ABSTRACT

Compliance Documentation
for OSHA's Bloodborne Pathogen Standard
Including Exposure Control Plan and Training

by
Edward Lloyd Tyerman

The Occupational Safety and Health Administration's (OSHA) regulation on Bloodborne Pathogens is in full effect since its introduction on December, 1991. This standard mandates that every company whose workers may expect to come into contact with human blood, or other body fluids, during the course of their work develop an Exposure Control Plan, train employees about Bloodborne Pathogens and establish work practice controls. All hospitals, physician and dental offices, ambulance companies, emergency medical technicians, medical laboratories, fire departments, and sites with their own first aid and response teams must comply with the standard.

Bloodborne pathogens include, among others, the human immunodeficiency virus (HIV) and the hepatitis B virus. Both are potentially fatal. Other bloodborne diseases are Lyme disease, herpes virus, malaria, babesiosis and Chagas' disease.

This document provides for employee exposure determination, the method and schedule of implementation of the standard requirements and a description of exposure incident evaluation procedures. The documentation is design to assist employers compliance with the regulation. All bloodborne pathogen aspects are covered to protect employees health and to avoid OSHA inspection penalties

COMPLIANCE DOCUMENTATION FOR OSHA'S BLOODBORNE PATHOGEN STANDARD INCLUDING EXPOSURE CONTROL PLAN AND TRAINING

by
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APPROVAL PAGE

Compliance Documentation
for OSHA's Bloodborne Pathogen Standard
Including Exposure Control Plan and Training

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This thesis is dedicated to my
beautiful wife, friend and confidante
Kerri Ann

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TABLE OF CONTENTS

Chapter **Page**

Chapter **Page**

Chapter **Page**

Chapter **Page**

Chapter **Page**

Chapter **Page**

Chapter **Page**

Chapter **Page**

LIST OF TABLES

Table **Page**

CHAPTER 1

EVOLUTION OF THE BLOODBORNE PATHOGENS STANDARD

Acquired Immunodeficiency Syndrome (AIDS) and Hepatitis B warrant serious concerns for workers occupationally exposed to blood and certain other body fluids that contain bloodborne pathogens. It is estimated that more than 5.6 million workers in health care and public safety occupations could be exposed. In recognition of these potential hazards, the Occupational Safety and Health Administration (OSHA) has implemented a regulation, Bloodborne Pathogens 29 Code of Federal Regulations (CFR) 1910.1030, to help protect workers from these health hazards.

Gerald F. Scannell, Assistant Secretary of Labor at the time of the standard's onset, stated "Occupational transmission of HIV is relatively rare, but the lethal nature of HIV requires that we take every possible measure to prevent exposure. It is vital that we protect workers who put their lives on the line to provide compassionate care for other Americans in illness and emergencies--protecting and saving lives, treating the sick, cleaning rooms, and discarding wastes--from the risk of contracting AIDS and hepatitis B as a result of workplace exposures."

Bloodborne pathogens are microorganisms in human blood that can cause disease in humans. The major intent of the bloodborne pathogens regulation is to prevent the transmission of bloodborne diseases within potentially exposed workplace occupations. The standard is expected to reduce and prevent employee exposure to the Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV) and other bloodborne diseases. The Occupational Safety and Health Administration (OSHA) estimates the standard could prevent more than 200 deaths and about 9,000 infections per year from HBV alone. The standard requires that employees follow universal precautions, which means that all blood

or other potentially infectious material must be treated as being infectious for HIV and HBV. Each employer must determine the application of universal precautions by performing an employee exposure evaluation. If employee exposure is recognized, as defined by the standard, then the standard specifies a number of requirements. One of the major requirements is the development of an Exposure Control Plan, which mandates engineering controls, work practices, personal protective equipment, HBV vaccinations, and training. The standard also spells out practices and procedures for housekeeping, medical evaluations, hazard communication, and record keeping.

1.1 Background

Protecting employees from occupational exposures to disease-causing viruses and bacteria has become an extremely significant issue in many work places. Work situations which present the possibility for contact with blood, bodily fluid, or biological agents pose infectious disease risks. For example, the Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV) are pathogens that are transmitted through blood and other bodily fluids. Employees who have occupational contact with blood or other potentially infectious materials face the possibility of contracting these viruses and developing severe health problems.

Several safety studies have been conducted which have focused on the transmission of diseases through occupational exposures. Many of these studies have focused on occupational exposures to Human Immunodeficiency Virus, because individuals who contract this virus later develop Acquired Immune Deficiency Syndrome (AIDS). A few of the published cases are described in the following paragraphs to provide examples of occupational exposures to bloodborne pathogens.

Case 1: A hospital worker sustained an accidental self-inflicted injection of "several

milliliters of blood while obtaining blood in a vacuum collection tube from an AIDS patient". The worker subsequently sero-converted to an HIV-antibody positive status and has since developed AIDS.

Case 2: A U.S. Navy hospital corpsman punctured his fingertip while disposing a phlebotomy needle from a patient (who was later diagnosed with AIDS). The corpsman remained HIV-negative for 6 months before sero-converting to a HIV-positive status.

Case 3: A laboratory worker who handled HIV-concentrated materials tested sero-positive for the virus. The worker did not recall any direct skin exposure, but did report having dermatitis of the arm. The worker also reported instances of handling materials while wearing gloves which had pinholes and tears.

To address the hazards associated with occupational exposures to disease causing agents, The Federal Occupational Safety and Health Administration (OSHA) issued a final rule which covers all employees who may be exposed to bloodborne pathogens through work-related contact with blood or other potentially infectious materials. The regulation is codified under 29 CFR 1910.1030. Employers at any facility who have workers who handle, or who have the potential to come into contact with blood, other bodily fluids which may contain bloodborne pathogens, or contaminated items, must comply with this regulation.

1.2 Regulation Coverage

Since any exposure to blood could potentially be fatal, the standard covers employees who may be reasonably anticipated to come into contact with human blood and other potentially infectious materials in order to perform their jobs. Good Samaritan acts such as assistance to a co-worker who has a nosebleed are not covered.

There are numerous occupations which are directly impacted by the requirements

of the Bloodborne Pathogen Standard. More than three quarters of the affected workers, 4.9 million, are employed in health care facilities such as hospitals, nursing homes, and physicians' and dentists' offices. Other occupations where exposures occur include, but are not limited to, funeral services, linen services, medical equipment repair, emergency responders, correctional facilities, and law enforcement. Overall, more than half a million establishments are covered. Table 1, presented on the following page, provides a list of some industries directly impacted by the regulation and an estimate of the number of workers potentially exposed to Human Immunodeficiency Virus and Hepatitis B Virus within each category.

Table 1 Population at Risk for Bloodborne Pathogen Infections

TYPE OF FACILITY OR SERVICE	WORK FORCE AT RISK TO HIV	WORK FORCE AT RISK TO HBV**
HOSPITALS	2,386,165	1,163,655
DENTAL OFFICES	316,237	97,066
PHYSICIAN'S OFFICES	640,681	313,206
MEDICAL AND DENTAL LABORATORIES	62,854	33,703
NURSING HOMES	485,303	367,944
RESIDENTIAL CARE FACILITIES	49,102	29,461
HOME HEALTH CARE	212,246	141,703
HOSPICE CARE	10,856	7,142
HEMODIALYSIS	12,688	3,977
DRUG TREATMENT	6,722	3,110
PUBLIC CLINICS	56,345	27,533
BLOOD BANKS, PLASMA, AND TISSUE CENTERS	18,788	9,841
INDUSTRIAL FACILITIES	178,732	123,987
CORRECTIONAL FACILITIES	120,224	98,366
PERSONNEL SERVICES	163,477	132,945
FUNERAL HOMES	57,013	32,903
RESEARCH LABORATORIES	89,151	42,583
LINEN SERVICES	50,000	42,500
MEDICAL EQUIPMENT REPAIR	6,185	4,843
LAW ENFORCEMENT	341,546	241,402
FIRE AND RESCUE UNITS	252,048	89,586
LIFE-SAVING	5,000	3,230
SCHOOLS	41,362	35,158
WASTE REMOVAL	13,300	11,305
TOTALS	5,576,026	3,057,145

** This number assumes 15% of the exposed population has received Hepatitis B Virus Immunization. Source: 2 Federal Register, vol. 56, pp. 64175, et seq.

