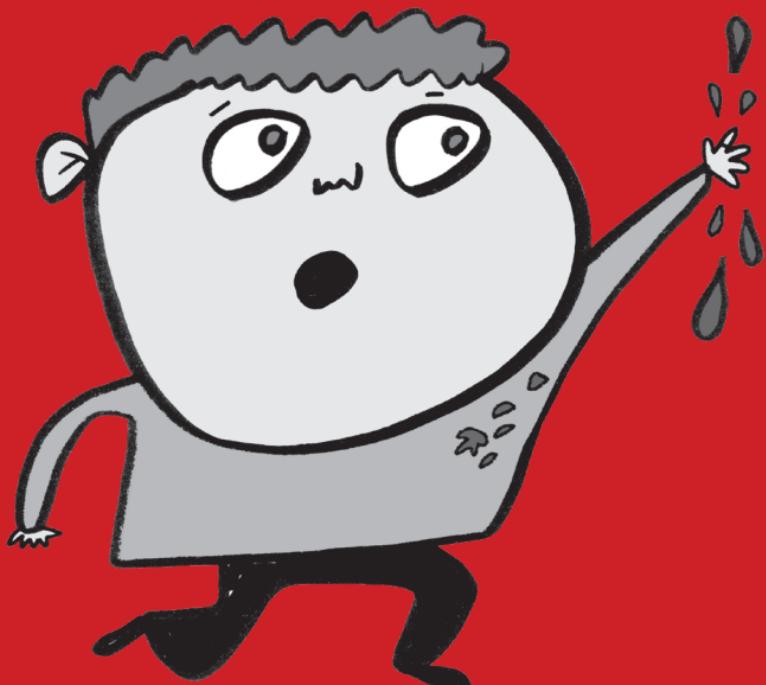


the redbook.

*Exposure to Blood and Bodily Fluids on the Job:
What School Employees Need to Know*

OUCH!

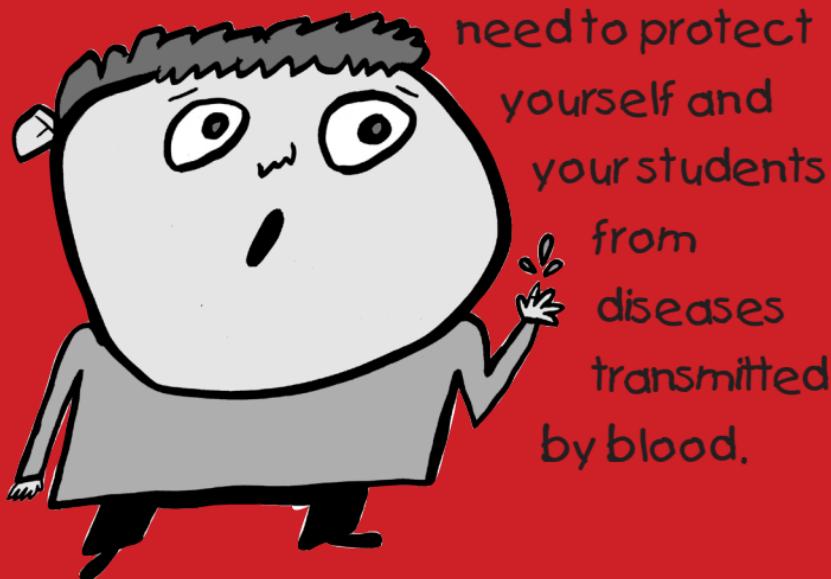


The
N E A
Health Infor-
mation Network

(NEA HIN) is the non-profit arm of the National Education Association (NEA). The NEA is the nation's largest independent membership and labor association, representing more than 3.2 million education employees. Since 1987, NEA HIN has provided health and safety information, materials, programs, and services to NEA members. Our mission is to improve the health and safety of the school community by developing and disseminating information and programs that educate and empower school professionals and positively impact the lives of students. Funding for the first editions of the Red Book were made possible through cooperative agreements with the Centers for Disease Control and Prevention. This edition is made possible with funding from the NEA HIN Ryan White Fund through the generosity of NEA members.

Updated June 2010

James has cut his finger ...and there is blood everywhere. You rush to help. As a school employee, what do you need to know about blood and disease to make sure that both you and James are safe from infection? What should you use to clean his cut? This handbook will provide information and resources that you



need to protect yourself and your students from diseases transmitted by blood.

