Hartland Consolidated Schools

Blood borne Pathogen On-line Program

Updated September 2018

Exposure Control Plan

The exposure control plan, a copy of which can be found in each clinic, was developed by members from each department and is reviewed and updated annually by the District Nurse. The plan:

- Contains information on exposure determination, personal protective equipment, housekeeping, vaccination and training
- Complies with MIOSHA Occupational Heath rule 325.70001-70018

A copy of the plan including MIOSHA standard for Blood borne Infectious Disease is available upon request

The Blood borne Standard affects any employee who may come in contact with human blood and Other Potentially Infectious Materials (OPIM). Some identified populations at risk include workers in:

- Healthcare facilities
- Funeral homes
- Law enforcement
- Correctional facilities

Any employee whose job designation requires them to render first aid, even as a collateral duty

Blood borne Diseases are pathogenic microorganisms which exist in blood, body fluids, and other potentially infectious materials and can cause disease in humans. The pathogens that cause most diseases are bacteria and viruses, sometimes simply referred to as “germs”. Two viral infections are HIV and HBV. Both diseases can be fatal and both can be avoided.

Blood and Other Potentially Infectious Materials

Blood refers to:

- Human blood
- Human blood components
- Products and medications made from human blood

Other Potentially Infectious Materials

Human body fluids refers to:

- Semen, vaginal secretions
- Cerebral spinal fluid
- Synovial, pleural, pericardial and amniotic fluid
- Saliva in dental procedures
- Any body fluid that is visibly contaminated with blood
- All body fluids in situations where it is difficult or impossible to differentiate between body fluids

Other Potentially Infectious Materials

- Any unfixed tissue or organ other than intact skin, from a human being, living or dead
- HIV-containing cell tissue cultures, organ cultures, and HIV- or Hepatitis B- containing culture medium or solutions
- Blood, organs, or other tissues from experimental animals infected with HIV or Hepatitis B

Viruses

- Smaller than cells
- Have a protective protein coat
- Must enter other living cells, such as the liver, to multiply
- More likely to produce chronic infection in blood or tissue

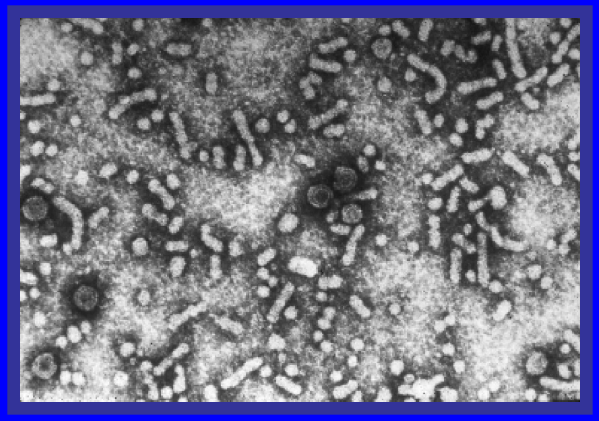
Blood borne pathogens can enter the body through:

- Breaks in the skin
- Contact with mucous membranes
- Inhalation
- Ingestion

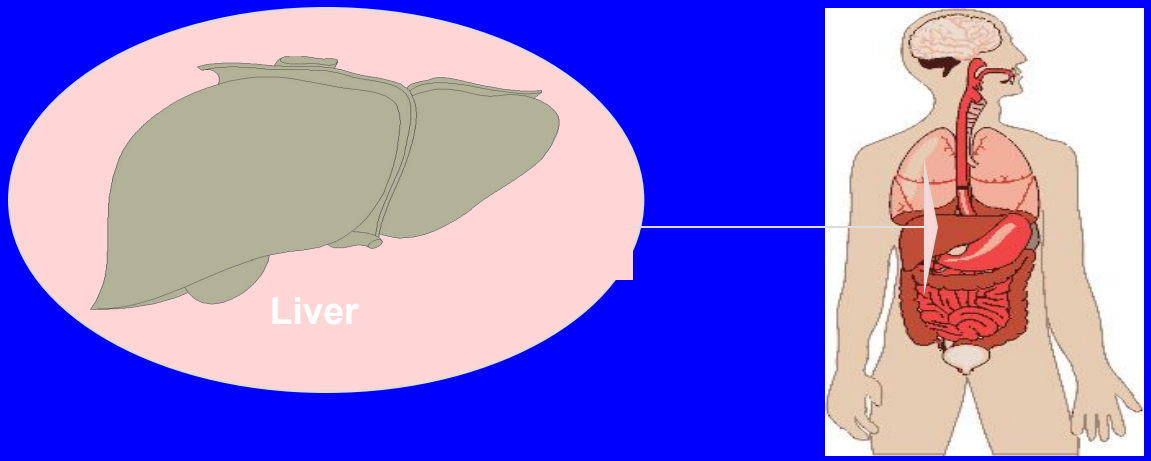
Hepatitis B Virus

Hepatitis B is a serious disease caused by a virus that attacks the liver. The virus, which is called Hepatitis B virus (HBV) can cause:

- Life long infection
- Cirrhosis (scarring) of the liver
- Liver cancer
- Liver failure
- Death



Hepatitis B Virus



Transmission

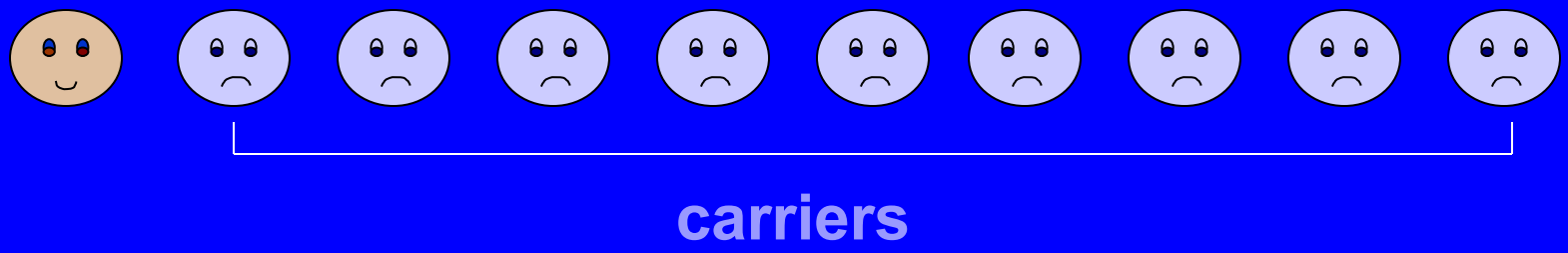
Hepatitis B is a common virus which affects one third of the world's population. It occurs in about 5% of the U.S. population Transmission can occur by:

- Unprotected sex
- Multiple sex partners
- Illegal drug paraphernalia
- Live in the same house with someone who has HBV
- Have a job that involves contact with human blood
- Improper tattooing
- Have hemophilia
- Travel to areas where HBV is common
- Infected mother to baby
- Breast milk

HBV Carriers

Hepatitis B carriers are people who have long term infection and never fully recover from the infection; they carry the virus and can infect others for the rest of their lives.

- Up to 9 out of 10 babies born to infected mothers will end up being hepatitis B **carriers** for the rest of their lives, if they do not get vaccinated.



In the United States approximately 1 million people are carriers of the hepatitis B virus.

SYMPTOMS

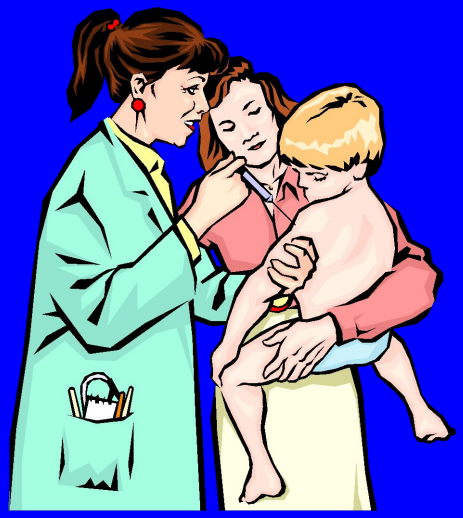
You may have hepatitis B (and be spreading the disease) and not know it. Approximately 30% of infected persons have no signs or symptoms. Signs and symptoms are less common in children than adults. If you have symptoms:

- Your eyes or skin may turn yellow (jaundice)
- You may lose your appetite
- You may have nausea, vomiting, fever, stomach or joint pain
- You may feel extremely tired and not be able to work for weeks or months

HBV has an incubation period of an average of 60-90 days.