The reason that the Bloodborne Pathogen Standard impacts so many diverse fields becomes obvious after analyzing work-related duties to determine where the potential for exposure to bloodborne pathogens occurs. For example, office staff in research laboratories or medical clinics may occasionally enter areas in which samples containing bloodborne pathogens are handled or where potentially infectious items are stored.

Custodial staff may manage wastes containing contaminated items, or clean toilets and sinks which are potentially contaminated with infectious materials. Linen and laundry service personnel may routinely handle items contaminated with blood or body fluids.

Though the Human Immunodeficiency Virus does not readily survive in environments such as toilets, sinks, and linens, the Hepatitis B Virus is viable in conditions which immediately destroy other bloodborne pathogens. Custodial staff and laundry service personnel must protect themselves from exposures to body fluids and potentially infectious materials.

Medical and dental staff always face the possibility of contact with blood or other body fluids whenever they handle patients. Because these employees have the opportunity for direct contact with blood or other body fluids, they are at risk for contracting the Human Immunodeficiency Virus, Hepatitis B, and other bloodborne pathogens. Phlebotomists at blood banks and employees at hemodialysis centers may be exposed to bloodborne pathogens while conducting routine procedures; they face many of the same risks as medical and dental staff.

Emergency medical personnel, life-guards, and fire department rescue units also have the potential to be exposed to bloodborne pathogens when they treat accident victims or people experiencing medical difficulties. Police officers, in the line of duty, may be exposed to contaminated drug paraphernalia or come into contact with people who are injured (or who, through violence, present an exposure risk). Employees at correctional facilities may be exposed to the blood or body fluids of the individuals they supervise (i.e. by getting bitten).

Care-givers for nursing homes, hospices, or home health care services experience potential exposure situations whenever they to come into contact with the body fluids of the individuals in their charge. Employees at funeral homes may be exposed to blood or other body fluids whenever they handle a body.

Staff members of HIV/HBV research laboratories and production facilities may routinely handle large volumes of potentially infected material or samples which contain high concentrations of bloodborne pathogens. Employees at medical and dental laboratories may handle blood or tissue samples which are contaminated with bloodborne

pathogens. Emergency response personnel could be called on to mitigate an emergency incident involving a biological hazard. Waste removal personnel may handle containers of potentially infectious materials.

1.3 Regulation Litigation

1.3.1 Events Leading to the Bloodborne Pathogen Standard

Prior to the promulgation of the Bloodborne Pathogen Standard, OSHA had no specific regulation designed to control or reduce occupational exposures to bloodborne viruses. Subsequently, OSHA relied on general occupational standards for regulatory guidance on issues pertaining to biological hazards. David Ippolito, CIH, the OSHA Assistant Area Director from Parsippany, New Jersey, explained that, since 1988, OSHA has conducted a vigorous enforcement program covering a number of requirements related to bloodborne pathogens under a variety of its current existing standards. These standards include personal protective equipment, housekeeping, sanitation, and accident protection tags. Mr. Ippolito states that several industries were citable under the authority of the general duty clause of the Occupational Safety and Health Act. Table 2 provides a brief description of these standards.

Table 2 Other Pertinent OSHA Regulations

TITLE OF STANDARD	CODIFICATION	BRIEF DESCRIPTION OF REGULATION
General Requirements for Walking and Working Surfaces	29 CFR 1910.22(a)	Requires that employers keep the workplace in an ordered and sanitary condition.
Sanitation	29 CFR 1910.141(a)(4)(i)	Specifies general requirements for the capacities and maintenance of containers used for solid and liquid wastes.
Personal Protective Equipment: General Requirements	29 CFR 1910.132	Employers must provide personal protective equipment to employees whenever it is necessary to protect the worker from process or environmental hazards.
Specifications for Accident Prevention Tags and Signs	29 CFR 1910.145(f)	Biological hazard tags will be used to identify potential biological hazards. Provides the requirements for these tags.
General Duty Clause	Section 5(a)(1) of the OSHA Act	Requires that each employer furnish to each employee a place of employment which is free from recognized hazards that cause or are likely to cause death or serious physical harm to the employee.

1.3.2 Requests for an Occupational Safety Standard

OSHA issued a set of voluntary guidelines in 1983 designed to reduce the risk of occupational exposure to the Hepatitis B Virus. The Hepatitis B Virus has long been recognized as a pathogen capable of causing serious illness and death. The voluntary guidelines, which were sent to employers in the healthcare industry, included a description of the disease, recommended work practices, and recommendations for use of the Hepatitis B vaccine.

After the guidelines were in place, the American Federation of State, County and Municipal Employees indicated that their members considered the voluntary standard insufficient. This organization petitioned OSHA to issue an occupational standard addressing safety in work environments where there was the potential for exposure to the Hepatitis B Virus.

In 1986, The American Federation of State, County and Municipal Employees

requested that OSHA issue a standard which mandated that employers implement the work practice guidelines developed by the Center for Disease Control and amend the Hazard Communication Standard to require training for employees exposed to infectious diseases. Also in that year, several agencies (the Service Employees International Union, the National Union of Hospital and Healthcare Employees, and the Drug, Hospital and Healthcare Union) petitioned the agency to promulgate a standard to protect healthcare workers by adopting the voluntary guidelines as regulatory requirements.

1.3.3 Development of the Bloodborne Pathogen Standard

In response to these requests, OSHA published an Advance Notice of Proposed Rule-making in 1987. Another motivation for OSHA's notice of proposed rule-making publication was the results of studies which focused on the Human Immunodeficiency Virus. Though the transmission of the Human Immunodeficiency Virus is considerably less efficient than Hepatitis B Virus, occupational contact with Human Immunodeficiency Virus became a significant concern because exposure to Human Immunodeficiency Virus apparently leads to the development of Acquired Immune Deficiency Syndrome (AIDS). This health threat lead to further demands for an occupational safety standard protecting employees in potential Human Immunodeficiency Virus exposure situations. On October 30, 1987, the Department of Labor and Health and Human Services published a joint advisory notice encouraging the use of universal precautions where workers might come into contact with blood or other potentially infectious body fluids.

OSHA published the Notice of Proposed Rule-making on May 30, 1989, after reviewing the overwhelming response to its initial advance notice. Based on the Agency's review of the comments it received from the advance notice, OSHA published the following conclusion in the 1989 Notice of Proposed Rule-making:

- Certain employees face a significant health risk because of occupational exposures to blood and other potentially infectious materials.

- Significant health risks can be minimized by a combination of engineering controls, work practices, personal protective equipment, training, medical follow-up's after exposure incidents, vaccinations, and other provisions.