INTRODUCTION



**When you heard
James' cry for help,
your first instinct
was to rush to
his aid.**

What should have been your second instinct? To grab a pair of gloves or, if they weren't readily accessible, to use something else — like a plastic bag or piece of clothing to create a barrier between your skin and James' as you cleaned his cut and applied pressure to stop the bleeding.

This booklet contains the basic information that you — the school employee — need to know about the hazards of contact with blood and body fluids on the job. What are your risks? Your responsibilities? Your rights? How can you make sure that neither you, nor your co-workers, nor your students are exposed to infections? This booklet will answer these questions and provide tools and tips to share with your co-workers, family, and friends.

Many school personnel can reasonably expect to come in contact with blood and other body fluids when at work — whether in the classroom, on the playground, on the playing field, or on the school bus. That's why it is important for all school employees to understand the danger of exposure to infections and ways to minimize their risk.

BLOOD IN THE SCHOOL ENVIRONMENT

Blood carries viruses and bacteria. If infected blood gets into another person's bloodstream, that person can also become infected and might get sick. Usually, the body's immune system can defend us from illness. But, some of these infections can result in serious, life-threatening diseases.

What is an occupational-exposure incident?

It's a situation in the workplace when blood or other potentially infectious body fluids come into contact with your eyes, skin, or mucous membranes, or when you have *parenteral* contact with blood (piercing of the skin or mucous membranes by a needle or sharp instrument, human bites, cuts and abrasions).

If James' blood got into your eyes, mouth, or a cut on your skin — or if your blood got into James' cut — there was an exposure.

FACT:

Viruses carried by blood are known as bloodborne pathogens.

Bloodborne =

found in blood.

Pathogen =

disease-producing microorganism.

Bloodborne

pathogens may be present in blood and other materials, such as body fluids containing visible blood, semen and vaginal secretions, broken skin, or saliva. Bloodborne pathogens can cause infection by entering your body through:

- open cuts and nicks
- skin abrasions
- dermatitis
(if skin is broken)
- acne
- mucous membranes
of your mouth, eyes, nose, or vagina

Mucous

membranes =

the moist layer of tissue lining passages and cavities of the body with contact to air, (except the ears).

FACT:

Hepatitis =

Inflammation (swelling) of the liver.

Approximately 5 million people in the U.S. have hepatitis. Excessive alcohol use, certain chemicals or drugs, and viruses can cause the disease.

Did you know?

HBV is 50 to 100 times more infectious than HIV and can be passed through the exchange of body fluids, such as semen, vaginal fluids, and blood. HBV is **not** spread by casual contact, such as shaking hands or sharing bathroom facilities, and you cannot get it from water or food.

THREE VIRUSES

This section illustrates the causes, symptoms, and ways to prevent the three viruses of greatest concern to school personnel: **hepatitis B, hepatitis C, and HIV.**

For information on other kinds of hepatitis, contact the organizations listed in the Resource section or your local public health department.

Hepatitis B

What does hepatitis B do?

Hepatitis B is a serious, sometimes fatal disease that infects and damages the liver.

How is hepatitis B contracted?

The hepatitis B virus (HBV) is transmitted through direct contact with infected blood, semen, vaginal fluid, or saliva. It is spread primarily through sexual contact. HBV can be transmitted by sharing needles or razor blades with an infected person, and *perinatally* from a woman to her baby either in utero (while the fetus is developing in her uterus) or during childbirth.

For a susceptible person, the risk from a single exposure to HBV-infected blood ranges from 6 to 30%.

The hepatitis B virus can be transmitted indirectly because it can survive in dried blood on

Carl the custodian keeps the school running –

making sure buildings get cleaned, roofs don't leak, and equipment is fixed. If there's an accident, Carl is the one who cleans it up. He knows the proper procedures and guidelines for handling a blood spill – and has access to bio-hazard bags and containers to properly dispose of potentially infectious waste. He always uses his gloves on the job and makes sure he and everyone else stays protected.

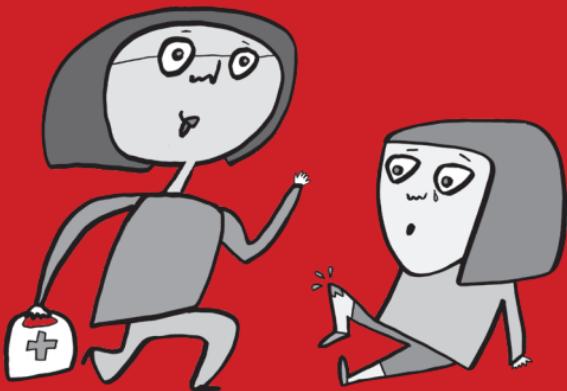


Nancy is a School Nurse

who divides her time between two schools. She knows that it is important for all staff members to be prepared if a student is bleeding, vomiting, or has a productive cough. She practices universal precautions. She wears gloves when directly contacting body fluids and uses other safety equipment when needed.

