Bloodborne Pathogens Training Module

This module is designed to serve as the required basic bloodborne pathogens refresher training for employee and to meet the requirements of the Occupational Safety and Health Administration’s (OSHA’s) Bloodborne Pathogen Standard, 29 CFR 1910.1030. A basic understanding of bloodborne pathogens, transmission modes, protection methods, reporting procedures, and other pertinent information is provided in this module. A copy of the Nash-Rocky Mount Public Schools (NRMPS) BBP Exposure Control Plan is available online (NRMPS website) and also located in the main office of each school and auxiliary building.

Bloodborne Diseases Overview

Bloodborne Pathogens are pathogenic microorganisms that are present in human blood and other potentially infectious materials (OPIM) and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). “Hepatitis” means “inflammation of the liver”.

Hepatitis B Virus (HBV)

What is Hepatitis B?

- Hepatitis B is an inflammatory liver disease caused by the hepatitis B virus.
- Hepatitis B virus results in liver cell damage that can lead to scarring of the liver (cirrhosis) and increased risk of liver cancer in some people.
- It is 100 times more infectious than HIV, has no cure, and can be fatal.
- In a dried state, HBV may remain viable on surfaces for up to 1 week and maybe longer.
- It is the only bloodborne disease with a vaccine available for protection.

Transmission

HBV is transmitted primarily through “blood to blood” contact, by accidental needle sticks or other contaminated sharps injuries, sexual contact, mucous membrane contact, and through open cuts. Risk most often occurs in unprotected direct or indirect contact with infected blood. It is not transmitted by casual contact.

Symptoms

- Many people with newly acquired hepatitis B have no symptoms at all or they may be very mild and flu-like – loss of appetite, possible stomach pain, nausea, fatigue, muscle or joint aches, mild fever, possibly jaundice (yellowish tinge to the skin), and darkened urine.
- Symptoms may not become noticeable for 1-9 months, after exposure.

Disease Outcome

- **Acute infection**: 95% of infected adults develop antibodies and recover spontaneously within six months. Upon recovery, they develop immunity to the virus and are not infectious to others.
- **Chronic infection**: 5% of infected adults become carriers of the virus, are chronically infected, and can infect others. The HBV virus remains in blood and body fluids – they may or may not show outward signs or symptoms.

Preventing HBV Infection - things you can do:

- Get the HBV vaccination series. Vaccination provides protection for more than 15 years, and possibly a lifetime. HBV booster shots are not recommended.
- Wear gloves and other personal protective equipment when cleaning up blood and other potentially infectious materials.
- Cover any broken skin and rashes with bandages.
- Clean up any blood spills with an EPA-registered tuberculosis disinfectant.
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Hepatitis C Virus (HCV)

What Is Hepatitis C?
- Hepatitis C virus (HCV) causes inflammation of the liver.
- Many infected individuals show no signs or symptoms.
- Hepatitis C is a slow-progressing disease that may take 10-40 years to cause serious liver damage in some people.

Transmission
- Injection drug use is the primary risk for HCV infection (60% of new cases).
- The hepatitis C virus is found mainly in blood.
- HCV is not spread through kissing or casual contact.
- HCV may be transmitted by using razors, needles, toothbrushes, nail files, a barber’s scissors, tattooing equipment, body piercing or acupuncture needles if these items are contaminated by blood of an infected person.
- HCV may be transmitted by accidental needle sticks – needles contaminated with HCV-positive blood.
- HCV is not able to reproduce outside the human body.
- HCV is rarely spread through sexual contact.

Symptoms
- Most people who are infected with the HCV do not have symptoms and are leading normal lives.
- If symptoms are present, they may be very mild and flu-like – nausea, fatigue, loss of appetite, fever, headaches, and abdominal pain.
- Most people do not have jaundice although jaundice can sometimes occur along with dark urine.

Preventing HCV Infection
- There is no vaccine to prevent HCV. Vaccines for Hepatitis A and B do not provide immunity against hepatitis C.
- Avoid handling anything that may have the blood of an infected person on it.
- Handle needles and sharps with extreme caution – never recap, bend, or shear needles or separate the needle from syringe. Use sharps containers for disposal.