The final standard, published in the Federal Register on December 6, 1991, is based on the written comments and the comments received during public hearings from employees, labor union representatives, members of trade and professional organizations, and other affected parties. In the development of the final standard, OSHA reviewed more than 3,000 comments and testimony from more than 400 participants in hearings at Washington, Chicago, New York, Miami, and San Francisco. To date, this standard had the most responses on record due to its impact that carried into many industries. When the final standard was announced, there were provisions given for guidance to employers and employees. The bloodborne pathogens standard was the first to incorporate interactive training and dictated that training must be conducted at a level in which all the provisions are understood.

The following documents are also significant, in terms of both the development and implementation of the standard. They are valuable references to employees, supervisors, and safety staff.

- Centers for Disease Control. Acquired Immunodeficiency Syndrome -- Recommendations and Guidelines November 1982 to November 1986.
- Centers for Disease Control Morbidity and Mortality Weekly Report. Update on Hepatitis B Prevention. June 19, 1987; Volume 36, No. 23.
- Centers for Disease Control Morbidity and Mortality Weekly Report. 1988
- Agent Summary Statement for Human Immunodeficiency Virus and Report on Laboratory Acquired Infection with Human Immunodeficiency Virus. April 1, 1988; Volume 37, No. S-4.
- OSHA Instruction CPL-2-2.36, November 30, 1983, Hepatitis B risks in the Health Care System.
- OSHA Instruction CPL 2-2.44B, February 27, 1990, Enforcement Procedures for Occupational Exposure to Hepatitis B Virus and Human Immunodeficiency Virus.
- OSHA Instruction CPL-2-2.44C, March 6, 1992, Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogen Standard, 29 CFR 1910.1030.

1.4 Regulation Time Table

The bloodborne pathogens standard became effective 90 days after publication in the December 6, 1991 Federal Register. Within 60 days following the effective date, exposure control plans must have been completed, and, within 90 days following the effective date, initial information and training took place. The standard required the following measures to be in effect within 120 days of the effective date: engineering and work practice controls, personal protective equipment, housekeeping, special measures covering HIV and HBV research laboratories and production facilities, hepatitis B vaccination and post exposure follow-up, and labels and signs.

1.5 Regulation Cost

The estimated annual cost of the standard amounts to $821 million for all affected industries. This represents less than two tenths of one percent of combined revenues ($475 billion). The largest annual costs are for personal protective equipment such as gloves ($334 million).

1.6 Individual States' Compliance

OSHA wrote to the governors of states and territories that do not operate their own OSHA programs encouraging them to extend the protections of the standard to public sector employees such as emergency responders, law enforcement personnel, and state, county, and municipal employees in public clinics and hospitals. These workers are not covered by federal OSHA standards.

States with their own occupational safety and health plans had to adopt a comparable bloodborne pathogens standard within six months of the federal effective date. These include Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Virgin Islands, Washington, and Wyoming. States which cover public employees only, Connecticut and New York, also needed to adopt a comparable standard.

CHAPTER 2

THE BLOODBORNE PATHOGEN STANDARD

2.1 Overview Of Standard Requirements

One of the requirements of the Bloodborne Pathogen Standard is that employees be informed of the contents of the regulation. The following sections review some of the most important elements of the Bloodborne Pathogen Standard.

2.1.1 Scope and Application

This standard applies to all occupations where there is the potential for employee contact with blood or other potentially infectious materials while performing work-related tasks. A description of some job classifications impacted by the regulation is provided in Chapter 4 of this document entitled "Employee Exposure Situations and Safe Work Practices".

2.1.2 Definitions

This section of the standard defines terms used throughout the regulation. The terms which are provided in the Bloodborne Pathogen Standard are listed in the Appendix of this document titled "Glossary of Bloodborne Pathogen Terms".

2.1.3 Exposure Control Plan

Employers with workers who may be exposed to blood or other potentially infectious materials must develop a written Exposure Control Plan. This plan describes the procedures established which minimize employee exposures to bloodborne pathogens. The Exposure Control Plan must have at least three important elements: employee

exposure determination, schedule and method of implementation, and employee exposure evaluation.

2.1.3.1 Employee Exposure Determination

This is a description of all job classifications and job tasks which may potentially expose employees to bloodborne pathogens. (This is provided in the "Employee Exposure Determination" section of this document).

2.1.3.2 Schedule and Method of Implementation

Employers must develop a schedule for the implementation of the specific requirements of the standard. Employers must also describe how they intend to come into compliance with these requirements. The elements of the standard for which a schedule and implementation method must be developed are:

- Methods of Compliance (the engineering controls, work practices, and personal protective equipment used to minimize employee exposures). This is provided in the section entitled "Methods of Compliance".
- Special practices developed for HIV/HBV research laboratories and production facilities. This is provided in the "Special Practices for HIV/HBV Research Laboratories and Production Facilities" section of this document.
- Procedures for Hepatitis B vaccinations, post-exposure vaccinations and follow-up's. This information is provided in the "Procedures for Hepatitis B Vaccination" section and the "Post-Exposure Vaccinations and Medical Follow-Ups" section of this document.
- Communication of hazards to employees. This information is provided in the section of this document entitled "Communication of Hazards to Employees".
- Record-keeping practices. This information is provided in the section entitled "Record-keeping".

2.1.3.3 Employee Exposure Evaluation

A description of the employer's process for evaluating circumstances surrounding actual exposure incidents must be provided in the Exposure Control Plan. This description is provided in the section of Chapter 3 entitled "Exposure Incident Evaluation".

2.1.4 Methods of Compliance

This section of the regulation describes the minimum standards for engineering controls, work practices, personal protective equipment, and housekeeping procedures to be instituted by employers whose workers may be exposed to blood or other potentially infectious materials.

2.1.5 Universal Precautions

The Bloodborne Pathogen Standard dictates that Universal Precautions must be followed by employees at all times whenever contact with potentially infectious materials is possible. Universal Precautions is a concept which is summarized as follows:

ALL HUMAN BLOOD AND CERTAIN HUMAN BODY FLUIDS ARE TREATED AS IF KNOWN TO BE INFECTIOUS FOR THE HUMAN IMMUNODEFICIENCY VIRUS, THE HEPATITIS B VIRUS, AND OTHER BLOODBORNE PATHOGENS.

2.1.6 Engineering Controls and Work Practices

Engineering controls and work practices will be used wherever possible to reduce or eliminate employee exposures. If the potential for occupational exposure still remains after institution of these control measures, then personal protective equipment will be used. Specific provisions concerning actual engineering and work practice controls which must be implemented by employers are mandated by the standard. A description of the required engineering controls and work practice controls are given in the section of Chapter 3 in this document entitled "Methods of Compliance".

2.1.7 Personal Protective Equipment

This section describes the requirements for personal protective equipment under the standard. Appropriate personal protective equipment (i.e. gloves, gowns, laboratory coats, face shields, masks, and eye protection) will be easily accessible at the work site and shall provided at no cost to the employee. Employers must also make provisions for cleaning, laundering, disposal, repair, and replacement of personal protective equipment, as necessary.

2.1.8 Housekeeping Procedures

Employers must ensure that the work site is clean and sanitary, according to both the Bloodborne Pathogen Standard and the regulations on sanitation (29 CFR 1910.22). Specific housekeeping procedures involving such items as cleaning and decontamination procedures, regulated waste, and disposal practices which must be implemented by the employer in order to come into compliance with the Bloodborne Pathogen Standard are described in this section of the regulation.

2.1.9 HIV/HBV Research Laboratories and Production Facilities

This section specifically addresses research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of Human Immunodeficiency Virus and Hepatitis B Virus. It does not apply to clinical or diagnostic laboratories. Research laboratories and production facilities must develop special handling practices. These special handling practices are described in the section of Chapter 3 in this document entitled "Special Practices for HIV/HBV Research Laboratories and Production Facilities".