Nancy also helps to educate school employees.

In some schools, the nurse helps track who needs to be protected with vaccinations for hepatitis B. The school nurse is important to work with on any health education program.



hard surfaces and at room temperature for at least a week! So cleaning contaminated surfaces is very important in the prevention of HBV.

What are the symptoms of hepatitis B?

Symptoms of hepatitis B may include fatigue, loss of appetite, nausea, vomiting, stomach or joint pain, tenderness near the liver, jaundice (yellow eyes and skin), dark urine, and light-colored stools. However, these symptoms are rarely detected and patients often do not seek medical care or testing.

How common is hepatitis B?

In 2007, there were 43,000 new infections and an estimated 3,000 to 4,000 HBV-related deaths reported in the U.S., compared to 42,655 new HIV infections that year. One in 200 people has chronic HBV infections. The highest rate of HBV continues to be among adults, particularly those 20 to 49 years old.

Hepatitis C

What does hepatitis C do?

Hepatitis C (HCV) is serious and often fatal, caused by a virus that infects and damages the liver.

How is hepatitis C contracted?

HCV is primarily transmitted by blood-to-blood contact. Currently intravenous drug use (IDU) with shared, unsterilized equipment, accounts for 68% of new HCV infections.

What are Universal Precautions?

The term “universal precautions” refers to an approach to infection control that treats all body fluids as if they are infectious. This means that you should use gloves and other protective equipment whenever there is a risk of exposure to blood or other body fluids *regardless of whether you think a person is infected or not.*



FACT:

Hepatitis C is not spread by casual contact, such as shaking hands or sharing bathroom facilities — and you cannot get it from water or food.



According to the CDC, the chance of HCV infection from occupational exposure to blood is 1.8%. Although the risk of transmitting HCV through sexual contact appears to be low, precautions should be taken.

What are the symptoms of hepatitis C?

Approximately 70%-80% of people with acute Hepatitis C do not have any symptoms. If symptoms do occur, the average time is 6-7 weeks after exposure, but this can range from 2 weeks to 6 months. Some of these symptoms include: fever, fatigue, nausea, vomiting, loss of appetite, abdominal pain, dark urine, and joint pain.

How common is hepatitis C?

Up to 180,000 people in the U.S. may become infected with HCV each year. About 10,000 people die from HCV every year, and this number is expected to triple in the next decade.

HIV/AIDS

What does HIV/AIDS do?

HIV (Human Immunodeficiency Virus) attacks the body's immune system causing a person to become vulnerable to infection. Someone who is infected with HIV can remain healthy for a long time. But eventually the immune system is weakened and that person may develop other diseases or opportunistic infections. When this happens, a person is diagnosed with **AIDS (Acquired Immune Deficiency Syndrome)**

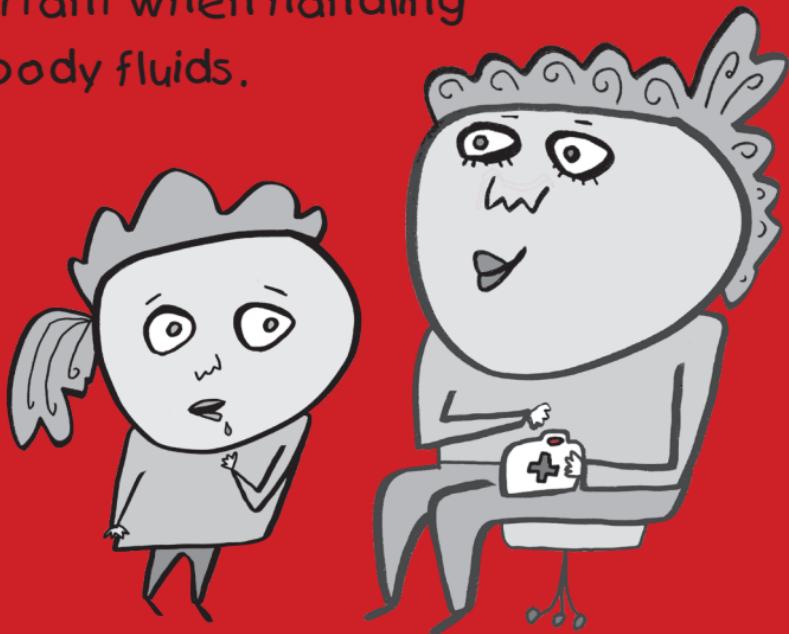
Bob the Bus Driver is often the first school employee who children see in the morning. His job is to drive the school bus safely and be responsible for the students who ride with him. Frequently, Bob is the only adult on the bus.



