

Standard Precautions

In clinical areas the risk of infection and cross infection are ever present and all precautions must be taken to minimise risk.

Controlling infection is everyone's responsibility.

- Endogenous - patient's skin
- Exogenous - contact with other sources
- Environmental - inanimate contact

- Have to be adopted for all patients
- Fail drastically where airborne pathogens are concerned.
- Nurses must be fully aware and should report immediately when exposure occurs

What Are Bloodborne Pathogens?

Bloodborne pathogens are microorganisms such as viruses or bacteria that are carried in blood and can cause disease in people.

Types of Bloodborne Pathogens

Bloodborne Pathogens Include

- Malaria
- Syphilis
- Hepatitis B (HBV)
- Human Immunodeficiency Virus (HIV)

Of more concern at workplace are:

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

Hepatitis B (HBV)...

- is a virus that causes infection and inflammation of the liver
- is transmitted primarily through "blood to blood" contact
- can lead to serious conditions such as cirrhosis & liver cancer
- can survive in dried blood for up to seven days

- There is no "cure" or specific treatment for HBV
- Many people develop antibodies to fight the disease which may prevent future infection

HBV Symptoms

- Mild flu-like symptoms
- Fatigue
- Possible stomach pain
- Loss of appetite
- Nausea
- Jaundice
- Darkened urine

Can Hepatitis B Be Prevented?

Yes!..Vaccination

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

. . . and get long lasting protection

Hepatitis B Vaccinations

Employees who have been determined to have potential exposure to bloodborne pathogens shall be offered the Hepatitis B vaccine series at no cost to themselves unless:

- They have previously received the vaccine series
- Antibody testing has revealed they are immune
- The vaccine is contraindicated for medical reasons
- In these cases they need not be offered the series.

Vaccination Process

- Series of three shots.
- Second shot is given one month after the first
- Third shot follows five months after the second.
- This series gradually builds up the body's immunity to the Hepatitis B virus.

What is Hepatitis C (HCV)

Hepatitis C is a disease of the liver caused by the hepatitis C virus. HCV is spread by contact with the blood of an infected person. You may be at risk for hepatitis C if you:

- were notified that you received blood from a donor who later tested positive for hepatitis C.
- have ever injected illegal drugs, even if you experimented a few times many years ago
- received a blood transfusion or solid organ transplant before July, 1992
- received a blood product for clotting problems produced before 1987
- have ever been on long-term kidney dialysis
- have evidence of liver disease (e.g., persistently abnormal ALT levels)

Human Immunodeficiency Virus (HIV)

- AIDS, or acquired immune deficiency syndrome, is a disease caused by a virus called the human immunodeficiency virus, or HIV.
- It may be many years before AIDS actually develops.
- HIV attacks the body's immune system, weakening it so that it cannot fight other deadly diseases. AIDS is a fatal disease, and while treatment for it is improving, there is no known cure.

HIV and Direct Contact

The HIV virus is very fragile and will not survive very long outside of the human body. It is primarily of concern to employees providing first aid or medical care in situations involving fresh blood or other potentially infectious materials.

HIV Symptoms

Symptoms of HIV infection can vary, but often include:

- Weakness
- Fever
- Sore throat
- Nausea
- Headaches
- Diarrhea
- White coating on the tongue
- Weight loss
- Swollen lymph glands

Tuberculosis (TB)

- Caused by bacteria
(*Mycobacterium tuberculosis*)

Tuberculous Infection

- Bacteria is inactive (latent) in the body
- Bacteria remains capable of causing disease at any time later in life
- Person with TB infection cannot spread the infection to others (must have active disease)
- Identified by a positive reaction to the TB skin test

TB Disease

- Bacteria are active, growing and causing physical harm to the patient.
- Most TB disease occurs in the lungs, but it can affect any part of the body.
- Person with TB Disease CAN transmit the infection to others.
- Identified by chest x-ray or culture of sputum.
- 90% of cases occur in persons who were infected in the past and whose immune system can no longer control their infection.

Signs and Symptoms

- Cough (over 3 weeks duration)
- fever
- chills
- night sweats
- Fatigue
- loss of appetite
- weight loss
- possibly coughing up blood

Transmission

- TB is spread through the air from person to person by infectious airborne droplets.
- These tiny droplets are produced when a person with TB DISEASE of the lung or throat coughs, sneezes, speaks or sings.
- Prolonged or repeated contact with an infectious person is usually necessary for transmission to occur.
- People with impaired immune systems are more susceptible to getting infected.

People at High Risk for Infection

- People with HIV infection
- People who share breathing space w/ someone who has TB disease
- Poor people without medical care care, homeless people.
- Alcoholics and intravenous drug users.
- Nursing home residents and prisoners
- Some health care workers.

