Bloodborne Pathogens

Exposure Control Plan
Madison Public School District

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Table of Contents

Appendixes

Forms

Introduction

In December 1991, the Occupational Safety and Health Administration (OSHA), a regulatory agency within the U.S. Department of Labor, issued regulations applying to occupational exposure to bloodborne pathogens. On June 8, 1993, the PEOSHA Bloodborne Pathogens Standard was adopted by the New Jersey Department of Labor. This standard is based on OSHA's Occupational Exposure to Bloodbborne Pathogens Standard (29 CFR 1910.1030). The standard applies to anyone who can reasonably anticipate contact with blood or potentially infectious body fluids on the job. The purpose of this Standard is to prevent Bloodborne Infections by eliminating or reducing Occupational Exposure. In order to achieve this purpose, it is necessary to know where and how such exposure can occur and who will be performing those tasks and procedures. It is the goal of this Standard to reduce a significant risk of infection by minimizing or eliminating Occupational Exposure to blood and other potential infectious materials, providing the hepatitis B vaccine, and post exposure medical follow-up.

The purpose of this Exposure Control Plan is to protect all occupationally exposed employees from exposure to any blood or body fluid. The Exposure Control Plan will attempt to identify all occupationally exposed groups of employees within the Madison school system and attempt to explain the methods of compliance that will be instituted to minimize exposure to blood and body fluids.

Definitions:

The following definitions will be described as they relate to the guidelines in this manual and to the OSHA rules on blood borne pathogens:

Acquired Immune Deficiency Syndrome (AIDS) – the name given to the latter stages of HIV infections, characterized by severe symptoms of illness and other specific clinical manifestations such as opportunistic infections and severe reduction of white blood cells.

Biologically hazardous conditions – means equipment, containers, rooms, materials, and experimental animals, animals infected with HBV or HIV, or combinations thereof that contain, or are contaminated with blood or other potentially infectious material.

Biohazard Label – red or orange legend to identify blood related waste or other potentially infectious materials (OPIM).

Blood – human blood components and products made from blood.

Bloodborne Pathogens – pathogenic micro organisms present in human blood that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HVC), and the Human Immunodeficiency Virus (HIV).

Body Substance Isolation (BSI) – a method of infection control that incorporates all body fluids and substances as infectious. BSI incorporates not only the fluids and materials covered by the OSHA Standard but also expands coverage to include all body fluids and substances. BSI is an acceptable alternative to universal precautions provided facilities utilizing BSI adhere to all other provisions of OSHA Standards.

Contaminated – the presence or reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

Contaminated Laundry – laundry that has been soiled with blood or other potentially infectious materials or sharps.

Contaminated Sharps – any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, lancets, broken capillary tubes, and exposed ends of dental wires.

Covered Employees – employees designated in the exposure control plan of the employer who have a job-related risk of exposure to blood and other potentially infectious materials. The “covered” employees are subject to the rules and regulations of OSHA concerning occupational exposure to bloodborne pathogens.

Decontamination – the use of physical or chemical means to remove, inactivate, or destroy the bloodborne pathogens on the surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Disinfect – means to inactivate virtually all recognized pathogenic microorganisms, but not necessarily all microbial forms, on inanimate objects.

Disposable – any item indicated as single-use only.

Emesis – vomiting or vomitus.

Engineering Controls – policies and practices of the employer that isolate or remove the bloodborne pathogens hazards in the workplace (e.g. sharps disposable containers).

Exposure Control Plan – a plan developed and reviewed annually by the employing agency that is designed to eliminate, reduce, and respond to incidents of possible exposure to bloodborne pathogens of specified employees.

Exposure Incident - a specific mouth, eye, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that result from the performance of an employee's duties.

Hand Washing Facilities – a facility providing an adequate supply of running potable (drinking) water, soap, and single use towels or air-drying machine.

Hazard – an actual or potential exposure to risk

Hepatitis B Virus (HBV) – the pathogen that causes one form of liver infection and is transmitted by blood, primarily through large or repeated percutaneous exposures, untested blood products, shared needles, and unprotected sexual contact. It is clinically silent in 95% of infected people.

Hepatitis D Virus (HDV) – the pathogen that causes the most severe form of viral hepatitis. It occurs in persons who have acute or chronic hepatitis and are HbsAg-positive.

Hepatitis G Virus (HGV) – the pathogen first identified in 1996 that is transmitted through infected blood and unprotected sexual contact.

Human Immunodeficiency Virus (HIV) – the pathogen that causes HIV infection and is transmitted from one person to another by blood, semen, vaginal secretions and breast milk. The infected person can be without symptoms of illness for 10 to 20 years. However, presence of the infection can be detected within a few weeks to six months with HIV antibody tests.

Occupational Exposure – reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

Occupational Safety and Health Administration (OSHA) – a federal regulatory agency within the U.S. Department of Labor

Other Potentially Infectious Materials (OPIM) – a term used in the federal regulation to be inclusive of materials, in addition to blood, that are potentially capable of transmitting HIV, HBV, and HCV. It includes any body fluids contaminated with blood and all body fluids where it is difficult to differentiate between body fluids that contain the components of blood, but are not always obvious to the naked eye. It may also include any of the following body fluids:

- Semen
- Vaginal secretions
- Amniotic fluid
- Cerebrospinal fluid
- Peritoneal fluid
- Pleural fluid
- Synovial fluid
- Saliva in dental procedures

Parenteral – any piercing of the skin barrier membranes through such events as needle sticks, cuts, bites eye or mouth splash, abrasions, or transfusions involving blood or other potentially infectious materials from the body of another person.

Personal Protective Equipment (PPE) – specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g. uniforms, pants, shirts or blouses) are not intended to function as protection against hazards and are not considered to be personal protective equipment. Personal protective equipment may include such articles as repellent gown, apron, gloves, masks and goggles.

Post-Exposure Evaluation – an evaluation by a licensed healthcare professional or agency after an incident where an employee was exposed to blood or other potentially infectious materials while performing job functions. This evaluation must be available free to the employee.