So if a student has a health problem, Bob needs to know the district guidelines on how to respond. Also, if a student gets hurt or has a bloody nose, Bob needs disposable gloves on the bus so that he can minimize the risk of blood exposure.

Chris the Clinic Assistant

staffs the health clinic – sometimes alone, other times with a school nurse. Chris is trained in first aid, CPR, and other medical procedures. Chris knows that universal precautions are important when handling any body fluids.



The Clinic Assistant can be a good resource to help plan a bloodborne pathogen training workshop.

How is HIV/AIDS contracted?

HIV is transmitted mainly through unprotected sex and sharing needles (blood-to-blood contact).

HIV can also be spread by contact with infected blood and body fluids. Some health-care workers have contracted HIV from a needle that contained infected blood — but the risk of transmission from a contaminated needle is very rare and estimated to be 0.3 %.

HIV can be transmitted *perinatally* from a woman to her baby in utero (while the fetus is developing in her uterus), during childbirth, or through breastfeeding.

What are the symptoms of HIV/AIDS?

Some people who become infected with HIV experience mild flu-like symptoms within the first few months after exposure. As the body's immune system breaks down (over an average of eight to 10 years), some people develop more severe symptoms and infections.

Currently, there is no vaccine for HIV. Drug treatments are available, but they are expensive and not effective for everyone.

How common is HIV/AIDS?

CDC currently estimates that there are more than 1.1 million people living with HIV in the U.S. In 2007 alone, roughly 42,655 new HIV infections were reported. On average, someone in the U.S. is infected with HIV every 9 1/2 minutes.

FACT:

To date, there have been no reported cases of HIV-transmission in a school setting, even when contact with blood and body fluids has occurred.

HIV is NOT transmitted by casual contact.

You cannot get HIV by touching or working with people who are HIV-positive. You cannot get HIV from mosquitoes, toilet seats, sharing utensils, or kissing.

Did you know?

**Over 1 million
cases of AIDS have
been reported in
the U.S.** since the beginning of the epidemic in 1981. More than 14,000 people die of AIDS each year in the U.S.

TIP:

Protection & Prevention:

All education employees should know where first-aid kits are located and where to report any incident involving blood exposure.

You can find out if your state is covered by OSHA or has adopted similar standards by contacting your local, county or state health department or the regional OSHA office.



Protection & Prevention

Hepatitis B, hepatitis C and HIV infection are preventable!

- Practice universal precautions and follow an Exposure Control Plan in the workplace.
- Use barriers like condoms during sex to avoid contact with semen and vaginal secretions.
- Do not share needles.
- If getting a tattoo or body-piercing, make sure staff wear gloves and follow proper procedures for cleaning instruments.
- Do not share toothbrushes or razors.
- Get the hepatitis B vaccination.

Policy

Public employees in many states are covered by the Bloodborne Pathogen Standard, developed in 1991 by the Occupational Safety and Health Administration (OSHA). The OSHA standard provides guidelines for protection from exposure to blood and body fluids on the job for all workers who “reasonably anticipate” contact with blood. Not all states ratified the OSHA standard. Some states have adopted their own policies that protect employees. Some counties and cities have passed executive orders or legislation if the state has not.

Florence the Food Service Worker is the friendly face that students see when they get meals at school. She tries to make sure that kids have nutritious food. It is critical that she washes her hands after using the bathroom and wears gloves while serving food.

Florence and other food-service employees should be trained on the risks of transmitting viral and bacterial infections, including hepatitis A.



TIP:**Handwashing:**

Handwashing works and should be the first method of protecting against the spread of disease. Use hand sanitizer when soap and water are not available.

The proper way to wash your hands is to lather with soap and rub hands vigorously under running water for at least 15 to 20 seconds. Then, rinse hands and dry completely with a paper towel. Use that towel to turn off the water.

**TIP:****Careful hand washing after using the bathroom**

and before preparing food helps reduce the transmission of hepatitis A.