Human Immunodeficiency Virus (HIV)

What is HIV?
- HIV (human immunodeficiency virus) is the virus that causes AIDS. AIDS stands for Acquired Immunodeficiency Syndrome. Acquired means that the disease is not hereditary but develops after birth from contact with a disease causing agent (in this case, HIV). Immunodeficiency means that the disease is characterized by a weakening of the immune system. Syndrome refers to a group of symptoms that collectively indicate or characterize a disease. In the case of AIDS this can include the development of certain infections and/or cancers, as well as a decrease in the number of certain cells in a person’s immune system.
- AIDS weakens the body’s immune system so that it cannot fight other deadly diseases. AIDS is a fatal disease. There is no cure and no vaccine for AIDS.

Transmission
- The HIV virus will not survive long outside of the human body. HIV particles are reduced by 90-99% within several hours upon drying.
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- Employees providing first aid or medical care involving fresh blood are at-risk.
- Transmission may occur through accidental needle-sticks, sexual contact, open cuts, or mucous membranes of the eyes or inside of the nose.
- Biting is not a common way of transmitting HIV; however, severe trauma with extensive tissue tearing and damage and presence of blood would be of concern.
- Saliva, tears, and sweat - HIV has been found in saliva and tears in very low quantities from some AIDS patients. However, finding a small amount of HIV in a body fluid does not necessarily mean that HIV can be transmitted by that body fluid. HIV has not been recovered from the sweat of HIV-infected persons. Contact with saliva, tears, or sweat has never been shown to result in transmission of HIV.
- HIV is not spread by causal contact.

Symptoms

- Many people who are infected with HIV do not have any symptoms at all for many years.
- Symptoms include: Rapid weight loss; dry cough; recurring fever or profuse night sweats; profound and unexplained fatigue; swollen lymph glands in the armpits, groin, or neck; diarrhea that lasts for more than a week; and white spots or unusual blemishes on the tongue, in the mouth, or in the throat; pneumonia; red, brown, pink, or purplish blotches on or under the skin or inside the mouth, nose, or eyelids; and memory loss, depression, and other neurological disorders.

Prevention of Bloodborne Diseases

- Universal precautions should be followed at all times. “Universal precautions” is an approach to infection control to treat all human blood and certain human body fluids as if they were known to be infectious for HIV, HBV and other bloodborne pathogens.
- Gloves should be worn during contact with blood or other body fluids that could possibly contain visible blood, such as urine, feces, or vomit.
- Cuts, sores, or breaks on exposed skin should be covered with bandages.
- Hands and other parts of the body should be washed immediately after contact with blood or other body fluids, and surfaces soiled with blood should be disinfected appropriately.
- Needles and other sharp instruments should be handled very carefully and according to recommendations for health-care settings. Never re-cap or bend needles. Dispose of needles in puncture-proof sharps containers.
- Clean up any blood spills with an EPA-registered tuberculocidal disinfectant.

Modes of Transmission

It is important to know how bloodborne diseases are transmitted so that you may take protective measures when providing first aid or cleaning up blood. Bloodborne pathogens are spread through infected human blood and other potentially infectious materials (OPIM) such as semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood. In situations where it is difficult or impossible to differentiate between body fluids – they are considered potentially infectious.

Basics of Infections

All of these factors must be present for a potential exposure to occur:

- The infected source must have an infectious agent in the blood or other potentially infectious material.
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- An entry site must be present.
- A potential route of transmission must be present – such as a contaminated sharp object.
- An unprotected, susceptible person is contaminated through non-intact skin.

Exposure Control Plan

To prevent occupational exposure to bloodborne pathogens and to protect you, Nash-Rocky Mount Public Schools has made an Exposure Plan available to you. A copy is kept in the main office and most hygiene stations at each school, in the reception area of auxiliary sites, and is placed in the orientation manual for new employees. You may also request a copy by contacting your school nurse or the Bloodborne Pathogens Coordinator.

The Exposure Control Plan addresses: employee responsibilities, exposure determination, safe work practices and engineering controls, personal protective equipment, housekeeping, communication of hazards to employees, the Hepatitis B vaccination, post-exposure follow-up, and record keeping and surveillance.

How am I exposed at work?

Anytime there is “blood-to-blood” contact with infected blood or other potentially infectious materials, there is potential for transmission.

- **Direct transmission** - Infected blood enters your bloodstream through an open cut, abrasion, sore, damaged or broken skin such as blisters or sunburn, mucous membranes of the eyes, nose, or mouth.
- **Indirect transmission** - Touch contaminated object or surface and transfer the infection to your mouth, eyes, nose, or open skin.
- **Accidental injury** - Accidentally injure yourself with a contaminated sharp object such as broken glass, sharp metal, needle, or knife.