Regulated Waste – waste containing liquid or semi-liquid blood and other potentially infectious materials, including items caked with these materials if the item would release liquids when compressed. It includes contaminated sharps and, in some states, sanitary supplies used for menstrual flow.

Source Individual – any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee.

Standard Precautions – an approach to infection control where all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, HCV, and other blood borne pathogens.

Sterilize – the use of physical and/or chemical procedures to destroy all microbial life, including bacterial endospores.

Universal Precautions – means a method of infection control that treats all human blood and other potentially infectious material as capable of transmitting HIV, HBV, and other bloodborne pathogens.

Work-Practice Controls – controls, such as the use of protective gloves, hand washing, proper waste disposal, and use of disinfectants to clean workstations, which reduce the likelihood of exposure to bloodborne pathogens.

Employee Exposure Determination

In an educational setting, the school system is required to identify the personnel whose job duties expose them to blood and other potentially infectious body fluids. The Occupational Safety and Health Administration (OSHA) states that teachers and instructional aides in facilities where instruction is provided for the developmentally disabled are at an increased risk of contracting a bloodborne pathogen due to children's vulnerability to injury, special medical needs, and dependence on adults for personal care (OSHA, 1996). The educational staff who works with student whose behaviors, activities, health or situations increases the likelihood of transmitting HIV, HBV, HCV, and/or HDV are another high-risk group for contracting bloodborne pathogens in the school setting.

The exposure determination of school employees is the responsibility of the school or district administrator. However, school administrators may seek the assistance of the school nurse or the local health department concerning the determination of risk exposure for school personnel. (Sanderson, Communicable Disease Control Plan 1997)

Job Classifications in Schools

Position	Tasks/Exposures
1. School Nurse	Direct client care for injuries involving non-intact skin and mucous membranes, illnesses involving emesis, and procedures including, but not limited to injections, changing ostomy bags, toileting, oral or gastrostomy feedings, suctioning, catherization, and blood glucose monitoring; providing assistance to students/staff with bleeding or other potentially infectious materials injuries.
2. Teachers/Instructional Assistants who work in emotionally, mentally and physically handicapped programs.	Changing menstrual pads, emesis clean-up, tooth brushing, biting incidents by students, diapering/toileting, cleaning nose/mouth secretions, feeding (oral or gastrostomy), providing assistance to students with bleeding or other potentially infectious material injuries
3. Speech Therapists/Teachers	Cleaning nose/mouth secretions, combative behavior, swallowing therapy, biting incidents by students.
4. Physical and Occupational Therapists	Tooth brushing, biting incidents by students, cleaning nose/mouth secretions.
5. Custodians	Emesis clean-up, cleaning body fluid spills (urine, feces, emesis, or blood) disposal of regulated waste and laundry, general facility cleaning, cleaning contaminated broken glass, sharps removal
6. Coaches, Physical Education Teachers	Providing assistance to students with bleeding or other potentially infectious material injuries/occurrences
7. Playground Monitors	Providing assistance to students with bleeding or other potentially infectious material injuries/occurrences
8. Bus Drivers	Providing assistance to students with bleeding or other potentially infectious material injuries/occurrences
9. Assistant Principals	Combative behavior, biting incidents by student
10. Building Principals	Combative behavior, providing assistance to students with bleeding or other potentially infectious materials
11. Other persons who have job descriptions which require them to provide first aid to student/staff	Providing assistance to students with bleeding or other potentially infectious materials injuries/occurrences

Also included are athletic trainers, industrial arts, home sciences and art.

ENGINEERING AND WORK PRACTICE CONTROLS

Standard Precautions

Standard precautions guidelines are a newer, two-tiered approach to infection control. These guidelines take a broader approach than the older universal precautions, offering infection control precautions that are standard for all individuals and include bloodborne, air-borne, and epidemiologically important pathogens. Standard precautions refer to the use of barriers or protective measures when dealing with the following:

- Blood (e.g. lacerations, nose bleeds, abrasions, menstrual flow)
- All body fluids, secretions, and excretions except sweat, regardless of whether they contain visible blood (e.g. urine, emesis, feces)
- Non-intact skin (e.g. cuts, scrapes, dermatitis)
- Mucous membranes (e.g. oral/nasal secretions)

Hand Washing and Hand Washing Facilities

Prevention of infectious disease depends upon the basic principles of cleanliness and hygiene. Frequent hand washing is the most important technique for preventing the transmission of disease. Proper washing requires the use of soap and water and vigorous scrubbing of hands for at least 10-20 seconds to suspend easily removable soil and microorganisms, allowing them to be washed off.

Appendix A describes the appropriate steps and necessary components for adequate hand washing procedures. If exposure occurs to skin or mucous membranes, those areas should be washed off or flushed with water as appropriate, as soon as possible following contact. Hand washing should occur immediately or as soon as possible after removing gloves or any other personal protective equipment. Hand washing is still the most significant method known to prevent transmission (CDC,MMWR,2002).

Institution of satisfactory hand washing facilities in all building is recommended, and OSHA requires that they be readily accessible after incurring exposure. Special attention should be given to classrooms where the exposure risk is expected (e.g. those for students with mental, emotional, or physical impairments), employee lounge, kitchen, student bathrooms, boiler rooms, and janitorial closets. In the event hand washing facilities are not immediately available (e.g. field trip outings) waterless alcohol based hand sanitizers are an acceptable method for hand hygiene (Infection Control Today, 2003). Hand and/or skin should be washed with soap and water as soon as possible.

Guidelines for Handling Body Fluids in a School Setting

The body fluids of all persons must be considered potentially hazardous. It is best to avoid direct skin contact with all body fluids, especially if breaks in the caregiver's skin are evident. Disposable gloves are mandatory when it is reasonably anticipated that employees will have hand contact with blood or other potentially infectious materials (e.g. cleaning cuts and scrapes, helping with bloody nose). Gloves should be worn by those persons who handle diapers or student clothing soiled by feces or urine, and protective clothing may be required if there is an anticipation of contamination of their own clothing from slashes or sprays.