According to OSHA, every school district should have a workplace policy on HIV/AIDS. Policies provide employees, students, and their families guidance on confidentiality, proper procedures, and protection — and help prevent controversy. School employees should be trained each year on the policy. To find out about your school district's policy, contact your school nurse, principal, and/or district office.

OSHA offers free assistance to school districts to develop workplace policies that include a free, on-site safety and health consultation. For more information on the on-site consultation program visit: www.osha.gov/dcsp/smallbusiness/consult.html.

Some local NEA affiliates have needed to file grievances with OSHA; most have been successful.

IMPORTANT PREVENTION TIPS:

Handwashing

Washing your hands is one of the most effective ways of preventing disease transmission.

Always wash your hands after using the bathroom, handling any body fluids, or removing disposable gloves. Always make sure all handwashing sinks in the school building

Sandy the School Secretary

knows it all: where things are, and what has to be done. Often Sandy is the first one who students come to with a problem - physical or emotional - and is the first responder for first aid. When the school nurse or clinic



assistant is unavailable, Sandy fills in, dispensing medications and attending to students' medical needs. Secretaries must be equipped with

proper training and tools to perform their duties - and know who to call for medical aid or answers to policy questions.

Tony is a Teacher who works all day in a classroom, helping students learn and caring for their needs. Every day is different, and Tony never knows if he may have to handle blood or body fluids. Whether a child has a bloody nose, scrape or cut, or gets sick and vomits, teachers are often the ones providing first aid. Teachers should be trained in universal precautions and have access to gloves. Teachers also need accurate health information to pass on to their students.



have adequate soap and hand-drying supplies available. Use hand sanitizer when soap and water are not available.

Protective Equipment

If your state is covered by OSHA or a similar state law, where there is a risk of occupational exposure, the employer must provide, at no cost to the employee, appropriate personal protective equipment such as gloves, eye protection, and mouthpieces.

If you have not been given appropriate protective equipment by the school district, contact your principal, your local affiliate president, and/or the employee-relations personnel in the district to find out how to obtain them.

Gloves

Disposable gloves should be readily available to all school personnel. You can usually obtain gloves from your school nurse or clinic assistant. Gloves should be used only once and then disposed of properly. Heavy-duty utility gloves should be used for housekeeping. They must be properly disinfected before being used again.



NOTE: Most disposable gloves are made of latex and may contain corn powder to make them easy to put on and remove. However, increasingly people are developing allergies to latex and/or corn powder. Powder-free latex gloves and gloves made of vinyl or polyethylene are now more widely available.



PROTECTIVE EQUIPMENT

Some schools use red fanny packs on the playground or on field trips.

These kits should contain:

- at least two pairs of disposable gloves
- gauze
- Band-Aids
- paper towels
- antiseptic towelettes
- a plastic zipper bag to use for disposal

TIP:

Preparing a bleach disinfectant solution:

Put on gloves and add $\frac{1}{2}$ cup of standard household (5.25%) bleach to one gallon of water.

First-Aid Kits

First-aid kits should be located in every work area. Keep them in the same place in every room so staff members know where to find them.

Resuscitation Devices

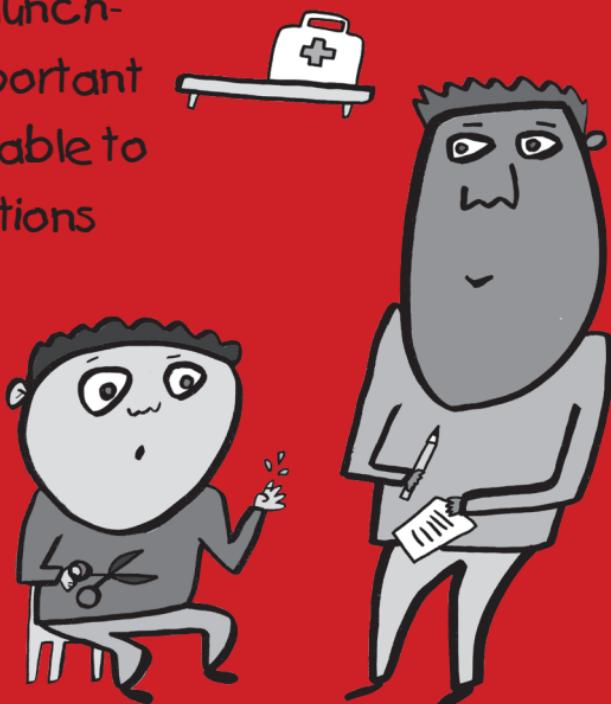
Another useful piece of protective equipment is the one-way resuscitation device, or Microshield, that can be used when giving CPR. Available from medical supply companies, these come in a Velcro pouch with a key ring or in a small plastic envelope. Microshields are single-use-only devices. You should be trained in how to use one.

