

AMERICAN SAFETY & HEALTH INSTITUTE

Bloodborne Pathogens

STUDENT HANDBOOK



St John

A WORLD OF EXPERIENCE
in health and safety at your doorstep

BLOODBORNE PATHOGENS

AMERICAN SAFETY & HEALTH INSTITUTE

STUDENT HANDBOOK

SECTION 1: INTRODUCTION

Why This Program is Important.....	2
Training Requirements.....	2
Job Classifications That May Be Covered by the Standard.....	3

SECTION 2: BLOODBORNE PATHOGENS AND OPIM

Bloodborne Pathogens and OPIM	4
Hepatitis B Virus (HBV).....	4
Hepatitis B Vaccine.....	5
Requirements for HBV Vaccination	6
Hepatitis C Virus (HCV).....	6
HIV/AIDS	7
Bloodborne Pathogens and First Aid	9
Bloodborne Pathogens and Needle sticks.....	9

SECTION 3: SAFETY AND PREVENTION IN THE WORKPLACE

Exposure Control Plan	10
Engineering and Work Practice Controls.....	10
Universal Precautions and Personal Protective Equipment (PPE)	12
Skill Guide 1: Hand Hygiene Techniques.....	14
Skill Guide 2: Clean Up and Disinfection of Blood or OPIM Spills.....	15
Skill Guide 3: Proper Removal of Contaminated Gloves.....	16

SECTION 4: EXPOSURE INCIDENTS AND FOLLOW UP

Exposure Incident First Aid	17
Post-exposure Evaluation and Follow-up	17
Evaluating the Circumstances Surrounding an Exposure Incident.....	17

Appendix A: Bloodborne Pathogens Standard	18
Endnotes.....	28



St John

A WORLD OF EXPERIENCE
in health and safety at your doorstep

Section 1 | Introduction

BLOODBORNE PATHOGENS

AMERICAN SAFETY & HEALTH INSTITUTE



This student handbook serves as a reference guide to help both workers and employers comply with the information and training aspects of the U.S. Department of Labor, Occupational Safety & Health Administration (OSHA) Bloodborne Pathogens Standard. See Appendix A for a copy of the regulatory text of the standard and an explanation of its contents.

American Safety and Health Institute (ASHI) certification may only be issued when an ASHI-authorized Instructor verifies that you have successfully completed the required objectives of this training program. By itself, this student handbook does not constitute complete training.



Why This Program is Important

OSHA estimates that 8 million workers in the healthcare industry and related occupations are at risk of occupational exposure to bloodborne pathogens.⁵ **Occupational exposure to blood or other potentially infectious materials (OPIM) puts you at risk for serious illness or death.** The viruses of main concern are the human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV).

Training Requirements

The standard requires that employers make certain that all employees with occupational exposure to bloodborne disease participate in a training program provided during working hours at no cost to the employee. Employers must also ensure that their workers receive regular training that covers the dangers of bloodborne pathogens, safety and prevention practices, and post-exposure procedures. Employers must offer this training at least annually.

Job Classifications That May Be Covered by the Standard

The hazard of exposure to infectious materials affects employees in many types of employment and is not restricted to the healthcare industry.

Any employee who has a reasonable anticipation of contact with blood or OPIM as a result of performing his or her job duties is included within the scope of the standard. Jobs that may have the potential for occupational exposure include:

- Physicians, physician's assistants, nurses, nurse practitioners, and other healthcare employees in clinics and physicians' offices;
 - Employees of clinical and diagnostic laboratories;
 - Housekeepers in healthcare and other facilities;
 - Personnel in hospital laundries or commercial laundries that service healthcare or public safety institutions;
 - Tissue bank personnel;
 - Employees in blood banks;
 - Employees in freestanding clinics;
 - Employees in clinics in industrial, educational, and correctional facilities;
 - Employees designated to provide emergency first aid;
 - Dentists, dental hygienists, dental assistants and dental laboratory technicians;
 - Staff of institutions for the developmentally disabled;
- Hospice employees;
- Home healthcare workers;
 - Staff of nursing homes and long-term care facilities;
 - Employees of funeral homes and mortuaries;
 - Employees handling regulated waste;
 - Custodial workers required to clean up devices or materials contaminated with blood or OPIM;
 - Medical equipment service and repair personnel;
 - Emergency medical technicians, paramedics, and other emergency medical service providers;
 - Fire fighters, law enforcement personnel, and correctional officers;
 - Maintenance workers.

HIV and HBV Research Laboratories and Production Facilities



These facilities perform scientific testing and conduct studies that add to the general knowledge of HIV and HBV detection, prevention, and treatment. Research laboratories often deal with solutions containing higher concentrations of infectious viruses than those normally found in human or animal blood. Production facilities are highly specialized facilities that produce viruses at levels above that required for routine research.

As a result, the OSHA bloodborne pathogen standard requires that employers provide additional training in handling human pathogens and infectious agents. Additionally, employees must be able to demonstrate proficiency in standard microbiological practices and techniques specific to their workplace before being allowed to work with HIV or HBV. This level of training and skill is beyond the scope of this program.

Section 2 | Bloodborne Pathogens and OPIM

BLOODBORNE PATHOGENS

Bloodborne Pathogens and OPIM

Both blood and other potentially infectious materials (OPIM) may contain bloodborne pathogens. Bloodborne pathogens are bacteria and viruses present in the blood and body fluids of an infected person that can cause disease to others. The following tables contain essential information about bloodborne pathogens and OPIM.