Caution should be observed when choosing the type of disposable gloves to wear. Over the past few years, there has been an increasing incidence of allergic reactions to latex gloves and the cornstarch powder in the gloves. It is important to consider the risk of sensitization to staff when selecting gloves, rather than just choosing the lowest cost item available. Hypoallergenic vinyl gloves are a safe alternative (Infection Control Today, 2000).

As important as wearing gloves is the correct procedures for removing them. With both hands gloved, peel one glove off from top to bottom and hold it in the gloved hand. With the exposed hand, peel the second glove from the inside, tucking the first glove inside the second. Dispose of the gloves promptly and never touch the outside of the glove with the bare hand. Further instructions are found in *Appendix B.*

Disposable or single-use gloves are not to be washed or decontaminated for reuse. Washing disposable gloves may cause "wicking" i.e. the enhanced penetration of liquids through undetected holes in the gloves. Disinfecting agents may also cause deterioration. The gloves are to be replaced immediately when they become contaminated, torn, or punctured. Utility gloves may be decontaminated for reuse, provided that the integrity of the glove is not compromised. They should be discarded if they are cracked, peeled, torn, or punctured, if they exhibit other signs of deterioration, or when their ability as a barrier is jeopardized. The use of designated personal protective gloves is required for those who clean surfaces soiled by body fluids.

Occasionally there will be times when unforeseen skin contact will happen and gloves are not immediately available. In this event, hands and all other affected skin areas must be scrubbed with copious amounts of soap containing antiviral/antibacterial agents and running water for 10 minutes at once or as soon as possible after contact. If exposure involves mucous membranes, the affected areas should be flushed with water or eye irrigation solution for 15 minutes or until all traces of the body fluid has been removed. The affected and surrounding areas should be inspected closely for residue. All body fluid exposures should be reported to the immediate supervisor and the exposure control officer to determine if the contact is a true occupational exposure as defined by OSHA. If there is an obvious

or suspected break in the skin or if the exposure was to mucous membrane, the individual exposed should be referred for a medical evaluation.

Equipment used to clean body fluid spills must be handled with gloved hands and disposed of in appropriate containers. Flushable soiled tissues and waste may be flushed in commode, and discarded paper towel, vacuum bags, and sweepings placed in a red biohazard lined waste receptacle. Broken glass should never be picked up with the gloved or bare hand. Instead, tongs or a broom and dustpan should be utilized. Contaminated laundry should be handled as little as possible and with minimal agitation. Soiled laundry should be placed in labeled or color-coded leak proof bags or receptacles that are reused and have a reasonable likelihood for becoming contaminated should be cleaned on a regularly scheduled basis. Equipment such as brooms and dustpans should be thoroughly cleaned with an EPA registered disinfectant.

First clean organic matter, then disinfect and allow to air dry thoroughly before reuse. The CDC recommends an EPA registered germicidal tuberculocide for disinfectant purposes. All contaminated surfaces should first be washed with soap and water and be visibly clean prior to using the disinfectant (Infection Control Today, 2001).

Contaminated surfaces are a major factor in the spread of HBV. The likelihood of indirect transmission from a contaminated surface or object with transfer to the mouth, eyes, or non-intact skin is a risk. The hepatitis B virus can survive dried and at room temperature up to seven days (American Liver Foundation, 2003).

Handling and Disposal of Contaminated Needles/Objects/Sharps

The primary route of exposure to bloodborne pathogens is accidental percutaneous injury caused by needle sticks or some type of sharps. Usually school district employees are limited to the types of sharps that they may encounter in the every day schools setting. Some of these include, but are not limited to, needles, knifes, lancets, blades, scissors, and any other object that may be contaminated with body fluids and so have the potential to puncture the skin.

Used needles should not be recapped, purposely bent, or broken in any manner. Used needles or any contaminated sharps should be placed in a sealed, puncture-resistant container with a biohazard label prominently displayed. The container should be designated specifically for sharps disposal. The containers should then be disposed of according to federal and state regulations.

The sharps containers must be located in each health office and janitorial room of the facility and be replaced when they become full. Caution should be taken not to “overfill” the sharps containers. The containers must be kept in a secure area in the
school, away from students or other person who may have access, accidentally or purposefully.

Personal Hygiene and Eating in the School Setting

In areas where a reasonable likelihood of occupational exposure exists, work practice controls should include restricting eating, drinking, applying cosmetics or lip balm, and handling contact lenses. School employees should refrain from taking part in these activities in health rooms, first aid stations, or in any are where there are contaminated items or risk of exposure to potential bloodborne pathogens. Food and drink should not be kept in refrigerators, freezers, shelves and cabinets, or on countertops or bench tops where blood or other potentially infectious materials are present. Employees should only use their own fingernail files, nail clippers, lipsticks, and toothbrushes and should always wash their hands before and after work, as well as before and after meals, after bathroom use, or whenever necessary.

Specimen Handling/Specimen Containers

Very few specimens are taken in the school setting. However, if an occasion should arise when a specimen needs to be handled (e.g. throat cultures, urine or stool samples), healthcare professional (e.g. school nurse) must collect the specimen under the specific orders of a physician. The following procedure must be followed when handling specimens in the school setting.

- Appropriate personal protective equipment must be worn when obtaining a specimen;
- Specimens of blood or other potentially infectious materials must be placed in a container that prevents leakage during collection handling, processing, storage, and transportation, and the containers must be marked with a red top or labeled with a biohazard warning label;
- If outside contamination of the specimen container occurs, the primary container must be placed in a second container which prevents leakage during handling and is labeled appropriately;
- No mount piping or suctioning of any blood or other body fluids is allowed

Cleaning Contaminated Equipment

Decontamination and cleaning of all equipment and environmental and working surfaces must be completed immediately after contact with blood or other potentially infectious materials. Notify custodians as soon as possible of any accidental blood or body fluid spill. Cover and contain the area affected by using items such as paper towels, chairs, or any items handy as an "alert" with a biohazard label affixed to the item (e.g. saw blades, tools).

Because hepatitis B virus can be viable dried up to one week on surfaces, a broad-spectrum disinfectant should be used (American Liver Foundation, 2003). One should be chosen that is effective in not only disinfecting fungicides and bacteria, but also viruses. The agent chosen should be pH neutral and registered by the Environmental Protection Agency, (EPA) as a tuberculocide.