Cleaning

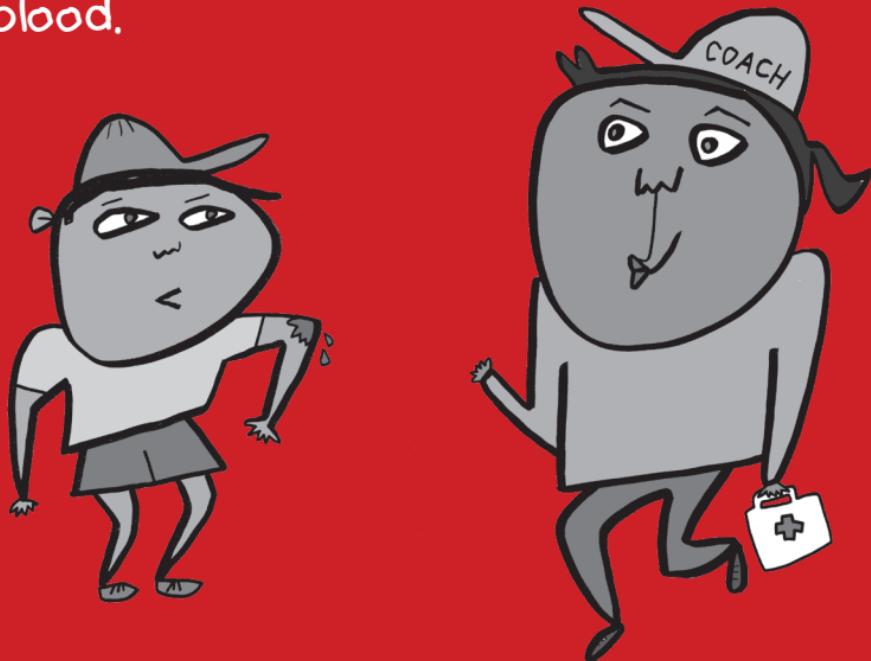
To disinfect a work area after a blood spill, it is best to use EPA-approved hospital grade disinfectant. You can also use household bleach — a solution of 1 gallon water to $\frac{1}{2}$ cup bleach. Mix fresh bleach solution every day since it loses effectiveness after 24 hours. Thoroughly wipe down the area with soap and water and then with the disinfectant or bleach. Let the area air-dry thoroughly. If the tools used to clean the spill are not disposable, they should be disinfected after each use and allowed to air-dry thoroughly to prevent further contamination.



Pat the Para does it all - whether in the classroom, on the playground, or in the lunchroom. Pat helps make the school day run smoothly and ensures that students are learning and playing at their best. Pat helps teachers in the classroom, instructs the students, supervises playground activities and field trips, and assists in the lunchroom. It's important for Pat to be able to answer questions about health topics and to know where to find the first-aid kit.



Coco the Coach knows there's always a chance that a student can get hurt when playing sports. Usually it's just a bump or bruise, but Coco has to be prepared for more serious injuries. If a child gets a scrape or cut, a coach needs to make sure no one else is exposed to blood.



All coaches and PE teachers should have easy access to a first-aid kit, whether on the field or in the gym.

Biohazard Wastebags

Red biohazard, infectious waste bags and sharps (needles) containers with the biohazard symbol are used to dispose of infected materials. Usually a sharps container is located in the school clinic and custodial staff has a supply of durable, red plastic-biohazard bags. If no biohazard bags are available, double-bag the waste and apply a label indicating that the contents are potentially harmful. Biohazard labels are available for this purpose. Sharp items, like broken glass or needles, should never be disposed of in a trash bag. You may be able to make arrangements with your local or county health department to pick up the hazardous material for proper disposal.

TIP:

Cleaning:

Disinfect carpets with a chemical disinfectant and steam clean for a minimum of five minutes at a temperature of 170°F, or for one minute at 212°F.

Hepatitis A

The hepatitis A virus (HAV) is NOT a bloodborne disease. HAV is transmitted by the ingestion of fecal matter.

Unlike hepatitis B and hepatitis C, HAV does NOT cause long-term liver damage and usually does not cause death. There is a vaccine available to prevent HAV infection.