Employee Protection Methods

Never underestimate the dangers of bloodborne pathogens. Practice Universal Precautions – Always treat all blood/body fluid as if it is infected. Follow prevention guidelines as noted above.

Personal Protective Equipment (PPE)

**Rules**

- Always protect yourself first before becoming exposed to blood or body fluids and have a barrier between you and the potentially infectious material.
- Always have PPE readily available and wear in exposure situations.
- Remove PPE that is torn, punctured, or of poor quality.
- Replace torn or punctured PPE.
- Put contaminated PPE in plastic-lined containers with the biohazard label.

**Gloves**

- Should be of water impervious materials such as latex or rubber.
- Cover any open cuts or sores on your hands with bandages before gloving.
- Latex-free gloves are available for those with latex allergies.
- Inspect gloves for tears or punctures before putting them on. If a glove is damaged, don’t use it.
- Wear 2 pairs, if gloves are of flimsy, thin material.
- Remove contaminated gloves carefully – never touch the outside of the gloves with any bare skin.
- Dispose of contaminated gloves in such a way that no one else will come in contact with them.
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- Put contaminated gloves in a plastic-lined container with the biohazard label.

Goggles and face shields
- Should be worn with there is a risk or splashing or splattering of contaminated fluids.
- Splashing could occur while cleaning up a blood or while providing medical assistance or first aid.
- A face shield provides extra protection to the face and will protect the nose and mouth.

Aprons and shoe covers
- May be worn to protect your clothing and shoes
- Keeps blood or other contaminated fluids from soaking through to your skin

Resuscitation devices – use for Cardiopulmonary Resuscitation (CPR). Never perform mouth-to-mouth CPR.

Blood spill clean-up kits – available for classrooms and on buses.

How do I get PPE items?
- Custodians must follow the guidelines for ordering and re-stocking of the contract agency.
- Gloves are available in the red first-aid bag, supplied for each classroom by the school nurse. Contact your school nurse, if gloves are needed to re-stock the bag.
- Other PPE items; e.g., masks, gowns, etc. are located in the school nurse’s office.

If you’re in a situation where you don’t have the standard PPE, improvise. Use a plastic bag, towel, or other barrier to avoid direct contact.

Hygiene Practices

Handwashing
- Handwashing is one of the most important practices used to prevent the spread of all bloodborne pathogens and other infections.
- Thoroughly wash hands and other exposed skin as soon as possible following an exposure incident.
- Thoroughly wash hands as soon as possible after removing gloves and PPE.
- Use non-abrasive, antibacterial soap - harsh abrasive soaps may damage skin and open fragile sores or scabs.
- When handwashing facilities aren’t readily available, use antiseptic cleansers in conjunction with clean cloth/paper towels or antiseptic towelettes and wash hands with non-abrasive, antibacterial soap and running water as soon as feasible.

In areas of likely exposure:
- Never eat, drink, smoke, apply cosmetics/lip balm, handle contact lenses, or put food or drink in refrigerators, freezers, shelves, cabinets, or on counter tops where blood or potentially infectious materials are present.
- Minimize blood splashing and splattering in emergency situations.

Clean-up & Decontamination

An EPA-registered tuberculocidal disinfectant solution must be used to clean and decontaminate surfaces and work areas that come in contact with blood or other potentially infectious materials. Custodians have the appropriate cleaning and decontamination solutions/products; therefore, contact a custodian for clean-up and decontamination. Product guidelines shall be followed.
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How to dispose of waste contaminated with blood/body fluids

- Wear gloves.
- Place contaminated items in a leakproof bag.
- Remove gloves using proper method – never let bare skin touch contaminated gloves.
- Place securely fastened bag in a plastic lined trash container.
- Label the container or bag with biohazard label.

Contaminated clothing

Although soiled clothing may harbor large numbers of pathogenic microorganisms, the risk of actual disease transmission is negligible. Common-sense hygienic practices are recommended.

- Wear gloves and other appropriate protective apparel.
- Handle soiled items as little as possible and with minimal agitation to prevent gross microbial contamination of the air and of others.
- Place soiled items in a plastic leakproof bag.
- Place a biohazard label on the bag.

Contaminated Sharps

“Contaminated Sharps” means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, and broken glass.