Bloodborne Pathogen Transmission

Bloodborne pathogens are transmitted through contact with infected human blood and other body fluids such as:

- Semen
- Vaginal secretions
- Cerebrospinal fluid
- Synovial fluid
- Pleural fluid
- Peritoneal fluid
- Amniotic fluid
- Saliva with visible blood (in Dental setting)

Skin Provides a Barrier

Unbroken skin forms an impervious barrier against bloodborne pathogens. However, infected blood can enter your system through:

- Open sores
- Cuts
- Abrasions
- Acne
- Any sort of damaged or broken skin such as sunburn or blisters

Mucous Membranes

Bloodborne pathogens may also be transmitted through the mucous membranes of the

- Eyes
- Nose
- Mouth

Signs & Labels

Warning labels must be placed on containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport, or ship blood or other potentially infectious materials.



What is Regulated Waste?

- Any liquid or semi-liquid blood or other potentially infectious materials.
- 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

Emergencies

In an emergency situation, always use Universal Precautions

To minimize exposure only Knowledgeable personnel should respond, wearing appropriate PPE such as,

- Gloves
- Splash goggles
- Pocket mouth-to-mouth resuscitation masks
- Other barrier devices

If you are exposed:

- Wash the exposed area thoroughly with soap and running water.
- Use non-abrasive, antibacterial soap
- Flush mouth, nose, eyes for 15 minutes if blood is splashed in mucous membranes

Other Actions if Exposed:

- Report the exposure to your supervisor
- Fill out an exposure report form
- Request Confidential evaluation with your physician.

Personal Protective Equipment

The best protection against exposure is to ensure you are wearing the appropriate personal protective equipment (PPE). To protect yourself, it is essential to have a barrier between you and the potentially infectious material.

Rules to follow:

- Treat all blood or potentially infectious body fluids as if they are contaminated.
- Always wear personal protective equipment in exposure situations.
- Replace PPE that is torn or punctured.

Safe Practices to follow:

- Replace PPE that is torn or punctured.
- Remove PPE before leaving the work area.
- Properly disinfect or dispose of used PPE
- Wash hands immediately after removing PPE

Gloves:

- Gloves should be made of hypo allergic rubber, or other water impervious materials.
- Inspect gloves before use
- Double gloving can provide an additional layer of protection.
- If you have cuts or sores on your hands, you should cover these with a bandage or similar protection as an additional precaution before donning your gloves.
- Don't touch the outside of used gloves

Goggles, Face Shields & Aprons

- Use goggles if there is a risk of splashing or vaporization of contaminated fluids
- Face shields provide additional face protection for the nose and mouth.
- Aprons protect

Contaminated Clothing:

- Remove clothing that is contaminated with blood as soon as possible
- Use Universal Precautions when handling contaminated laundry
- Place clothing in approved & labeled bags or containers

Hand Washing

- Handwashing is one of the most important (and easiest) practices used to prevent transmission of bloodborne pathogens.
- Wash hands or other exposed skin thoroughly as soon as possible following an exposure incident.
- Use antibacterial soap
- Don't use harsh, abrasive soaps

Hygiene Rules

If you are working in an area where there is reasonable likelihood of exposure, you should never:

- Eat
- Drink
- Smoke
- Apply cosmetics
- Handle contact lenses

Food Rules

Do not keep food or drink in refrigerators, freezers, shelves, cabinets, or on counter tops where blood or potentially infectious materials are present.

Decontamination & Sterilization

All surfaces, tools, equipment and other objects that come in contact with blood or potentially infectious materials must be decontaminated and sterilized as soon as possible. Equipment and tools must be cleaned and decontaminated before servicing or being put back to use.

Decontamination:

- Solution of 5.25% sodium hypochlorite (household bleach) diluted between 1:10 and 1:100 with water. The standard recommendation is to use at least a quarter cup of bleach per one gallon of water.
- Use Lysol or some other registered tuberculocidal disinfectant. Check the label of all disinfectants to make sure they meet this requirement.

Spill Cleanup

- Carefully cover the spill with paper towels or rags
- Gently pour 10% solution of bleach over the towels or rags
- Let sit for 10 minutes
- Wear gloves to collect & dispose of waste

Precautions with Needles

- Recap needles only with a mechanical device.
- Use forceps, pliers, or broom and dust pan to move needles
- Never break or shear needles.
- Needles must be disposed in labeled sharps containers

Summary

- Always know what you are working with
- Use proper PPE in situations with Bloodborne Pathogens
- Report all suspected exposures
- Don't handle sharps or broken glass with your hands
- Properly dispose of pathogen waste, PPE and Sharps