VACCINATION

Hepatitis B

The hepatitis B vaccine is given in the standard adult dose of three injections at 0, 1 and 6 months. Mild side effects include soreness or swelling at the injection site, fever, headache and dizziness. The U.S. Public Health Service does not currently recommend a booster dose.



Did you know?

Vaccines are available to protect you against the hepatitis A and hepatitis B viruses.

Unlike hepatitis A and B, currently there is no vaccine for hepatitis C, and post-exposure treatment is very limited.

An exposure control plan is a written program developed and implemented by the employer which sets forth procedures, engineering controls, personal protective equipment, work practices, and other methods that are capable of protecting employees from exposure to blood-borne pathogens and meets the requirements spelled out by the OSHA Bloodborne Pathogens Standard.

The OSHA Bloodborne Standard requires that the hepatitis-B vaccination series be given to all employees who have occupational exposure. OSHA also requires a post-exposure evaluation and follow-up, free of charge. It is up to each public employer, or school district in this case, to decide which job categories fall under this definition.

IF YOU ARE EXPOSED

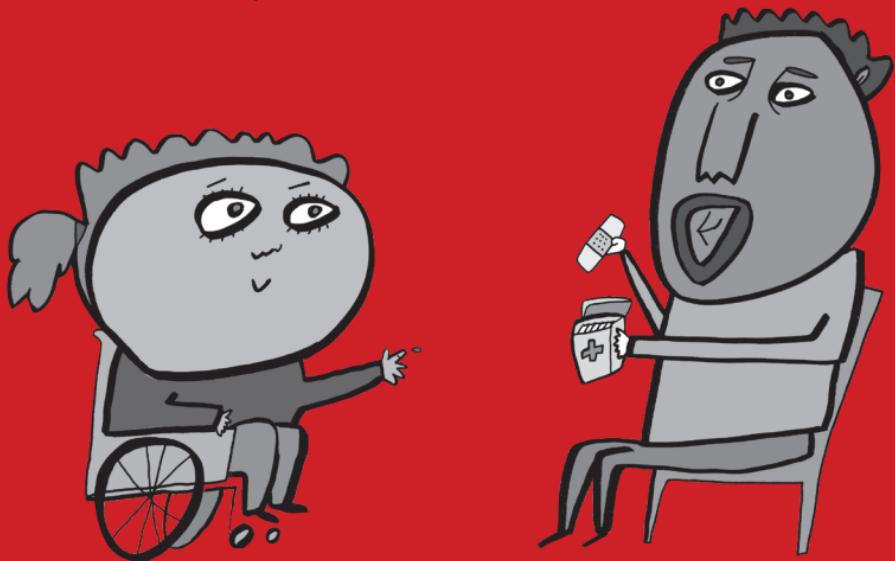
If exposure to blood or other body fluids are reasonably anticipated, the employer is required by OSHA to develop an exposure control plan. It's important for you to know your school's policy and exposure control plan for infectious disease. If you are exposed to blood, and possibly HIV or hepatitis, you will know where to report the exposure, what treatment you can receive, and how to minimize the risk of infection.

According to the OSHA Bloodborne Pathogen Standard, an exposure control plan must meet certain criteria:

- It must be written specifically for each facility
- It must be reviewed and updated at least yearly
- It must be readily available to all workers

Sam the Special Ed Assistant

works daily with severely disabled children – students who are vulnerable to injury, likely to have special medical needs, and dependent on adults for personal care.



On many days, Sam is the one assigned to do medical procedures that involve contact with blood and other body fluids. Sam needs to know how to protect himself and the students in his care.

Sally the Security Guard

keeps the school safe and the students protected. Her presence helps prevent dangerous situations, like fights in the hallway or on the school grounds. She is the staff member who often knows when a student has a problem at school

or at home – and kids trust her as an adult they can talk to.



Sally is prepared to practice universal precautions and knows where to find first-aid kits in the school building.



Developing an exposure control plan will help the employer protect workers from exposure to blood and other body fluids. Under the OSHA standard, you have a right to a confidential post-exposure medical evaluation and follow-up at no cost to you. An exposure control plan should include a designated medical facility to handle occupational exposures. If you have NOT been vaccinated against hepatitis B prior to the exposure, your employer should provide you with the vaccine within 24 hours.

It is critical that you report any exposure incident immediately.

