

BLOODBORNE PATHOGENS-AN INTRODUCTION

ONE HOUR CREDIT

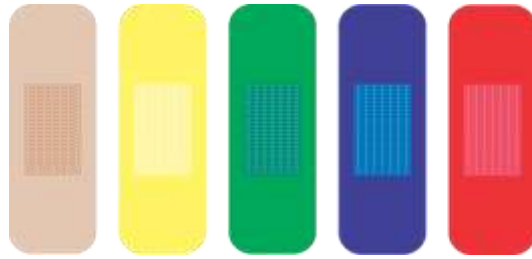


So, what are bloodborne pathogens?

Bloodborne pathogens are microorganisms that are transmitted through the bloodstream. The viruses that cause Hepatitis B virus and HIV (Human Immunodeficiency Virus) are two examples of bloodborne pathogens. For a bloodborne pathogen to be spread, the bodily fluids of an infected person must enter into the bloodstream of another person. The most common cause of transmission in the workplace is when an infected person's blood enters another person's bloodstream through an open wound.

Bloodborne pathogens cannot survive for extended periods outside of the body, but they can survive in bodily fluids for days or weeks. Although infection is not imminent, bloodborne pathogens can enter the body from any mucus membrane, including minor scrapes or cuts. Therefore, protecting yourself is the first step toward preventing transmission.

TRANSMISSION ROUTES



- ▶ Cuts
- ▶ Rashes
- ▶ Burns
- ▶ Abrasions
- ▶ Bites
- ▶ Puncture wounds
- ▶ Mucosal membranes-(Covers the surface of internal organs)

FLUIDS WITH RISK FOR TRANSMISSION

- ▶ Semen
- ▶ Blood
- ▶ Pleural fluid-(fluid around the lungs)
- ▶ Cerebrospinal fluid-(fluid around the brain and spinal cord)
- ▶ Synovial fluid-(fluid around the cavity of joints)

FLUIDS WITH NO RISK FOR TRANSMISSION



- ▶ Tears
- ▶ Sweat
- ▶ Urine
- ▶ Saliva
- ▶ Vomit
- ▶ Sputum

So, what are some bloodborne diseases?

HEPATITIS

Hepatitis disease attacks the liver, causing inflammation and reduced liver functioning.

HEPATITIS A

This variant of the hepatitis virus is transmitted orally or through infected fecal matter, often as a result of inadequate hand washing. It is considered a less dangerous form of the virus and is less likely to develop into chronic hepatitis or to cause the patient to have the more serious symptoms and side effects of other variants of the virus. It is a self-timing virus and does not always remain persistently in the bloodstream.



TREATMENT

There is a vaccine available for Hepatitis A.

HEPATITIS B

This strain of hepatitis is transmitted through contact with infected blood or other bodily fluids. Most commonly, transmission occurs through sexual contact, use of shared needles, accidental needle sticks with contaminated needles (particularly in health care workers or custodial staff), childbirth or blood transfusion. There are also known cases of transmission through shared razor blades or toothbrushes as well as body piercing and tattooing. Hepatitis B can become chronic and does remain in the bloodstream.



TREATMENT

There is a vaccine available for Hepatitis B. Patients with chronic Hepatitis B may require a liver transplant. These patients may also be treated with antiviral medications.

HEPATITIS C

The variation of the virus known as Hepatitis C is one of the more dangerous forms of the virus, as it can develop into a chronic condition and cause serious, sometimes fatal, side effects and significantly impair the function of the liver. Patients who have contracted this virus may carry it for long periods of time without any manifestation of symptoms. This virus is transmitted through direct contact with infected blood or bodily fluids. Most commonly, Hepatitis C is contracted through sexual contact, shared needles, accidental needle sticks, particularly in healthcare workers and custodial staff, childbirth and blood transfusion. Transmission can also happen through hemodialysis and organ transplantation. There are also known cases of transmission through shared razor blades or toothbrushes as well as body piercing and tattooing. Hepatitis C can become chronic and does remain in the bloodstream.

TREATMENT

There is no vaccine available for the treatment of Hepatitis C. The standard treatment for this disease is the use of antiviral medications over a prescribed period of time to remove the virus from the bloodstream and cure the patient. In the event that liver damage is too great, the best treatment may be a liver transplant.

SYMPTOMS OF HEPATITIS

SYMPTOMS	A	B	C
Loss of Appetite	*	*	*
Choluria (Bile in Urine)	*	*	*
Fever	*	*	*
Muscle and Joint Pain	*	*	*
Nausea and Vomiting	*	*	*
Persistent Fatigue	*	*	*
Abdominal or stomach pain	*	*	*
Jaundice of the skin or eyes	*	*	*
Unusual or excessive bruising and bleeding			*
Edema in the lower extremities			*
Confusion or disorientation			*

HUMAN IMMUNODEFICIENCY VIRUS (HIV)

The HIV virus attacks the body's immune system, reducing its ability to fight infection. Once this virus is introduced into the bloodstream, it remains and must be treated as a chronic condition.

HIV TRANSMISSION ROUTES

- Sexual contact
- Shared needles
- Mother to infant during childbirth and/or breastfeeding
- Blood transfusion
- Organ transplant
- Accidental needle stick

Infected blood must come into contact with mucosal membranes, wounds, or damaged tissue or inserted into the bloodstream directly. The virus lives in semen, blood, breast milk, pre-ejaculate and vaginal fluid.

HIV SYMPTOMS

- Sore throat
- Achy muscles and joints
- Fever
- Severe headache
- Rash
- Swollen lymph nodes and glands

HIV TREATMENT

There is no vaccine for the prevention of HIV. It can be treated and managed with the use of antiviral medications, antiretroviral medicines, some drugs used in treating Hepatitis C and supplemental hormones when treating women.

PREVENTION

Universal Precautions: treating all bodily fluid as if they were contaminated. We should always use protective barriers such as gloves, gowns, protective eye gear, and mask.

Always wash your hands for at least 20 seconds with soap and hot water. You can use Hand Sanitizer, if that is all you have available at the time, but as soon as possible wash your hands with water and soap.

Utilize proper removal and disposal of protective equipment and soiled items in biohazard (red) bags and containers. If you do not have a biohazard bag you can use a Ziploc bag and dispose of it properly.



TEST ACCESS CODE: Path1901

For more information, go to these resources:

<https://www.healthy.arkansas.gov/>

<https://www.healthy.arkansas.gov/programs-services/topics/infectious-disease>

<https://cprheartcenter.com/classes/bloodborne-pathogens-certification/class/>