Carpet Cleaning After Body Fluid Spills

Soiled rugs and carpet should be cleaned and disinfected promptly after blood or body fluid spills. After fluids set and harden, it is difficult to remove the dried fluids effectively without removing the carpet or rub. Complete decontamination of the carpet or rug may be difficult or impossible because of the porous nature of the materials. Manufacturer's directions should be followed when shampooing and disinfecting carpets.

Using a wet vacuum extractor can sometimes effectively clean blood or body fluid spills on rugs or carpeting. An industrial-grade vacuum cleaner can provide 99.9% effectiveness along with a bacteriostatic rug shampoo. To begin, don protective equipment as deemed necessary (e.g. utility gloves, apron, goggles) and apply a commercial sanitary absorbent agent on the soiled area to cover completely. The blood and body fluids are then scraped to the center to avoid spreading the spill, working from the outside edges in. They are scooped up while still wet and disposed of in a plastic bag. The area is then sprayed with a white vinegar solution (1-ounce vinegar to 1-quart of cool water), disinfected with a compatible germicide, followed by an application of bacteriostatic rug shampoo (CDC,2002). The carpet is then brushed and allowed to dry. Wick the area with white paper towels and weights to hasten drying and cordon off the area. Dispose of vacuum bag and disinfect vacuum cleaner.

Routine cleaning schedules should be implemented with frequent dry or wet shampooing of carpets. In the event of blood or other body fluid spill on carpets or rugs, documentation of the cleanup should be maintained. (See Form #6)

Regulated Waste

In addition to effective decontamination of the work area, proper handling of regulated waste to prevent unnecessary exposure to blood and other potential infectious materials is essential.

The Occupational Safety and Health Administration defines regulated waste as "liquid or semi-liquid blood or other potentially infectious material; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials."

Regulated waste is to be placed inside containers clearly labeled biohazard. The containers used to store regulated waste must be closable and suitable to contain the contents and prevent leakage of fluids. A biohazard container should be located in each health room and custodial closet and any other site the administration deems appropriate, in the event there is need to dispose of contaminated materials. The custodial staff should be aware of placements of these biohazard containers and empty and disinfect them each day.

Containers designed for contaminated sharps also must be puncture resistant and durable. The sides and the bottom must be leak proof and must be labeled or color-coded red to ensure that everyone knows the contents are hazardous. Sharps containers must have a lid, and they must be maintained upright to keep liquids and sharps inside.

Containers are to be strategically placed (e.g. nurse's office, custodian's room), accessible, and visible to all who should use them. The containers must be replaced routinely and not be over filled as that increases the risk of needle sticks and cuts.

In general, there will be few items deemed regulated waste in the school setting (e.g., emesis absorbent material, blood soaked gloves, masks, gowns, sharps). If a material is saturated to the point of dripping or would release fluids if compressed, then it would be considered regulated waste. Most items contaminated in a school setting are Band-Aids, bandages, gauze sponges, and facial tissues soiled with blood or other potentially infectious material. These substances can be placed in a designated trash container with color-coded liner for disposal of contaminate articles not meeting the definition of regulated waste. Policies for defining, collecting, storing, decontaminating, and disposing of regulated waste are generally determined by schools accordance with federal, state and local regulations.

Hazards Communication

Florescent orange or orange-red warning labels should be attached to containers of all regulated waste and other containers used to store or transport blood or other potentially infectious materials. These labels are not needed when red bags or red containers are utilized. These preventive measures are intended to eliminate or minimize the risks of occupational exposure.

PERSONAL PROTECTIVE EQUIPMENT

Using personal protective equipment (PPE) in schools adds another layer of insulation between being protected and being at risk for exposure to bloodborne pathogens. The kind of PPE appropriate for the assignment can vary with the task performed and the exposure expected. In schools, such equipment can include, but is not limited to, gloves (both disposable and utility), gowns, lab coats, aprons, facemasks, eye goggles, and resuscitation masks. Personal protective equipment is considered suitable only if it does not permit blood or other potentially infectious materials to pass through or reach the employees' work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

Under the bloodborne pathogen standard, school districts are required to provide, at no cost to the employee, personal protective equipment. The PPE must be accessible and provided in the correct size. If the employee notes an allergic sensitivity to latex or powder, hypoallergenic gloves or other similar alternative must be made available. The school district is also responsible for maintaining the personal protective equipment by means such as cleaning, laundering, repairing or replacing as needed for ensuring that the PPE is used properly. Suitable personal protective clothing is to be worn whenever the risk of occupational exposure to body fluids or other potentially infectious materials is anticipated.

There are three levels of protection endorsed for school employees to reduce the occupational exposure to body fluids or other potentially infectious materials. These are intended to be the minimum requirement for infectious materials. Because the risk of exposure varies for each individual or task, each situation should be carefully individualized to determine the best level to be utilized. A model "Pyramid of Protection" is found in *Appendix C.*

If there is a risk of exposure to blood or other potentially infectious materials, the school employee must wear personal protective equipment, depending on the degree of risk associated with the exposure. The following PPE can be required in the school setting.

Level I	Gloves- both disposable (single use) and utility
Level II	Gloves, fluid repellent gowns, aprons, and lab coats
Level III	Gloves, facemasks, eye protection, and the appropriate clothing listed in Level II
Other PPE	Resuscitation masks

Level I

Disposable gloves should be a standard component when providing care in our schools. All personnel should don the gloves whenever it can be reasonably expected that an exposure to blood or other potentially infectious materials, mucous membranes, non-intact skin, or contaminated surfaces is imminent.

Single use gloves cannot be washed or decontaminated and should be replaced as soon as practical when they become contaminated or as soon as feasible if they are torn, punctured, or their ability to function as a barrier is compromised. They should be discarded after use in an appropriate receptacle. Utility gloves should be worn when handling contaminated materials or cleaning contaminated surfaces or tools. Utility gloves can be decontaminated for reuse in the event the entirety of the glove is not compromised. They are to be discarded if they are cracked, peeled, torn, or punctured, they exhibit other signs of deterioration, or their ability as a barrier is compromised.