2.1.10 Hepatitis B Vaccination, Post-Exposure Evaluations, and Follow-Ups

A Hepatitis B vaccination program must be implemented at facilities where contact with this virus could occur. Employers will make the Hepatitis B vaccine available to all employees who potentially have occupational exposures. Post-exposure evaluations and follow-up's will also be available to employees who have sustained an exposure. All of these procedures will be made available at no cost to the employee, will be conducted at a reasonable time and place, and are to be conducted by or under the supervision of a licensed healthcare professional. An example of a Hepatitis B vaccination program is provided in the section of Chapter 3 of this document entitled "Procedures for Hepatitis B Vaccinations".

2.1.11 Communication of Hazards to Employees

This section of the Bloodborne Pathogen Standard discusses how employers should convey biological hazard information to their employees. The standard specifies requirements for labels, signs, and training programs.

2.1.12 Labels and Signs

Warning labels must be affixed to containers of regulated waste, refrigerators, and freezers containing blood or other potentially infectious materials. Labels should also be affixed to containers used to store, transport, or ship blood or other potentially infectious material. Signs must be posted at the entrances to work areas within HIV/HBV Research Laboratories and Production Facilities. Further requirements for signs and labels are given in the section of this document entitled "Communication of Hazards to Employees".

2.1.13 Information and Training

Employers must provide all potentially exposed employees with appropriate training. Training shall be provided at the time of initial assignment to tasks where occupational

exposure may occur, or within 90 days after the effective date of the standard. Refresher training must be provided annually.

2.1.13.1 Elements of Training

The training program should include the following elements:

- A copy of the regulatory text of the standard and an explanation of its contents.
- A general explanation of the modes of transmission of bloodborne pathogens.
- An explanation of the employer's Exposure Control Plan.
- An explanation of the appropriate methods for recognizing tasks that may involve exposure to potentially infectious materials.
- Information on personal protective equipment, such as types of equipment, procedures for proper use, location, decontamination procedures and disposal practices.
- Information on the Hepatitis B vaccine.
- Information on the appropriate actions to take in an emergency involving potentially infectious materials, as well as emergency incident reporting procedures and medical follow-up's which will be made available.
- Information on the post-exposure evaluation and follow-up that the employer will provide after an exposure incident.
- An explanation of the signs and labels used to convey hazard information.
- An opportunity for interactive questions and answers with the person conducting the training session.

Other requirements for the training program are given in the section of Chapter 5 entitled "Information and Training".

2.1.14 Record-Keeping

This section describes the mandatory record-keeping requirements which must be instituted to comply with the Bloodborne Pathogen Standard. Employers must keep records on employee training and on information obtained during medical evaluations of employees as part of the standard's requirements. Record-keeping requirements are described in the section of this document entitled "Record-Keeping".

2.2 Overview of Compliance Requirements

The Bloodborne Pathogen Standard provides specific safe-work procedures to be adopted by facilities in which employees may come in contact with potentially infectious materials. A summary of the important items which must be addressed in the compliance program is as follows:

1. Development of an Exposure Control Plan that describes the compliance program implemented by the facility.
2. Establishment of specific safety policies involving engineering controls, work practices, personal protective equipment, and housekeeping procedures designed to minimize or eliminate employee exposures to bloodborne pathogens.
3. Provisions for informing and training workers regarding the hazards associated with bloodborne pathogens that they may be exposed to during their work, as well as safety precautions which must be taken to avoid exposure. Refresher training must occur on an annual basis.
4. Provisions for employees to obtain Hepatitis B vaccinations, post-exposure evaluations, and medical follow-up's from licensed healthcare professionals.
5. Use of appropriate labels and signs, which warn employees of the potential hazards of the materials they handle.
6. Establishment of thorough record-keeping procedures for both medical and training records.

CHAPTER 3

THE MODEL BLOODBORNE PATHOGENS EXPOSURE CONTROL PLAN

The cornerstone of the Bloodborne Pathogen Standard compliance program is the Exposure Control Plan. This document describes the safe-work procedures that have been developed to specifically address the types of exposure hazards employees may face during the performance of their duties. The Exposure Control Plan is a valuable reference document which can aid employees in assessing the exposure hazards they face, in following proper work practices, and in selecting the best equipment to use to eliminate or reduce those hazards.

The remainder of this chapter is a sample "Exposure Control Plan". This sample plan can be used as a model compliance document, or it can act as a foundation for the development of a facility's Exposure Control Plan. Examples, descriptions, and interpretive text are provided for each element of the Exposure Control Plan.

The information for the Model Bloodborne Pathogens Exposure Control Plan has been compiled from several resources. The purpose is to formulate an Exposure Control Plan that can be utilized as a model by all types of industry, including emergency response, dentistry, acute care facilities, and HIV/HBV research laboratories. The Exposure Control Plan can also be utilized by federal and state institutions, agencies, and administrations not currently governed under OSHA regulations.

The model holds several assumptions, including:

- The format of several sections in this chapter are to be incorporated directly into an Exposure Control Plan.
- Because of the documents full coverage, some sections may be omitted. These sections have interpretive text that will facilitate tailoring documentation to specific needs.

of the facility, company, or institution name. Substitution, as indicated, is required for personnel or departments responsible for implementation and enforcement of the Exposure Control Plan.

- Chapter 4 of this document covers exposure determination and safe work practices.
- Chapter 5 of this document handles the information and training requirements.
- Chapter 6 of this document is a specific Exposure Control Plan for hazardous materials and emergency response personnel.

3.1 Statement of Policy on Biological Safety Issues

A statement to display top management priority towards safety and bloodborne pathogen concerns is highly recommended. The following is an example text.

Message from the (Officer responsible for safety or CEO)

To our employees:

Each of you is important and integral to the success of (COMPANY). I am concerned for your health and welfare, and it is the intent of the Management of (COMPANY) to do everything reasonably possible to assure that your health is not adversely affected by occupational exposures to hazardous materials or infectious agents. Because of the potential hazards associated with bloodborne disease viruses (i.e. Human Immunodeficiency Virus, or the Hepatitis B Virus) that you may be exposed to during the completion of certain work tasks, (COMPANY) has instituted an Exposure Control Program. This Exposure Control Plan is the cornerstone of that program and describes the safety policies and procedures established to protect our employees from potential biological hazards. The associated training program will provide you with the information you need do your job safety and effectively. Our supervisors will provide you with further guidance.

Signature of (Officer responsible for safety or CEO)

3.2 Introduction to the Bloodborne Pathogen Exposure Control Plan

(COMPANY) strives to provide a safe work environment in many ways. Our employees are trained for their jobs. Hazards are eliminated or identified. Personal protective equipment is worn whenever it is needed. Safety equipment and supplies are inspected and maintained on a regular basis.

This Exposure Control Plan has been developed in response to both the Federal Occupational Safety and Health Administration's Bloodborne Pathogen Standard (codified under 29 CFR 1910.1030) and (COMPANY)'s concerns for employee safety. It is vital that every employee reads and understands the safety policies and procedures described within this document. An employee only has to be accidentally exposed once to pathogen-contaminated materials to become a carrier of a virus and, to perhaps, eventually become ill with the disease. Accidental exposures often occur because employees are unaware of correct handling procedures or because they choose not to follow standard safety practices.