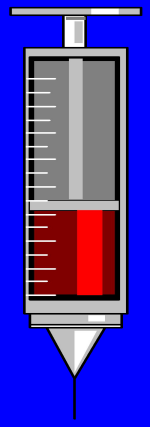
CURE

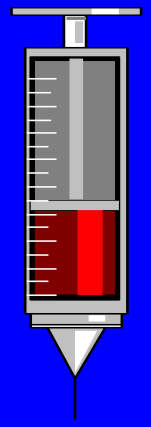
There are some medications available to treat chronic HBV infection. These work for some people, but there is no cure for hepatitis B when you first get it. That is why prevention is important.

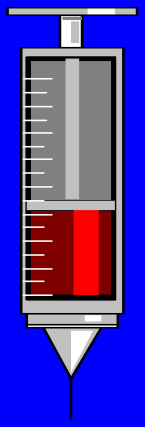


Hepatitis B can be prevented!

If you have never had hepatitis B,
you can get 3 shots . . .

1 

2 

3 

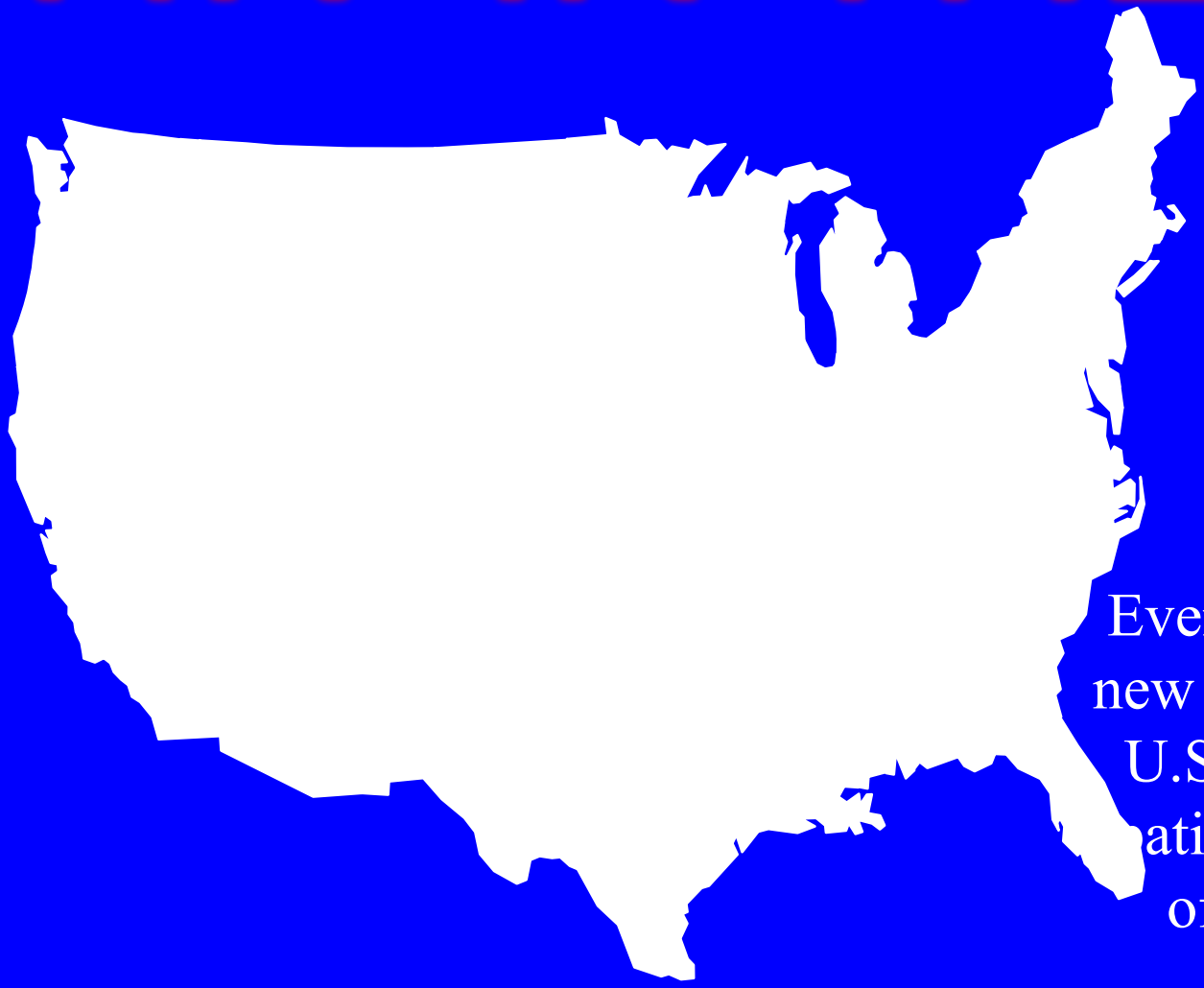
. . . and get long lasting protection.

