashing keeps you from transferring contamination of your hands to other parts of your body or other surfaces you may contact later.





● Use SOAP and
WARM WATER

Handwashing is the single most important means of preventing the spread of infection.

● SCRUB your hands
VERY WELL



● RINSE WELL

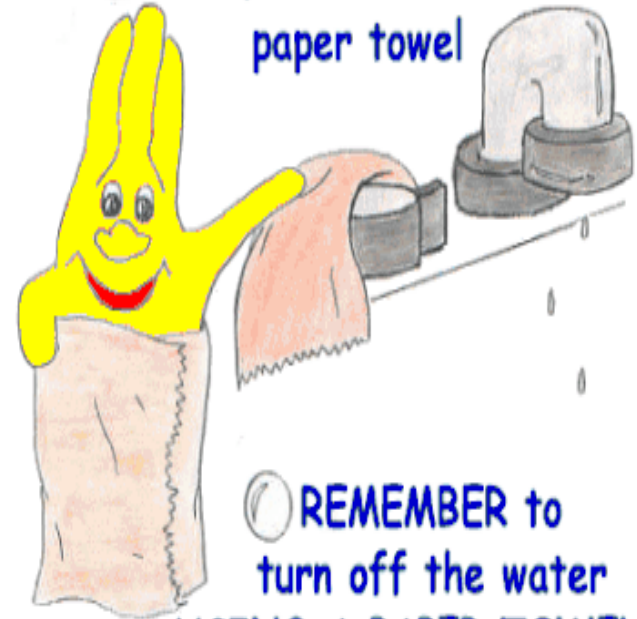


● WASH

- Between Fingers
- Wrists
- Under Fingernails
- Backs of Hands



● DRY your hands with a
paper towel



● REMEMBER to
turn off the water
USING A PAPER TOWEL
INSTEAD OF YOUR HANDS

Use waterless hand cleaner-only if
no soap and water is available!
Use only as a temporary measure.
You must still wash your hands
with soap and running water as
soon as you can.

Personal Hygiene Tips

- Minimize splashing, spraying, spattering and generation of droplets when attending to an injured student or co-worker, especially where blood is present.
- Don't eat, drink, smoke, apply cosmetics or lip balms, or handle contact lenses where there is likelihood of exposure.
- Don't keep food and drink in refrigerators, freezers, shelves, cabinets, or on countertops or benchtops where blood or other potentially infectious materials are present.



Engineering Controls

- The school provides physical or mechanical systems that eliminate hazards at their source.
- Appropriate containers must be used for disposing of regulated waste and towels soaked with blood or body fluids.