3.2.1 Employee Exposure Situations

Employees of (COMPANY) must understand how they are potentially exposed to infectious materials. For example, office staff may occasionally enter areas in which samples containing bloodborne pathogens may be handled or where potentially infectious items are stored. Custodial staff may manage wastes containing contaminated items, or clean toilets and sinks which are potentially contaminated with infectious materials. Medical and research staff may routinely handle samples and materials which contain bloodborne pathogens. Emergency response personnel could be called on to mitigate an emergency incident involving a biological hazard.

To aid you in understanding how you may become exposed to infectious agents, the Exposure Control Plan developed by (COMPANY) contains a section entitled

"Employee Exposure Determination". "Employee Exposure Determination" provides an overview of how exposure risks are assessed at (COMPANY). Additionally, the chapter of this document entitled "Employee Exposure Situations and Safe Work Practices" describes some job classifications in which occupational exposures to bloodborne pathogens may occur and lists potential occupational exposure situations.

3.2.2 Elements of the Exposure Control Program

The OSHA Bloodborne Pathogen Standard requires that specific issues be addressed in the (COMPANY) safety program. These issues are as follows:

- Methods of Compliance (the engineering controls, work practices, and personal protective equipment used to minimize employee exposures).
- Procedures for Hepatitis B vaccinations, post-exposure vaccinations and follow-up's.
- Communication of hazards to employees.
- Record-keeping practices.
- Special practices developed specifically for HIV/HBV research laboratories and production facilities.

> *Special Note*: The standard requirement cited above specifically addresses HIV/HBV research laboratories and production facilities. It does not apply to clinical laboratories, diagnostic facilities, nor any other type of operation. Companies may choose to indicate in the appropriate portion of this document (in the section designated "Special Practices for HIV/HBV Research and Production Facilities") that this portion of the Exposure Control Plan is not applicable to their facility.

3.2.3 Employee Exposure Evaluation

It is vital to the health and safety of employees to thoroughly analyze any exposure incidents which occur during the performance of work-related duties. A description of (COMPANY)'s process for evaluating circumstances surrounding actual exposure incidents is provided in the chapter entitled "Exposure Incident Evaluation".

3.2.4 Schedule for Review and Implementation of Exposure Control Plan

The specific methods instituted to implement each of these sections of the Exposure Control Plan at (COMPANY) are described in the designated chapters of this Exposure Control Plan. A schedule for program implementation is also provided in the chapter entitled "Schedule for Implementation of the Bloodborne Pathogen Standard". The Exposure Control Plan will be reviewed and updated annually and whenever necessary to reflect new or modified tasks or procedures which affect potential occupational exposure situations.

3.2.5 Availability of the Exposure Control Plan

(COMPANY) makes the Exposure Control Plan available to all employees during working hours at the following locations: (List locations of EXPOSURE CONTROL PLAN)

3.3 Personnel Implementing the Exposure Control Program

The health and safety of each employee is extremely important to the management of (COMPANY). Employees should bring their concerns to their supervisor or to the (Human Resources Department).

Implementation of the Exposure Control Program is the responsibility of all management personnel. Titles and associated responsibilities of those directly in charge are given in the following paragraphs.

CHIEF EXECUTIVE OFFICER: This person holds the ultimate responsibility for all biological safety issues at this facility. The (Chief Executive Officer), in cooperation with other administrators, provides continuing support, both motivational and financial, for the Exposure Control Program.

EXPOSURE CONTROL PROGRAM ADMINISTRATOR or HEALTH/SAFETY DEPARTMENT DESIGNATE: This person must work with

administrators and other employees and implement the policies of (COMPANY). Duties of this staff member include:

- Monitoring procedures involving potential occupational exposure to potentially infectious materials;
- Guiding the development of precautionary procedures and assuring that adequate facilities are available for the kind of potentially infectious material to which employees may be exposed;
- Knowing the Bloodborne Pathogen Standard requirements concerning potentially infectious materials;
- Ensuring that medical practices and training programs are in accordance with the requirements of the Bloodborne Pathogen Standard; and,
- Revising, reviewing and improving the Exposure Control Program.

SUPERVISORS: Supervisors are directly responsible for the safety of those they supervise. Supervisors are accountable to senior management for all safety issues concerning the workers they supervise. Among the supervisor's responsibilities:

- Ensuring workers know and follow the procedures defined in this Exposure Control Plan;
- Ensuring that protective equipment is available and in good working order;
- Determining that training in both the proper procedures and use of personal protective clothing and safety equipment has been provided;
- Providing regular hygiene, housekeeping and equipment maintenance inspections;
- Determining required levels of personal protective equipment;
- Informing the (Safety Department) that an exposure incident has occurred; and,
- Ensuring that facilities and training for tasks involving potential contact with potential infectious materials are adequate.

3.2.1 Employees

(COMPANY) wants to provide the safest work environment possible. Ultimately, however, you are responsible for your own safety. Employees must accept this responsibility and comply with (COMPANY)'s safety policies described in this Exposure Control Plan and in the associated training program. Everyone is expected to:

- Minimize all potential exposures to infectious materials or contaminated items;
- Avoid unsafe practices;
- Report unsafe conditions;
- Label containers and samples holding potentially infectious materials appropriately;
- Be familiar with all hazards in their work area, biological or otherwise;
- Learn what precautions and protective equipment are needed for specific jobs;

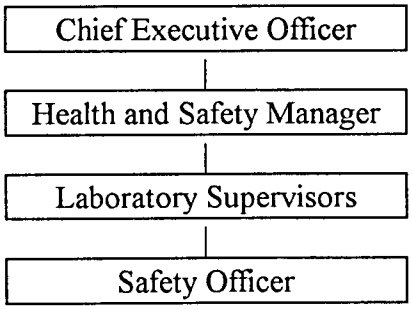
- Practice good hygiene;
- Take responsibility for themselves and co-workers.

In summary, employees need to be familiar with all the procedures, techniques, policies and equipment that are there to help them work safely.

3.3.2 Lines of Authority

The lines of authority at (COMPANY) for the Exposure Control Program are given in Figure 1 below.

Figure 1 Lines of Authority for Exposure Control Program



3.4 Employee Exposure Determination

One of the most important sections of the Exposure Control Plan is this, "Employee Exposure Determination". This portion of the Exposure Control Plan provides information on the types of jobs in which occupational exposures to bloodborne pathogens could occur and the work-related tasks which could lead to exposure situations. The purpose of the "Employee Exposure Determination" is to make employees aware that:

- They may be exposed to bloodborne pathogens during the performance of certain work tasks.
- Specific job-related duties place them at risk for exposures to potentially infectious materials.
- They must review safety information and safe-work procedures specific to the duties

they are performing and the type of pathogens to which they may be exposed.
- They should assess their health status (i.e. if they have open wounds, whether they have had vaccinations for Hepatitis B) before performing duties that could place them at risk of receiving an exposure to bloodborne pathogens.

3.4.1 Employee Exposure Evaluation Form

The form in Appendix C, entitled "Employee Exposure Evaluation Form", can be used by Safety and Health Department personnel to assess employee exposure risks. This form can be supplied to all employees, and after the completed forms are returned, the information can be analyzed to identify the following information:

1. The employees who have the greatest possibility of exposure to bloodborne pathogens.
2. The job classifications in which exposure situations can occur.
3. The work tasks which present exposure situations and the frequency with which the tasks are performed.

3.4.1.1 Review of the employee Exposure Evaluation Form

Safety and Health Department personnel can review this information to complete a thorough Employee Exposure Determination. They can then tailor training and information programs, as well as the other requirements of the Bloodborne Pathogen Standard, to address actual exposure risks faced by employees. Additionally, the "Employee Exposure Evaluation Forms" can become a part of the permanent record of the employee. Safety and Health Department personnel should review the "Employee Exposure Evaluation Form" and make revisions to reflect the operations at their facilities.