- Use a brush and dustpan or tongs to pick up broken glass and other sharp objects. Never directly use your hands.
- Place the items in a closable, leakproof, puncture resistant container with a biohazard label attached.
- Never reach into a trash container or push trash down with hands or feet
- Use a properly labeled sharps container for needles.
- Never recap, bend, break, or shear needles.
- Wear gloves.
- Replace sharps containers when full – never overfill.
- Sharps containers are stocked in the warehouse.
- Place filled, sealed and properly labeled container in plastic-lined trash can.

Contaminated sports items and equipment

Use an EPA-registered tuberculocidal disinfectant solution to clean and decontaminate sports items and equipment that has come in contact with blood and other potentially infectious materials. Follow the clean-up and decontamination guidelines.

Biohazard Warning Labels

Place a warning label on containers used to dispose of items containing blood or other potentially infectious materials. Labels may be obtained from the BBP Coordinator, safety supervisor, or school nurse. The label is normally orange or orange-red background with a universal symbol in a contrasting color.

Occupational Exposures

“Occupational exposure” is defined as any reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an
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employee’s duties. “Good Samaritan” acts, an employee’s rendering assistance to accident victims, and other exposures that cannot be anticipated, do not constitute occupational exposure. Examples of occupational exposure incidents: blood from one person entering non-intact skin of another person, sharps incidents and human bites.

What to do if exposed

- Wash the exposed area with non-abrasive, antibacterial soap and running water.
- Flush exposed eye or mucous membrane with running water for at least 15 minutes.
- Immediately report the exposure to your supervisor and BBP Coordinator.
- Complete an Exposure Report Form.
- Take the completed form to FastMed Urgent Care for a post-exposure medical evaluation.
- Refer to the flow chart on page 8 for more information/guidelines.

Hepatitis B Vaccinations

The 3-shot hepatitis B vaccination series is offered at no cost for employees working in at-risk positions unless already vaccinated, antibody testing reveals immunity, or the vaccine is medically contraindicated.

At-risk jobs

“At-risk employees” means employees identified as being at risk for occupational exposure to blood and other potentially infectious materials. Employees listed in at-risk job categories are those who because of their usual duties might be exposed to blood or other potentially infectious fluids as an integral part of performing occupational tasks. Therefore, it is reasonable to anticipate that exposure may occur.

Employees not included in the list who believe they are at risk for occupational exposure to blood and other potentially infectious materials may request an Exposure Determination Questionnaire from a school nurse or the BBP Coordinator. A copy of the BBP questionnaire is in the BBP Exposure Control Plan.

Examples of at-risk jobs

- School nurses.
- Custodians.
- Athletic trainers.
- Designated first responders who perform first aid in the absence of the school nurse.
- Health Academy teachers.
- Employees required to regularly perform health-related procedures/treatments for students.

Exposure Determination Questionnaire

The Exposure Determination Questionnaire is a tool used to assist in identifying employees who are at-risk for exposure to blood and other potentially infectious materials. Any employee who desires to have his/her job evaluated for “at-risk” status may complete this questionnaire and submit the completed questionnaire to the BBP Program Coordinator. This tool is especially beneficial if exposure determination is questionable.

Communicable Diseases Policies

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**Occupational Exposure to Bloodborne Pathogens: Flow Chart**

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<th>Bloodborne Pathogens Exposure Incident Occurs</th>
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1. Employee reports incident to Supervisor & BBP Coordinator
2. Employee & Supervisor complete BBP Exposure Report Form
3. Employee Completes Worker’s Compensation Form 19

Employee directed to FastMed Urgent Care – takes:
1. BBP Exposure Report
2. Copy of Employee’s Job Description
3. Source identity and HBV/HIV status, if known
4. Employee’s HBV status & other relevant medical information

**FastMed Urgent Care**
1. Evaluates exposure incident
2. Arranges for testing of exposed employee and source identity, if not already known
3. Notifies employee of results of all testing
4. Provides counseling
5. Provides post-exposure prophylaxis, if medically indicated
6. Evaluates reported illnesses
7. Items above are confidential
8. Sends a written opinion to BBP Coordinator: documentation that employee was informed of evaluation results and the need for any further follow-up and whether HBV vaccine was received

**BBP Coordinator/Standards Committee**
1. Reviews BBP Exposure Report
2. Reviews medical recommendations
3. Reviews supervisor’s report
4. Recommends prevention strategies
5. Provides copy of medical written opinion to employee within 15 days of completed evaluation

Employee receives copy of medical written opinion & follows medical recommendations