An occupational exposure should be treated as a medical emergency. Guidelines from the U.S. Public Health Service specifically outline the types of situations where post-exposure prophylaxis – taking medication to prevent disease after exposure to an infectious organism - is recommended (dependent on the nature of exposure, amount of blood or body fluids involved, medical history of the source individual, etc.). In these cases, **post-exposure prophylaxis should be started as soon as possible**, preferably within a few hours after the exposure.

If it is unknown whether the source indi-

Back to James...

You rushed to help James and didn't have gloves on your hands. Blood was everywhere. You helped him stop the bleeding on his finger and then realized that you also had a cut on your hand. There's been an exposure — for you and for James. What should you do now?

Following any exposure to another person's blood, you should immediately follow these three basic steps:

FLUSH the exposed area with water

WASH the area thoroughly with soap and water

REPORT the incident within 1 to 2 hours to the person responsible for managing exposures



vidual is infected with HIV, HBV, or HCV, that person's blood can be tested, but only after getting legal consent. Results of the testing will be made available to the exposed employee. The employee will also be made aware of applicable laws and regulations concerning disclosure of the identity and infectious state of the source individual.

OUTSIDE THE WORKPLACE

Bloodborne pathogens can be transmitted through risky behaviors outside of the workplace.

Hepatitis B & C can be transmitted by sharing razor blades or toothbrushes with someone who has an HBV or HCV infection.

Sexual intercourse is a significant mode of transmission for HIV and HBV. Therefore, it is important to know the facts about sexually transmitted diseases and how to prevent their transmission. For more information contact CDC Business Responds to AIDS/Labor Responds to AIDS by phone at 877-242-9760, or by going to www.hivatwork.org. You can find this information listed in the Resource section.

CONCLUSION

We all know how quickly cold and flu viruses spread through a school. While bloodborne diseases are much harder to catch than airborne infections, the consequences can be more

serious. You need to know your risks, how to protect yourself, and what kind of equipment and training you can receive.

Ask your local NEA affiliate president or UniServ director for help and support on workplace policy, education and training.

Or contact the NEA Health Information Network for materials, training and technical assistance.



Resources

NEA Health Information Network

202-822-7570 • www.neahin.org

To order booklets, call 877-250-5795

CDC Centers for Disease Control and Prevention

1-800-232-4636 • www.cdc.gov/nchhstp

Occupational Safety and Health Administration (OSHA)

1-800-321-OSHA (6742) • www.osha.gov

CDC Business Responds to AIDS/ Labor Responds to AIDS

877-242-9760 • www.hivatwork.org

CDC NPIN (National Prevention Information Network)

1-800-458-5231 • www.cdcnpin.org

National Association of School Nurses

1-866-627-6767 • www.nasn.org

Rate Your School's H.Q. (Health Quotient)

Rate from 1-5 (5 being the highest score).

- Staff bathrooms have adequate handwashing facilities, including warm water, soap in pump dispensers, and towels.
- Staff are provided with at least one pair of gloves and know who to ask for extra pairs.
- The gloves provided at school fit well and are of adequate quality.
- School personnel, including all educational support staff, are informed each year about universal precautions.
- For school personnel who work with students who need airway suctioning, diapering, or other procedures involving potential contact with body fluids: staff are informed about the possibility of HIV, HBV, and HCV transmission, and have been offered hepatitis B vaccine at no charge.
- There is an age-appropriate K-to-12 health-education curriculum that includes information about universal precautions. For example, kindergartners are warned not to touch needles, glass or any other sharp objects, and to avoid touching other people's blood.
- Student bathrooms have adequate handwashing facilities, including running water, soap in pump dispensers, and towels.
- Cold packs are used for student injuries and are disposable. If reused, they are enclosed in disposable plastic bags to prevent cross-contamination.
- Physical education teachers are provided with adequate first-aid supplies, including washing facilities, to deal with minor injuries.

Extra Credit:

- In late-elementary/middle school: students and parents are informed about immunizations recommended for adolescents.

Courtesy of Lynda Boyer Chkanroong, RN, MPH, San Francisco Unified School District

Acknowledgments

Special thanks to our reviewers:

Karen Ohmans

NEA ESP Quality Department

Amy Garcia

Executive Director,

National Association of School Nurses

Production Team

Édeanna M. Chebbi

Production Coordinator,

NEA Health Information Network

Karen Tanner Allen

Copyeditor

Dominic Cappello

Illustrations

Rachel Boothe

Graphic designer



**1201 16th Street, NW, Suite 216
Washington, DC 20036-3290**

Voice: 202.822.7570

Fax: 202.822.7775

www.neahin.org