3.4.1.2 Developing Safe Work Practice Guidelines

Once this information is collected from employees, it can be analyzed effectively by addressing four specific issues:

1. Which employees may be exposed to blood, bodily fluids, or potentially infectious materials?
2. Which work tasks place these employees at risk for exposure to bloodborne pathogens?
3. How could these employees contract bloodborne pathogens through occupational contact with blood, bodily fluids, or other potentially infectious materials?

4. How can employees be protected from exposure hazards?

For example, custodians are one group of workers who are at may be at risk for occupational exposure to bloodborne pathogens. Addressing these four questions, the following "Employee Exposure Situations and Safe Work Practices" could be obtained for custodial employees.

Table 3 Employee Exposure Determination Example: Custodial Employees

JOB CLASSIFICATION	WORK TASK	POTENTIAL EXPOSURE SITUATION
Custodian	Cleaning sinks, toilets, other bathroom fixtures.	Contact with blood and other bodily fluids.
	Clean-up of vomit, other bodily fluids.	Contact with potentially infectious fluids and materials.
	Removal of waste.	Contact with feminine sanitary items and other potentially contaminated materials. Handling disposed syringe needles and other potentially contaminated sharps.
	General site clean-up.	Contact with disposed syringe needles, disposed personal items, and other potentially infectious materials.

Safe Work Practices Example: Custodial Employees

1. Custodial employees must wear waterproof gloves and eye protection whenever they clean toilets, bathrooms, and other facilities.
2. Custodial employees should avoid handling discarded needles, syringes, and other potentially contaminated sharps. If they must handle these items, they should wear puncture-resistant gloves and pay attention to their hands.
3. Custodial employees must wear gloves whenever they handle or expect to handle discarded condoms, sanitary napkins, and other similar items.
4. Surfaces and items contaminated with blood or other bodily fluids should be cleaned with a bleach solution (1:10 to 1:100 dilution of household bleach).

The chapter of this document entitled "Employee Exposure Situations and Safe Work Practices" provides examples of exposure situations and safe work practices for other occupations impacted by the regulation.

3.5 Methods of Compliance with Standard Safety Procedures

Any potential hazard associated with a job task can be minimized or eliminated by using the appropriate combination of engineering controls, work practices, and personal protective equipment. This basic safety rule applies to all occupational hazards, whether they are routine work hazards (such as slips or falls), chemical hazards, or contact hazards associated with potentially infectious materials. This section of the Exposure Control Plan focuses on how this facility protects the employees who may be exposed to biological hazards while performing their work tasks.

This section describes the engineering controls and personal protective equipment at (COMPANY) for employees who may come in contact with blood, blood products, or other potentially infectious materials. This section also delineates specific safe work practices which must be followed by every employee who may be exposed to infectious agents.

3.5.1 Universal Precautions

The principle of Universal Precautions is a conservative approach to infection control. Simply stated, the concept behind Universal Precautions is that:

ALL HUMAN BLOOD AND CERTAIN HUMAN BODY FLUIDS ARE TREATED AS IF KNOWN TO BE INFECTIOUS FOR THE HUMAN IMMUNODEFICIENCY VIRUS, THE HEPATITIS B VIRUS, AND OTHER BLOODBORNE PATHOGENS.

This approach must be used by employees at this facility whenever they handle blood, bodily fluids, or other potentially infectious materials. By making this assumption, employees will stringently avoid all contact with potentially contaminated items by following standard safety precautions, use of proper safety controls, and wearing the appropriate personal protective equipment.

The advantages in this approach are obvious. Employees who come in contact with people or who handle blood, blood products, or other bodily fluids often have no idea whether they may be exposed to Hepatitis B Virus, Human Immunodeficiency Virus, or other bloodborne viruses. For example, source individuals may show no obvious symptom of carrying the virus. Unconscious accident victims will not be able to inform rescue units of their medical status. Vials of blood or blood products may not have appropriate warning labels, or these items may not have been tested for bloodborne pathogens. Waste containers may hold needles, personal hygiene items, contaminated wastes from laboratories which may be engaged in work with infectious agents. Using Universal Precautions takes the guesswork out of how to respond to potential exposure situations safely.

3.5.2 Engineering and Work Practice Controls

It is the policy of (COMPANY) to use engineering controls and work practices whenever possible to eliminate or minimize employee exposures to bloodborne pathogens. Personal protective equipment will be worn when the potential for occupational exposures remain after these controls have been implemented. The following sections describe the engineering controls and work practices currently in place at this facility.

3.5.2.1 Engineering Controls

Engineering controls are those devices which isolate or remove the bloodborne pathogen hazard from the work place. These engineering controls are routinely examined as part of a stringent inspection program. Table 4 lists the engineering controls which have implemented, where appropriate, to protect employees from potential exposure situations. Table 4 also provides information on the inspection schedule for these controls. Table 4 should be completed by designated employees by entering the appropriate information.

Table 4 Engineering Controls and Inspection Schedule

ENGINEERING CONTROL	INSPECTION PERIOD	COMMENT
Fume Hoods	Monthly	The inspection periods listed here are provided as examples. Additional information can be provided on other maintenance practices.
Biological Safety Cabinets: Class I Class II Type A Class II Type B Class III	Monthly	Monthly cleaning.
Glove Boxes	Monthly	Monthly cleaning.
Sharps Disposal Containers	Once before use. Monthly during use. Once before disposal.	Ensure outer portion of container remains clean while unit is in use.
Self-Sheathing Needles	Once before use.	Order from Stockroom.
Hand-washing Facilities	Once every six months	Daily cleaning.
Others:		

3.5.2.2 Hand Washing Facilities

Hand-washing facilities which are readily accessible have been made available to all employees, in accordance with the Federal standard. Employees must wash their hands at these facilities every time they come in contact with items containing or contaminated with potentially infectious agents.

Where the construction of hand-washing facilities is not feasible, (COMPANY) provides an antiseptic hand cleanser. Employees must wash their hands with running water as soon as possible after using these antiseptic cleansers.

Site Locations of Hand-washing Facilities: (List Locations)

3.5.2.3 Work Practices

Work practices are defined as those procedures which have been developed by (COMPANY) to reduce or eliminate employee exposures to bloodborne pathogens during the execution of their work tasks. In terms of basic safety during potential exposure situations, the chief safety policy of (COMPANY) is to eliminate all exposures. Employees must understand these procedures fully, and they must implement these practices when appropriate.

3.5.2.3.1 The Importance of Avoiding Routine Exposures

A majority of biological contaminations are the result of small sprays, splashes, or mists. Most of these contaminations don't cause an immediate, adverse health effect. Therefore, many workers do not fully appreciate the hazards they face during the completion of certain work tasks. Employees must realize that one accidental exposure to bloodborne pathogens can result in serious health effects. All the procedures described in this Exposure Control Plan and associated training program must be strictly followed by employees.

3.5.2.3.2 Basic Hygiene

The following basic hygiene procedures are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by this Company and must be followed by employees who are potentially exposed to bloodborne pathogens.

All procedures involving blood or other potentially infectious materials shall be performed in such a manner to prevent or minimize splashing, spraying, spattering, and generation of droplets of these substances. Employees must wash their hands immediately after removal of gloves or other personal protective equipment (or as soon as feasibly possible).