Current data shows that vaccine induced antibody levels may decline over time, however, immunity remains intact indefinitely.

- If the vaccination series is interrupted after the first dose, the second dose should be administered as soon as possible.
- The second and third doses should be separated by an interval of at least 2 months.
- If only the third dose is delayed, it should be administered when convenient.
- Infants who receive all 3 injections plus H-BIG have a 95% chance of being safe from hepatitis B for life.

Human Immunodeficiency Virus

HIV IN THE U.S.



Even though the number of new cases is declining in the U.S. there are more AIDS patients than ever, because of effective treatments

Global summary of the AIDS epidemic | 2013

Number of people living with HIV in 2013	**Total**	35.0 million	[33.1 million – 37.2 million]
	Adults	31.8 million	[30.1 million – 33.7 million]
	Women	16.0 million	[15.2 million – 16.9 million]
	Children (<15 years)	3.2 million	[2.9 million – 3.5 million]
People newly infected with HIV in 2013	**Total**	2.1 million	[1.9 million – 2.4 million]
	Adults	1.9 million	[1.7 million – 2.1 million]
	Children (<15 years)	240 000	[210 000 – 280 000]
AIDS deaths in 2013	**Total**	1.5 million	[1.4 million – 1.7 million]
	Adults	1.3 million	[1.2 million – 1.5 million]
	Children (<15 years)	190 000	[170 000 – 220 000]

The HIV viruses attach to the immune system cells known as lymphocytes. It specifically invades and destroys the lymphocytes which normally resist infections.

With the immune system cells impaired, unusual infections can occur, affecting various organs, such as the lungs, brain, liver, and lymph system. Cancers can also develop. This condition is call AIDS.

HIV IN THE ENVIRONMENT

HIV is unable to reproduce outside its living host. Drying of even unnatural high concentrations of HIV in the laboratory setting reduces amount of infectious virus to 90-99% within several hours.

Transmission

- Unprotected sexual contact with infected person
- Sharing needles and or syringes with someone who is infected
- Through transfusions of infected blood or blood clotting factors
- Babies born to HIV infected women may become infected before or during birth or through breast feeding

  additional means of transmission include being stuck with needle containing HIV-infected blood, infected blood gets into worker's open cut or mucous membrane (eye or nose), using razor or toothbrush of infected person

Transmission

- HIV is NOT spread by:
- Air or water
- Insects, including mosquitoes or ticks
- Saliva, tears, or sweat
- Casual contact, like shaking hands, hugging or sharing dishes/drinking glasses
- Drinking fountains
- Toilet seats
- HIV is not spread through the air and it does not live long outside the human body.

Symptoms

Many people do not have any symptoms when they first become infected with HIV. Some people, however, have a flu-like illness shortly after exposure. Warning signs of HIV infection may include:

- Recurring fever or profuse night sweats
- Rapid weight loss
- Dry cough
- Severe unexplained fatigue
- Swollen lymph glands in the neck, armpits or groin

The above symptoms usually disappear within a week to a month and are often mistaken for those of another viral infection. During this period, people are very infectious and HIV is present in large quantities in genital fluids.

Symptoms

During the second stage lymph glands swell and may be accompanied by:

- weakness
- Sore throat
- Weight loss
- fever
- Headaches
- nausea
- Diarrhea
- White coating on tongue

During this stage, lesser diseases begin to take advantage of the body's weakened immune system. Eventually the body succumbs to the third stage which is AIDS.

AIDS

The term AIDS applies to the most advanced stages of HIV infection. The CDC's definition of AIDS includes:

- All HIV infected people who have fewer than 200 CD4 positive T cells per cubic millimeter of blood
- Presence of one or more of the 26 identified opportunistic infections

The usual amount of CD4 positive T cells is 1,000 or more per cubic millimeter of blood.

Review

Blood, body fluids, and lab cultures are considered potentially infectious only if they contain the Hepatitis or HIV virus.