Bloodborne Pathogens	<p>Includes, but is not limited to:</p> <ol style="list-style-type: none"> 1. Hepatitis B Virus (HBV). 2. Hepatitis C Virus (HCV). 3. Human Immunodeficiency Virus (HIV).
OPIM	<p>Includes:</p> <ol style="list-style-type: none"> 1. Human body fluids: <ul style="list-style-type: none"> • Seminal (fluid from the male genitals). • Vaginal (fluid from the female genitals). • Cerebrospinal (fluid surrounding spinal cord and brain). • Synovial (fluid that lubricates joint surfaces). • Pleural (fluid lining the lungs and chest cavity). • Pericardial (fluid surrounding heart). • Peritoneal (fluid that contained in the abdomen). • Amniotic (fluid protects the fetus throughout pregnancy). • All body fluids in situations where it is difficult or impossible to differentiate between body fluids. 2. Any unfixed human tissue or organ (other than intact skin) from a living or dead human (i.e., laboratory tissue specimens). 3. HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions, and blood, organs, or other tissues from laboratory animals infected with HIV or HBV. <p><i>Note: Feces, nasal secretions, saliva, sputum, sweat, tears, urine, and vomit are not considered potentially infectious for bloodborne pathogens unless they are visibly bloody.⁶ Still, you should observe universal precautions around all body fluids to reduce the potential for exposure to other microorganisms that can cause other types of infections.</i></p>

Hepatitis B Virus (HBV) ^{7,8}

Description	HBV is a serious disease caused by a virus that attacks and causes inflammation of the liver. HBV can cause lifelong infection, scarring of the liver, liver cancer, liver failure, and death.
Incidence	<ul style="list-style-type: none"> • Number of new infections per year has declined from an average of 260,000 in the 1980s to about 60,000 in 2004. • Highest rate of disease occurs in those between the ages of 20 and 49. • Greatest decline has happened among children and adolescents due to routine hepatitis B vaccination. • There are an estimated 1.25 million chronically infected Americans, of whom 20–30% acquired their infection in childhood. • The percentage of cases with occupational exposure to blood is now approximately 0.5% following widespread hepatitis B vaccination of healthcare workers.

Signs & Symptoms	<ul style="list-style-type: none"> • Jaundice (yellowing of skin). • Fatigue. • Abdominal Pain. • Loss Of Appetite. • Nausea, Vomiting. • Joint Pain. <p><i>Note: About 30% of the infected persons have no signs or symptoms. Signs and symptoms are less common in children than adults.</i></p>
Transmission	<ul style="list-style-type: none"> • Occurs when blood from an infected person enters the body of a person who is not infected. • HBV is spread through having sex with an infected person without using a con dom, by injecting drugs with shared needles, through needlesticks or sharps exposures on the job, or from an infected mother to her baby during birth. • Persons at risk for HBV infection might also be at risk for infection with hepatitis C virus (HCV) or HIV. • You cannot get HBV from: <ul style="list-style-type: none"> - Sneezing or coughing. - Kissing or hugging. - Sharing eating utensils or drinking glasses. - Breastfeeding. - Food or water. - Casual contact (such as an office setting).
Prevention	<ul style="list-style-type: none"> • Hepatitis B vaccine is the best protection. • If you are having sex, but not with one steady partner, use latex condoms correctly and every time you have sex. Proper use may reduce transmission. • If you are pregnant, you should get a blood test for hepatitis B. • Do not inject drugs. Never share drugs, needles, or syringes. • Do not share personal care items that might have blood on them (for example, razors or toothbrushes). • Consider the risks if you are thinking about getting a tattoo or body piercing. • If you have or had hepatitis B, do not donate blood, organs, or tissue. • If you are a designated first aid provider, health care or public safety worker, assume that the blood and other body fluids from all patients are potentially infectious. • Always follow universal precautions and safely handle needles and other sharps. Get vaccinated against hepatitis B. • Always follow universal precautions and safely handle needles and other sharps.

Hepatitis B Vaccine

Description	The HBV vaccine is used to prevent infection by the hepatitis B virus. The vaccine works by causing your body to produce its own protection (antibodies) against the disease. The vaccine is made without any human blood or blood products or any other substances of human origin and cannot give you the hepatitis B virus (HBV) or the human immunodeficiency virus (HIV). ⁹
Effectiveness	<ul style="list-style-type: none"> • Medical, scientific and public health communities strongly endorse using hepatitis B vaccine as a safe and effective way to prevent disease and death. • Everyone under 19 years old should get vaccinated against hepatitis B!
Safety	<ul style="list-style-type: none"> • Scientific data show that hepatitis B vaccines are very safe for infants, children, and adults. • There is no confirmed evidence which indicates that hepatitis B vaccine can cause chronic illnesses. • To assure a high standard of safety with vaccines, several federal agencies continually assess and research possible or potential health effects that could be associated with vaccines.
Method of Administration	<ul style="list-style-type: none"> • Injected. • Vaccine is available only from your doctor or other authorized health care professional.
Benefits	<ul style="list-style-type: none"> • Hepatitis B vaccine prevents hepatitis B disease and its serious consequences like liver cancer. • OSHA Bloodborne Pathogen Standard requires that the employer make the hepatitis B vaccine and vaccination series available at no cost to all employees who have occupational exposure.