If accidental skin contamination occurs, the area will be washed with copious amounts of soap and water for 15 minutes. If the eyes or mucous membranes are accidentally contaminated, they should be flushed with water for at least 15 minutes. All accidental exposures must be immediately reported to the (Safety Department) and the area supervisor.

3.5.2.3.3 Additional Safe-Work Procedures

The following procedures are prudent practices and are not mandated by the Federal standard. However, these procedures are nonetheless required by (COMPANY).

- Loose hair and clothing should be confined when in work areas where potential exposure to bloodborne pathogens may occur.

- Horseplay and other behavior which might confuse, startle, or distract workers, will not be tolerated.
- All areas of potentially exposed skin shall be washed before leaving the work area. Water and a mild soap, or an antiseptic cleanser, should be used for skin cleansing. Solvents are not to be used as skin cleansers. They remove the natural protective oils from the skin and can cause irritation and inflammation.
- Employees with acne, dermatitis, open wounds, or other skin problems should be extremely cautious when involved in potential exposure situations. Employees with skin problems will review safe work procedures with their supervisors or members of (Safety Department).

3.5.2.3.4 Contaminated Needles and Other Sharps Handling Procedures

The following sharps-handling procedures are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by this Company and must be followed by employees who are potentially exposed to bloodborne pathogens.

Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed unless no alternative is feasible or such action is required by a specific medical procedure. Contaminated needles and other contaminated sharps will not be removed, bent, or recapped, unless it is through the use of a mechanical device or a one-handed technique. Shearing or breaking of contaminated needles is forbidden.

Contaminated, reusable sharps will be placed in appropriate containers immediately after use (or as soon as reasonably possible) until properly processed. These containers must be puncture resistant, labeled (and/or color coded) in accordance with the Federal standard. For further information, refer to the section entitled "Label Requirements" in this document. All sharps containers must be leak-proof on the sides and bottom.

The following procedures are prudent practices, not mandated by the Federal standard but nonetheless required by (COMPANY). Employees will contact their supervisor or the (Safety Department) whenever they feel a procedure requires the recapping, bending, or removal of needles or other sharps.

3.5.2.3.5 Actions Prohibited in Work Areas

The following work area policies are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY)

and must be followed by employees who are potentially exposed to bloodborne pathogens.

Eating, drinking, smoking, and applying cosmetics is forbidden in areas where there is a reasonable possibility of occupational exposure to potentially infectious materials. Food and beverages must not be kept in refrigerators, freezers, shelves, cabinets, or on bench-tops where blood or other potentially infectious materials are present. Mouth pipetting or suctioning of blood or other potentially infectious materials is prohibited.

3.5.2.3 Containerization Procedures

The following containerization procedures are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by employees who are potentially exposed to bloodborne pathogens.

Specimens of blood or other potentially infectious materials shall be placed in a containers which prevent leakage during collection, handling, processing, storage, transport, or shipping. These containers must be closed prior to being stored, transported, or shipped. Containers for storage, transport, or shipping will be labeled in accordance with the standard and the procedures described in the section on labels in this document.

If outside contamination of the primary container occurs (or if specimens contained within the primary container could puncture that container), the primary container will be placed within a secondary container which prevents leakage during handling, processing, storage, transport, or shipping. The secondary container has to be puncture-resistant and labeled/color-coded under the requirements of the standard and the section entitled "Label Requirements" in this document.

> *Special Note*: According to the Federal standard, facilities that utilize Universal Precautions in the handling of all specimens, the labeling/color-coding of specimen containers is not necessary if these containers are easily recognizable as holding potentially infectious agents. This exemption only applies while such containers remain within the facility. Labeling/color-coding is mandated for those containers when they leave the facility. However, it is prudent practice to label ALL containers with the contents

of the container and their associated hazard.

3.5.2.4 Equipment Handling Procedures

The following equipment-handling procedures are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by employees who are potentially exposed to bloodborne pathogens.

Equipment which may become contaminated with blood or other potentially infectious materials will be examined prior to servicing or shipping and will be decontaminated, when necessary. A label prepared in accordance with the Federal standard and the section on labels in this document will be attached (if necessary) to the equipment, stating which portions remain contaminated. Designated employees of (COMPANY) will ensure that appropriate hazard information is conveyed to all affected employees, as well to servicing and repair representatives.

3.5.2.4.1 Special Procedures for Glassware

The following procedures are prudent practices and are not mandated by the Federal standard. Nonetheless, they are required by (COMPANY).

Accidents involving glassware are a significant cause of injuries in laboratories and related facilities. Glassware should be handled carefully and stored properly. Damaged items need to be repaired or discarded. Hand protection must be worn when inserting rubber stoppers or corks into glassware, or when placing rubber tubing on glass hose connections.

Proper instruction on the use of specialized glassware must be obtained. Equipment must be used only for its intended purpose. Employees should ask their supervisors if they are unsure how to handle equipment or if they feel items are not being used properly.

3.5.2.5 Working Alone and Unattended Operations

The following procedures are prudent practices and are not mandated by the Federal

standard. Nonetheless, they are implemented by (COMPANY).

Employees should not work alone in a laboratory if the procedures being conducted are hazardous. If employees must work alone, due to the constraints of an experiment or analysis, they should:

- Review the operations with their supervisor to determine if the operations can be conducted alone safely.
- Arrange to have security personnel or another employee check them on a regularly scheduled basis when they work alone.

If a reaction or other operation is to be unattended for any length of time, employees must:

- Leave on the lights in the work place.
- Place an appropriate sign on the door; and
- Provide for containment of the materials being used, should an event such as a power failure occur.

3.5.3 Personal Protective Equipment

(COMPANY) provides, at no cost to the employee, appropriate personal protective equipment for personnel who may be exposed to bloodborne pathogens. Table 5 lists the personnel protective clothing available at this facility at how to obtain these supplies. Table 5 should be completed by a designated (COMPANY) employee by entering the appropriate information.

If protective clothing is penetrated by blood or potentially infectious materials, these items must be removed immediately (or as soon as feasible). All personal protective equipment will be removed prior to leaving the work area. Laundering, disposal, repair and replacement of this equipment will be done at no cost to the employee.

Table 5 Facility Personal Protective Clothing Policies

ITEM	HOW TO OBTAIN	COMMENT
Single-Use Gloves	(i.e. order from stockroom obtain from Safety Dept. etc.).	Wear latex gloves whenever there is an opportunity for hand-contact with blood, blood products, mucous membranes, non-intact skin, other potentially infectious materials, or contaminated items and surfaces. Check for leaks tears punctures before each use. Use gloves only one time. Dispose in appropriate waste container.
Other Gloves		Check for leaks tears punctures before each use. Dispose in appropriate waste container.
Surgical Gowns		Check the condition of gown before each use. Do not wear gowns which are obviously soiled. Follow standard laundering or disposal procedures for gowns as appropriate.
Lab Coats		Check the condition of lab coat before each use. Do not wear lab coats which are obviously soiled. Follow standard laundering or disposal procedures for lab coats as appropriate.
Masks		Wear masks whenever there is a likelihood of splash, sprays, mists, or the production of respirable droplets. Ensure that the masks fits properly. Dispose of masks in appropriate containers.
Safety Goggles/Safety Glasses		Wear eye protection whenever there is an opportunity for exposure to blood, blood products, or other potentially infectious materials. Clean with appropriate antiseptic agents. Dispose of these items in appropriate containers.
Face Shields		Wear face shields whenever there is an opportunity for exposure to large quantities of blood, blood products, or other potentially infectious materials. Wear face shields whenever there is a likelihood of splash, sprays, mists, or the production of respirable droplets. Clean with appropriate antiseptic agents. Dispose of these items in appropriate containers.
Hoods, Hair Nets		Check for leaks tears punctures before each use. Dispose in appropriately waste container.
Shoe Covers, Boots		These items should be worn when gross contamination with potentially infectious materials is anticipated.
Others:		

3.5.3.1 Gloves

The routine use of gloves is one of the most basic safety procedures used to protect employees from the hazards associated with infectious agents. Gloves must be worn

whenever there is an opportunity for hand-contact with blood, blood products, mucous membranes, non-intact skin, and other potentially infectious materials or contaminated items and surfaces.