Assignments that may require **Level I Protection** of single-use gloves:

- Minor wound care of dressing changes
- Blood glucose monitoring
- Injections
- Topical medications
- Cauterization
- Diapering/toileting
- Emesis cleanup
- Tooth brushing/oral care
- Changing ostomy bags
- Cleaning nose/mouth secretions
- Feeding (oral or gastrostomy)
- Suctioning
- Changing menstrual pads and
- Oral temperatures

Assignments that may require **Level I Protection** of utility gloves:

- Cleaning body fluid spills
- Emptying trash cans
- Handling sharps/containers
- Handling discarded contaminated materials/regulated waste
- Cleaning/sweeping up contaminated broken glass/sharps, and
- Handling contaminated laundry

Level II

Repellent gowns, aprons, and gloves should be worn when there is an expectation of exposure to body fluids or other potentially infectious materials to clothing and skin from splashes, sprays, and splatters. Situations may vary and the clothing may change with the nature of the task.

Assignments that may require **Level II Protection**:

- Changing pads from uncooperative mentally impaired student
- Diapering/toileting with gross contamination
- Wound care for a combative child
- Sorting or bagging contaminated laundry
- Disposing of regulated waste with gross contamination
- Diapering, toileting, feeding, suctioning, and general, and cleaning of students with little or no impulse control

All personal protective equipment should be removed immediately following contamination and upon leaving the area. It should be placed in the designated receptacle for storage, washing, disposal or decontamination.

Level III

There should not be many situations where a **Level III Protection** would be warranted in the school setting. However, there may be incidents in which body fluids or potentially infectious materials could come in contact with the face, nose, or eyes. In these instances, maximum protection should be utilized by donning face/eye protection as well as fluid repellent gown and utility gloves. Assignments that may require **Level III Protection**:

- Feeding a child with a history of spitting, or forceful vomiting, or coughing
- Suctioning tracheotomy with history of forceful coughing or copious secretions
- Assisting with severe injury and wound with spurting blood

Resuscitation Masks (CPR)

Pocket masks and mechanical emergency respiratory devices are used as a barrier from saliva, vomitus, or other potentially infectious body fluids when giving CPR. They should be easily accessible for emergency situations. It is imperative that the pocket masks and other respiratory devices contain a one-way valve to prevent possible exposure to body fluids to either rescuer or victim.

There are single-use disposable CPR masks available, such as AMBU Res-Cue Key. These devices have a one-way valve and are easy to access as they are packaged in a key chain case or nylon pouch. They are available through school nurse and medical equipment catalogs. There are distinct advantages to using the disposable masks. They are (1) compact, (2) easy to use, and (3) can be used with all ages (birth to adult), as well as for persons with stomas.

HOUSEKEEPING GUIDELINES

Everyone is responsible for a clean and sanitary school environment, since it protects all of the staff and the students. Keeping the work areas clean reduces employee risk to bloodborne pathogens. The custodial staff has the principle task of maintaining a sanitary climate. The following is a procedure for handling body fluid spills (e.g. blood, urine secretions, vomit, saliva, feces, pus, semen, and vaginal secretions).

Equipment Needed for Proper Clean-Up and Disinfection:

a) "caution" or "wet floor" signs/cones
b) Mop bucket
c) Wet mop
d) Disposable and utility gloves
e) Dust pan
f) Counter brush
g) Measuring cup
h) Sponges
i) Vacuum cleaner (tank type)
j) Spray bottle
k) Biohazard receptacle or color-coded (red) containers
l) Broom
m) Tongs

Supplies needed:

1) Registered EPA germicidal, tuberculocide disinfectant
2) Quick absorbent products
3) Color-coded plastic bags
4) Absorbent towels
5) Cleaning rags
6) Apron and/or gown
7) Eye protection/goggles

The above equipment and supplies should be on hand in the custodian's closet for emergency use and restocked as needed.

Procedures for Cleaning Body Spills on *Washable Surfaces*:

- Wear disposable or utility gloves, and
- Clean and disinfect all hard, soiled, washable surfaces immediately, cleaning with soap and water and removing contaminates before applying disinfectant.

For Small Spills:

- Use paper towels or tissues to wipe up soiled areas
- After soil is removed, use clean paper towels, soap and water to clean area
- Dispose of paper towels in a plastic bag
- Disinfect area

For Large Spills:

- Apply commercial sanitary absorbent agent on soiled area
- After soil is absorbed, sweep all material into a plastic bag, taking care not to create any dust emissions
- Disinfect area with clean mop
- Disinfect map and bucket

Procedures for Cleaning Body Spills on *Carpet/Rugs*:

- Use hospital or industrial equipment and follow manufacturer's directions for shampooing and disinfection
- Apply commercial sanitary absorbent agent on soiled area
- After soil is absorbed but still wet, sweep the spill toward the center of the spill, picking up the contents in a dustpan and disposing of in a plastic bag
- Vacuum with either wet vacuum extractor or a vacuum cleaner with high efficiency filter.
- Spray the area with a white vinegar solution (1-ounce vinegar to one quart cool water) blot the area repeatedly with white paper towels
- Rinse the area with clean cool water
- Disinfect area with a compatible disinfectant
- Apply a bacteriostatic rug shampoo
- Disinfect vacuum cleaner, dust pan and brush

If a hospital or industrial-grade vacuum cleaner is not available:

- Apply a commercial sanitary absorbent agent on soiled area
- Carefully scrape or scoop into plastic bag while still wet
- Disinfect area with a compatible disinfectant
- Apply a bacteriostatic rug shampoo
- Brush and allow to dry
- Vacuum area

Procedure for Cleaning and Disinfecting Equipment:

- Clean and decontaminate all equipment and environmental surfaces as soon as possible after contact with blood or other body fluids
- Use a registered EPA approved germicide
- Remove and replace protective coverings such as plastic wrap and aluminum foil when decontaminating
- Inspect and decontaminate, on a regular basis, reusable receptacles such as bins, pail and cans that have the likelihood for becoming contaminated
- Always use mechanical means such as tongs, or brush and dustpan to pick up contaminated sharp; never pick up with hands even if gloves are worn
- Place contaminate sharps in infectious wastes in designated containers
- Handle contaminated laundry as little as possible and with minimal agitation
- Use appropriate personal protective equipment when handling contaminated laundry
- Discard all regulated waste according to federal, state, and local regulations