True or False

Blood borne infections are commonly spread through:

a) Needle punctures
b) Cuts from broken glass
c) Handling contaminated tissue and organ culture
d) Spills
e) All of the above

Once inside the body, blood borne pathogens generally travel to specific target organs

True or False

The Hepatitis B Virus or HBV is not spread by:

a) Contact with contaminated needles
b) Breast milk
c) Tattooing
d) Food
e) Having sex with someone who has Hepatitis B

You should determine if someone is likely to have HIV so that you can be extra careful.

True or False

The exposure control plan does not have to cover:

a) How to prevent exposure to blood borne pathogens
b) What to do if exposure occurs
c) Warning labels and color coding where there is risk of exposure
d) Personal protective equipment that must be worn
e) None of the above

Procedures

STANDARD PRECAUTIONS

Standard precautions are a group of measures intended to prevent transmission of diseases as well as to decrease the risk of exposure for care-providers and students.
Precautions must be used with all individuals and all blood and other potentially infected materials are considered infected.

Standard precautions are implemented through:

- Engineering Controls, i.e. sharps containers
- Work Practice Controls, i.e. not recapping needles, proper labeling of containers, no eating, drinking, where blood or OPIM may be present
- Personal Protective Equipment, i.e. gloves, gowns, eyewear

Employee Vaccine Procedure

Contact Livingston County Health Department (517-546-9850) for immunization clinic schedules

Submit receipt from health department to Betty Hanba (accounts payable) for reimbursement

Submit copy of immunization record to Darci Del Proposto, RN, BSN HCS District Nurse

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) is equipment that doesn't permit blood or OPIM to reach your:

- clothing
- skin
- eyes, mouth or other mucous membrane

Always pick the PPE that offers the best protection for the situation

Eye goggles, waterproof gowns, and gloves are three types of PPE

Most PPE is disposable and should be discarded as soon as you are done with it, when contaminated, or it is torn, punctured or no longer provides protection

When gloves are worn, the following should be adhered to:

- Check gloves for integrity (no holes) before using
- Use gloves that fit properly
- When removing gloves be sure not to contaminate your hands—grasp outside the glove at the wrist and gently peel off then place fingers inside other glove at cuff and peel off gently

Exposure Incident

An exposure incident is contact with blood or OPIM that results from the performance of your duties.

Contact could be through:

- Eye, mouth or other mucous membrane
- Non-intact skin
- Piercing of skin

If involved in an exposure incident:

- WASH CONTAMINATED AREA THOROUGHLY
- NOTIFY BUILDING ADMINISTRATOR
- COMPLETE EXPOSURE INCIDENT INVESTIGATION FORM
- CONTACT SCOTT VAN EPPS AT CENTRAL OFFICE
- OBTAIN MEDICAL EVALUATION

CLEAN-UP

- Use disposable gloves
- Use broom & dustpan or tongs to pick up any sharp objects
- Disposable towels or absorbing agent may be used to sop up spills
- Cleanse area with soap and water
- Disinfect area with approved agent

- Air Dry
- Contaminated materials shall be placed in a plastic garbage bag, sealed and placed in a second bag
- Red color coded biohazard bags should be used for heavily bloodied waste
- For carpet spills, use absorbing agent, sweep, use carpet cleaner extractor
- Any equipment used should be washed with soap & water, disinfected and allowed to air dry

HAND WASHING

Hand washing is the single most effective means of preventing disease transmission. The two most important factors in hand washing are time and friction. Clean intact skin is the body's first line of defense. Hands should be washed:

- Before and after physical contact with student
- After using the toilet
- Before and after eating
- If they become soiled
- After gloves are removed
- When they look or feel dirty

- Pull down paper towel
- Adjust water
- Lather hands for no less than 15 seconds
- Rinse well from wrist to fingertip
- Dry well
- Turn off faucet with paper towel

When running water is not available, the following may be used :

- Antiseptic foam
- 70% alcohol
- Antibacterial towels

Review

Personal protective equipment (PPE) includes:

a) Gowns
b) Gloves
c) Eye protection
d) All of the above

Standard precautions is a program by which

a) PPE is removed before eating
b) All waste containers are labeled
c) Safe sex is practiced
d) All blood and OPIM are treated as if they are infected

You must wash your hands as soon as you remove gloves or other PPE

True or False

Personal protective equipment can:

a) Provide a barrier between you and a potential hazard
b) Guarantee that you will not be contaminated by blood or OPIM
c) Prevent spills at work
d) Prevent you from catching colds

An exposure incident is caused by contact with infectious material through

a) The eye
b) The nose
c) The mouth
d) Cut or punctured skin
e) All of the above