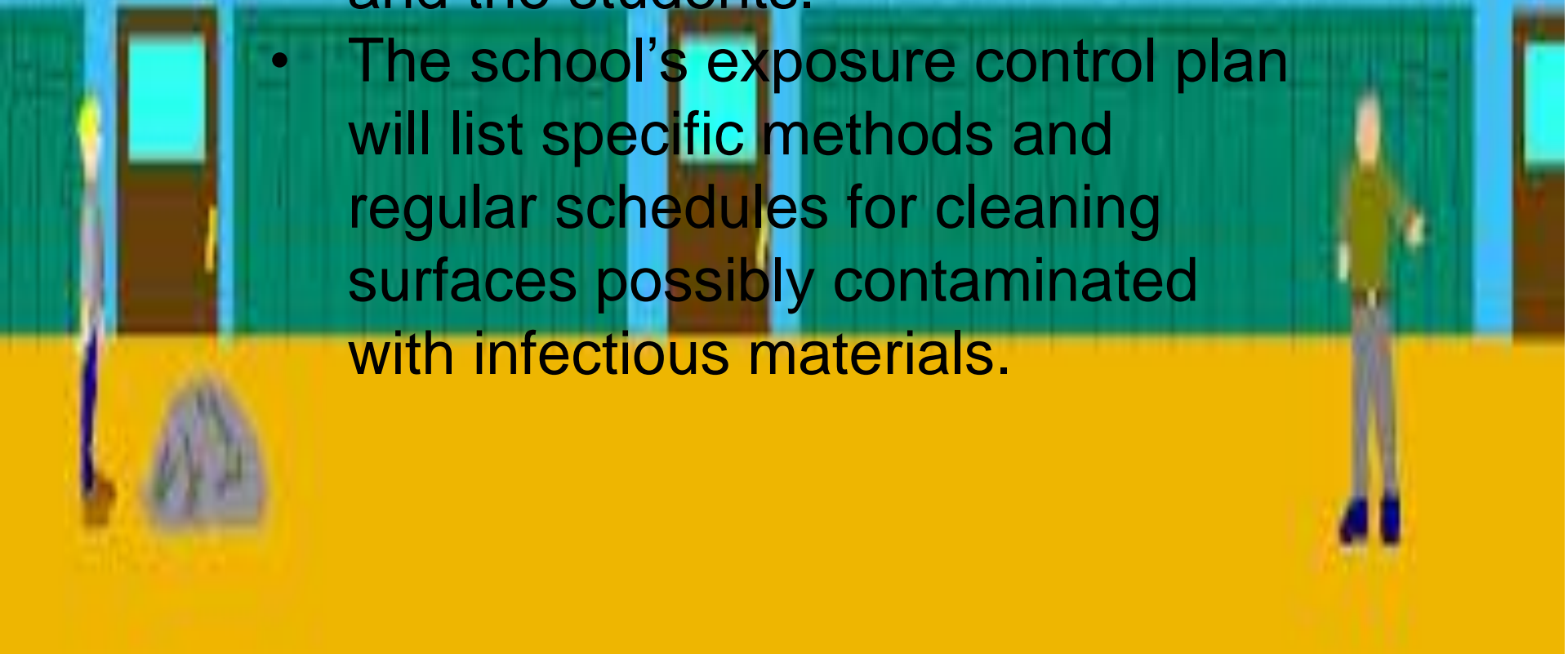


BIOHAZARD



Good Housekeeping

- Good housekeeping is everyone's responsibility, since it protects you and the students.
- The school's exposure control plan will list specific methods and regular schedules for cleaning surfaces possibly contaminated with infectious materials.



HBV Vaccination

- One of the best ways to prevent Hepatitis B infection.
- If you have not been vaccinated the vaccine can be given within 24 hours of exposure.
- If you routinely come into contact with blood or other potentially infectious material, why take the risk?



How to Handle Risky Situations

- Regard blood and visibly bloody secretions as infectious.
- Use universal precautions for all first-aid emergencies.
- Keep first responder supplies readily available at all times, including during recess and field trips.
- Kits should include:
 - Gloves
 - Gauze
 - Bandages
 - A germicidal agent
 - Disposable bags



Emergency First Aid

- When you are faced with a bleeding student or co-worker, take a minute to collect yourself.
- Be calm and reassure the victim.
- For minor cuts and scrapes, encourage age appropriate victims to administer their own first aid by applying pressure with gauze to stop the bleeding, cleanse and bandage their wound, and dispose of all contaminated materials appropriately.
- If your assistance is needed, first put on a pair of gloves or use another barrier.
- Then administer first aid.



If exposure occurs.....

1. Don't panic. Most exposures do not result in disease transmission.
2. Wash the exposed area thoroughly with soap and water.
3. If blood has been splashed onto your face or any open cut or abrasion, flush the exposed area with water.
4. If any contaminated substance gets in your eyes, irrigate your eyes with water or saline.
5. Report the exposure in order for the school to keep accurate records of any occurrence.
6. You should seek care from your healthcare provider, who can do a post exposure followup, preferably within 24 hours, and no later than seven days.

As a school employee, you must react to an emergency not only with your heart, but with your head. Know the facts about bloodborne diseases so you can take sensible precautions. Students, co-workers and loved ones are counting on you. Take the time to protect yourself while helping a child or co-worker in need.



What's next?

- Complete the paper work
 - ❑ Hepatitis B Occupational Risk Worksheet
 - ❑ Review Hepatitis B Vaccine Information Sheet
 - ❑ Sign refusal or consent for Hepatitis B vaccination. (If you have had the series previously, sign refusal and note that you have had the series.)
- Return all paperwork to Elaine Troyer, RN, at Elmwood.



References

- Coastal Training Technologies Corp, (2001). *Bloodborne Pathogens* for School Staff(Brochure), Virginia Beach, VA.
- Bloodborne Pathogens Training Asheboro 2012-2013 City School, www.asheboro.k12.nc.us/.../File/.../BloodBornePathogensTraining12.pp