Cleaning Schedule

A written schedule should be adopted for cleaning and decontamination of areas that may be susceptible to contamination with bloodborne pathogens. These rooms may include, but are not limited to, health rooms, bathrooms, and self-contained special education classrooms. (See Form #6)

Hepatitis B Vaccination

Employees who are at risk for occupational exposure to blood or other potentially infectious materials must be offered the hepatitis B vaccination series at no cost and given within 10 working days of initial assignment. Contraindications to the vaccine are for those employees who have an allergy to yeast, thiomersal, who have had a previous hepatitis B infection, or who are currently undergoing immunosuppressive therapy. There has been documentation that the use of hepatitis B vaccine has reduced the prevalence of HBV since the vaccine was introduced (Poland, A. 2005).

Hepatitis B vaccine prevents both HBV infection and hepatitis B disease and has been available since 1982. Typical vaccination schedules are at 0, 1st month and 6th month intervals. The 0, 1-and 6-month vaccination schedule is preferred for routine pre-exposure prophylaxis. The four-dose schedule may be preferred, however, for the immuno-compromised or for post-exposure prophylaxis (Grotto, I 1998). According to the Centers for Disease Control, immunity is almost complete in those individuals who test positive for hepatitis B antibodies after the completed vaccination schedule.

One in nine do not sero-covert, and this includes recipients over the age of 50 and immuno-compromised persons, such as those receiving dialysis. In that case, the 3-dose series should be repeated and then tested for the anti-HBs 1-2 months after the last dose of the vaccine. If the person is still negative after the second vaccine series, the person is considered a non-responder to the hepatitis B vaccination (Immunization Action Coalition, 2005).

Results of long-term studies show that the three-dose series of hepatitis B vaccine provides immunologic memory and adequate antibody protection for up to 18 years (Clinical Gastroenterology, 2004). Boosters are not recommended at the present (American Liver Foundation, 1999).

The hepatitis B vaccine has been shown to be very safe when give to infants, children or adults. The vaccine is given in the upper deltoid muscle. Some possible adverse side effects from the vaccine include dermatologis, rheumatic, vasculitic, ophthalmologic, hematologic, and neurologic reactions (Poland, G., 2004). However, the most common reactions are pain at the injection site and alopecia.

The school staff member may decline the vaccination. However, if they do, they must sign a declination form (see Form #3). The employee may request and obtain
the vaccination later and at no cost if the individual continues to be exposed. If the school employee has previously received the vaccination series, a copy of the information is submitted to the exposure control officer and maintained in the employee's confidential medical records.

Exposure Incident

An exposure incident is contact with blood or other potentially infectious materials that may include mucous membranes, non-intact skin, or parenteral contact that results from the performance of an employee's duties.

When a school employee incurs an exposure incident, it should be reported as soon as possible to the exposure control officer and the school nurse. This is important because post-exposure prophylaxis (PEP) for HIV is most likely to be effective if implemented as soon after the exposure as possible. All employees who incur an exposure incident will be offered post-exposure evaluation and follow-up in accordance with the OSHA standard. The following steps will be taken once an employee has reported an exposure incident:

1. Detailed information concerning the exposure incident will be given by the exposed employee to the designated exposure control officer, documenting the date and time of exposure, details of the procedure being performed, details about the exposure source, if known, route of exposure, and any circumstances related to the incident (see Form #4).

2. The exposed employee must sign a consent form for permission to release and exchange information with the exposed employee's medical provider
(See Form #7)

3. If at all possible, the identification of the source individual and, the status of the source individual should be obtained. The blood of the source individual will be tested (after consent is obtained) for HIB/HBV/HCV infectivity (see Form #5). It must be noted that the results of the source individual's tests cannot be relied on

solely. It is prudent to remember that HIV antibodies may not be detectable for a window of 6-12 weeks.

4. Direct the exposed employee to a healthcare professional at the time of the exposure incident for evaluation and to determine the need for HIV PEP. Follow-up for HBV and HCV infections also should be conducted. The exposure control officer must provide the healthcare professional with a copy of the bloodborne pathogens standard, a description of the employee's job duties as they relate to the incident, and a report of specific exposure, including date and time of exposure, and relevant employee medical records, including hepatitis B vaccination status.

5. If a severe exposure occurs involving (1) a known infected individual or (2) copious amounts of blood or other infected materials, or (3) if the exposed person is pregnant or suspected to be resistant to antiretroviral drugs, the Center for Disease Control (CDC) has new recommendations for post exposure prophylaxis. Examining physician will determine the appropriate course of action needed.

6. The exposed employee will be given appropriate counseling concerning precautions to take during the period after the exposure incident. The employee will also be given information on what potential illnesses to be alert for and instructions to report any related experiences to appropriate personnel.

7. The exposure control officer shall obtain and provide the employee with a copy of the healthcare professional's written opinion within 15 days of the completion of the evaluation. The healthcare professional will be instructed to limit their opinions to:
    a) whether the hepatitis B vaccine is indicated and if the employee has received the vaccine, or for evaluation following the incident;
    b) whether the employee has been informed of the results of the evaluation; and
    c) whether the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials. All other findings or diagnoses will remain confidential and will not be included in the written report.

Employee Training Information

Training for all employees who may be at risk for occupational exposure to bloodborne pathogens should be (1) conducted prior to initial assignment to a task where exposure may occur, (2) provided at no cost to the school personnel, (3) transacted during working hours, and (4) conducted at least once a year thereafter. Additional training may be needed when tasks are modified or new tasks that involve occupational exposure to bloodborne pathogens affect the employee's exposure. A suggested list of job classifications for employees at risk for occupational exposure to bloodborne pathogens in the school setting are listed on page 10.

The person conducting the training must have knowledge of the subject matter, the information provided must be appropriate in content and vocabulary to the educational level, literacy, and language of the audience addressed. An acceptable training will contain the following elements:
A copy of or information on how to obtain the OSHA standard for bloodborne pathogens regulations;

- Information on the epidemiology and symptoms of bloodborne disease;
- Modes of transmission of bloodborne pathogens;
- An explanation of the exposure control plan, including points of the plan, lines of responsibility, how the plan will be implemented, etc, and where it is located;
- Information on how to recognize tasks that might result in occupational exposure;
- A list of control measures and work practices which will be used in school to control exposure to blood or other potentially infectious materials;
- Information concerning personal protective equipment available at the school, including the types, selections, proper use, location, removal, handling, decontamination, and disposal;
- Information on hepatitis B vaccination, such as safety, benefits, efficacy, methods of administration, and availability;
- Post-exposure evaluation and follow-up, including information on whom to contact and what to do in an emergency
- Information on warning labels, signs and color-coding; and
- Question and answer session on any aspect of the training.

This information and training may be conducted using a variety of learning modes, videotapes, written material, and lecture material. In most cases the exposure control officer or the school nurse would be responsible for training.

Record Keeping

The bloodborne pathogen standard requires that two types of records be kept for school employees who sustain an occupational exposure to blood or other potentially infectious materials: medical and training.

The medical record is confidential and separate from other personnel records. It may be kept in the medical file housed in the superintendent office or may be retained by the health care professional that provides services to the employees. The medical records should contain the employee's name, social security number, hepatitis B vaccination status, including the dates of vaccination, and any medical records relative to the employee's ability to receive the vaccination.

If an occupational exposure incident should occur, results of examinations, medical testing, and post-exposure evaluation and follow-up procedures as well as the health care professional's opinion and a copy of the information provided to the medical professional is to be included. The medical records must be kept confidential and maintained for at least the duration of the employee's tenure at the school, plus 30 years.
The training records are also to be retained and kept for three years from the date on which the training occurred and must be available to OSHA upon request. They should include (1) the dates of the training sessions and the content, (2) the name and qualifications of the person presenting the training, and (3) the names and job titles of all those attending the training. The forms can be found on pages 32 and 33 (*Forms 1 and 2)* may be used to document the training sessions.

Upon request, both the medical and training records must be made available to the Assistant Secretary of Labor for OSHA. The training records must also be made available to the school employee upon request. The medical records can be accessed by anyone if the employee gives written consent.

Appendix A

PROPER HAND WASHING TECHNIQUE

HANDS SHOULD BE WASHED

Before:

EATING

After:

USING THE TOILET

DIAPERING OR ASSISING WITH PERSONAL HYGIENE

ANY CONTACT WITH BLOOD, BODY FLUIDS, OR SOILED OBJECTS

1. Wet hands with running water.
2. Apply soap and lather well. Liquid soap is preferred.
3. Wash hands, using a circular motion and friction for 15-30 seconds. Include the front and back surfaces of the hands, between the fingers and knuckles, and around the nails and entire wrist. Wash under jewelry as well.
4. Rinse the hands well under warm running water.
5. Dry the hands well with paper towels, turn off the water faucet with a paper towel, and discard the towels.
6. Apply lotion as desired.

Exposure Control Plan

Appendix B

PROPER GLOVE REMOVAL TECHNIQUE

Just as important as donning gloves is for protection against bloodborne pathogens and other potentially infectious materials, it is equally important to remove gloves in a safe manner to avoid contamination.

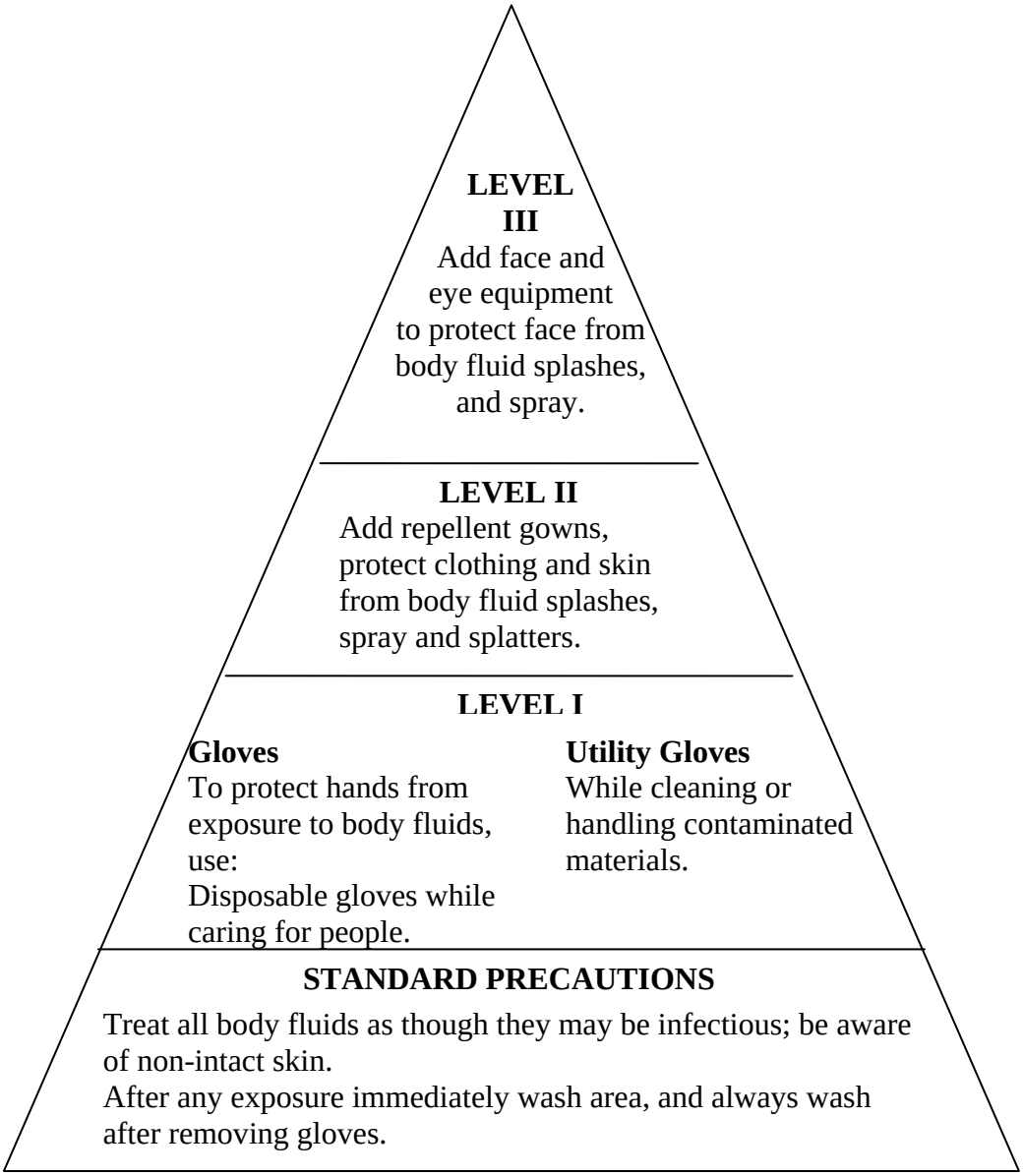
TO REMOVE SOILED GLOVES WITHOUT TOUCHING
CONTAMINATED SURFACE WITH BARE HANDS:

1. With both hands gloved, pinch palm of glove on one hand and pull down off fingers. Form that glove into a ball and hold in fist of gloved hand.

2. Insert two fingers of the ungloved hand under the inside of gloved hand on palm side.
3. Push glove inside out and down onto fingers and over gloved hand.
4. Grasp gloves that are now together and inside out.
5. Discard gloves and any used first aid material in the appropriate designated waste receptacle.
6. Wash hands. Remember wearing gloves is not a substitute for good hand washing.

Appendix C

PYRAMID OF PROTECTION FOR SCHOOL SITES



Appendix D:

Annual Review of Exposure Control Plan

Madison Public School District

The Exposure Control Plan has been reviewed on this date:
Reviewed by:

Name/Position

Name/Position

Name/Position

New tasks and procedures which affect occupational exposure:

Annual evaluation of available engineering controls, including engineered safer Needle devices:

Modification of former tasks and procedures which affect occupational exposure:

New or revised employee positions with occupational exposure:

Appendix E:

Resources:

Champion, RN, MSN, C.S.N., Caroline (2005), Occupational Exposure to Bloodborne Pathogens
Implementing OSHA Standards in a School Setting, National Association of School Nurses, Inc., Castle Rock, Colorado

Internet Resources:

Centers for Disease Control (CDC):
General site: http://www.cdc.gov
Hepatitis B Virus (HBV): http://www.cdc.gov/epo/mmwr
Hepatitis C Virus (HCV): http://www.cdc.gov/epo/mmwr
Occupational Safety and Health Administration (OSHA):
General site: http://www.osha.gov
OSHA Regulations & Compliance links: http://www.osha,gov/comp-links.html
Federal Register: http://www.access.gpo.gov/nara/index.html

Exposure Control Plan

FORM #1

BLOODBORNE PATHOGEN TRAINING RECORD

1. Trainer Name:

   _____

2. Trainer Qualifications:

   _____

   _____

3. Date of Training Session:

   _____

Summarize the content of the training session:

_____

_____

_____

_____

_____

_____

_____

_____

Exposure Control Plan

Form #2

ATTENDANCE AT TRAINING SESSION

Name:	Date:	Job Classifications:

Exposure Control Plan

FORM #3

HEPATITIS B VACCINATION DECLINATION STATEMENT

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 read the attached important information form for HBV vaccine. I have been given the opportunity to be vaccinated with the hepatitis B vaccine at no charge to my self. However, I decline hepatitis B vaccination at this time. I understand that by declining the vaccine, I continue to be at risk of acquiring hepatitis B virus. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with the hepatitis B vaccine, I can receive the vaccination series at no charge to myself.

Employee Signature _____

Date _____

Job Title _____

Witness _____

Date _____

Witness Job Title _____

Exposure Control Plan

FORM #: 4

EXPOSURE INCIDENT REPORT

Employee Name _____

SS Number _____

Job Title _____

Building Assigned _____

Date of Incident _____

Date Incident Reported _____

Time of Incident _____

Date Incident Reported _____

Dace Exposure Control Officer Notified _____

Initials of Exposure Control Officer _____

Today's Date _____

Description of incident (including time of exposure, route, circumstances

_____

_____

_____

Identification of Source _____

First Aid Given_____

Signature of Employee _____

Date_____

Signature

Exposure Control Plan

Form #5

SOURCE INDIVIDUAL CONSENT FOR BLOOD TESTING

Use of this form may require knowledge of stat laws regarding source individual testing.

I hereby authorize an exchange of information to occur between the three agencies/persons listed below and the exposed individual. I realize that my child or I have been identified as a source individual where an employee may have been exposed to blood or other potentially infectious body fluids.

1. School District name and Address:

   _____

   _____

   _____

2. Exposed Employee's Health Care Provider:

Name_____

Phone_____

Address_____

Source Individual's HealthCare Provider:

Name_____Phone_____

Address_____

I am aware of the risks to the exposed employee; and I have agreed to blood testing to be performed for HBV, HCV, and HIV, I have been informed that by consenting to this testing, ***the test results will be only released to the exposed employee's medical provider and implications with the employee.***

Student Name_____

Birthdate_____

Signature Parent/Guardian

_____

Date_____

Exposure Control Plan

Form 6

CLEANING SCHEDULE FOR BLOODBORNE PATHOGENS EXPOSURE AREAS

Area/Size	Date	Time	Staff

Method of Decontamination

_____

_____

_____

_____

_____

_____

_____

Exposure Control Plan

Form 7

CONSENT FOR RELEASE OF MEDICAL INFORMATION

I hereby authorize any exchange of information to occur between my physician and/or hospital ant the exposure control officer listed below as it pertains to the exposure incident and myself.

School District Name, Exposure Control Officer and Address:

_____

_____

_____

_____

_____

Employee's HealthCare Provider:

Name _____

Phone _____

Address_____

Employee Signature_____

Date _____

Physician Signature_____

Date_____