Disposable gloves (such as surgical or examination gloves) should be replaced promptly if they are torn, punctured, or their ability to function as a protective barrier is compromised in any way. Disposable gloves will not be washed or decontaminated for re-use.

Utility gloves (gloves designed for more use more than a single time) may be decontaminated for re-use if the integrity of the glove is not compromised. Prior to use, to ensure that these gloves have no leaks, employees should blow air into the glove; seal the glove at the neck; and, determine if there is an release of air from holes in the glove. Utility gloves must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration.

Hypoallergenic gloves, glove liners, powderless gloves, or other similar protective gear are available to employees who are allergic to the gloves normally provided. Employees who require such items should contact their supervisor or members of the (Safety Department).

3.5.3.1.2 Special Procedures for Glove Use at Volunteer Blood Donation Centers

> *Special Note*: This section, given in the Federal Standard, describe procedures specifically apply to volunteer blood donation centers. Model users may note that this portion of the generic Exposure Control Plan if it is not applicable to their operation.

Add the following statement as appropriate:

- This portion of the Exposure Control Plan is not applicable to the operations at this facility.
- This portion of the Exposure Control Plan is applicable to the operations at this facility. The procedures described in this section will be followed by employees.

It has been determined by the staff of (COMPANY) that routine gloving for all phlebotomies (is/is not) necessary. However, this facility does not, in any way, discourage

the use of gloves. To ensure the safety of our employees, this facility has instituted the following policies:

- Gloves will be made available to all employees who wish to wear them.
- Gloves must be worn by employees who have cuts, scratches, or other breaks in the skin.
- Gloves will be worn by employees who deem themselves at a significantly increased risk of hand contamination (i.e. working with an uncooperative source individual).
- Gloves will be worn by employees during their training in phlebotomy.

These policies are reviewed annually, or as deemed necessary by members of the (Safety Department) to ensure the maintenance of a safe work environment.

3.5.3.2 Face Protection

Masks, in combination with eye protection devices (i.e. goggles, safety glasses with shields, face shields) must be worn when splashes, spray, splatter, or droplets of blood or other potentially infectious materials may be generated and contamination of the eyes, nose, or mouth can be reasonably anticipated. Employees with acne, dermatitis, or other ailments involving the facial region should consider wearing face protection while conducting operations where potential exposure may occur.

3.5.3.3 Other Protective Apparel

Gowns, aprons, lab coats, or other similar outer garments may be worn in occupational exposure situations. The type of garment will be selected based on the degree of anticipated exposure. Employees should contact their supervisor or members of the (Safety Department) if they have any questions concerning the type of personal protective apparel appropriate for certain job tasks. Such clothing will not be worn outside of designated work areas.

Surgical caps, hoods, shoe covers, or boots shall be worn in instances when gross contamination can be reasonably anticipated (i.e. autopsies, surgeries, clean-up of a significant release of potentially infectious materials). For routine work situations, close-toed shoes should be worn at all times.

3.5.3.4 Use of Personal Protective Equipment

Employees will use the appropriate personal protective equipment whenever they are potentially exposed to bloodborne pathogens. According to the Federal standard, the employee may temporarily and briefly decline to use this equipment when, in the employee's professional judgment, its use prevents the delivery of health care or poses an increased hazard to the employee or a coworker. However, (COMPANY) does not encourage this action. When an employee makes this judgment, the circumstances shall be thoroughly investigated in order to determine whether changes can be made to prevent other, similar occurrences.

> *Special Note*: Describe procedures to review incidents in which employees select not to use personal protective equipment. Also, describe how these situations will be handled.

3.5.3.5 Other Safety Equipment

Other safety equipment which is found in work areas in which employees may be exposed to potentially infectious materials include:

> *Special Note*: Add the statements which are applicable to your facility. This section is NOT mandated by the Bloodborne Pathogen Standard. However, this information is important to present in any thorough safety plan.

- An easily accessible drench-type safety shower;
- A fire extinguisher;
- An eyewash fountain;
- A fire alarm, located nearby; and
- An easily accessible telephone for emergency use.

3.6 HOUSEKEEPING PROCEDURES

Effective housekeeping is essential to minimize all occupational hazards. Good housekeeping is so important to protect workers from the hazards associated with

potentially infectious agents that this section is dedicated to describing the pertinent housekeeping procedures at this facility.

(COMPANY) strives to maintain its work sites in a clean and sanitary condition. To do so, a rigorous cleaning schedule for the various work areas which contain potentially infectious materials has been instituted. Table 6 describes the cleaning protocol used at this facility.

Table 6 Facility Schedule for Cleaning and Method of Decontamination

ITEM or AREA	METHOD OF DE-CONTAMINATION	CLEANING SCHEDULE	COMMENT
Bench Tops	Wash with bleach solution obtained from stockroom.	After the completion of procedures involving potentially infectious materials. At the end of the work shift when operations conducted on the bench-top involved potentially infectious materials. When the surface becomes obviously contaminated.	This is an example as to how this particular table should be completed.
Others:			

3.6.1 Housekeeping Procedures for Equipment

The following housekeeping procedures for equipment are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by employees who are potentially exposed to bloodborne pathogens.

3.6.1.1 Decontamination of Equipment

All equipment and working surfaces will be decontaminated after contact with blood or other potentially infectious materials. Work surfaces will be washed with disinfectant after completion of procedures which lead to contamination of these surfaces.

Work surfaces will be cleaned at the end of the work shift when operations conducted during the shift involve potentially infectious materials. Protective coverings,

such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and surfaces must be replaced as soon as feasible when they become overtly contaminated or at the end of the work shift. All bins, pails, cans, and similar receptacles intended for reuse which may be expected to become contaminated with blood or other potentially infectious materials will be routinely inspected, cleaned, and decontaminated. These receptacles shall also be immediately decontaminated whenever they become visibly contaminated.

3.6.2 Housekeeping Procedures for Sharps

The following housekeeping procedures for sharps are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by employees who are potentially exposed to bloodborne pathogens.

Broken glassware which may be contaminated, will never be picked up directly with the hands. A brush and dustpan, tongs, or forceps will be used to clean-up this broken glassware. Employees must wear gloves every time they clean-up broken glassware.

3.6.3 Housekeeping Procedures for Waste Materials

The following housekeeping procedures for waste materials are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by employees who are potentially exposed to bloodborne pathogens.

3.6.3.1 Waste Sharps

Contaminated sharps must be discarded immediately after use. Containers for waste sharps shall be:

- Closable.
- Puncture Resistant.
- Leak-proof on sides and bottom.
- Labeled/color-coded according to the Federal standard and the chapter on labels in this document.
- Easily accessible to personnel (i.e. found close to the work areas where potentially infectious materials are handled).
- Maintained upright throughout use.
- Replaced routinely and not allowed to be overfilled.

When moving containers of contaminated sharps from the area of use, the containers will be closed immediately prior to removal to prevent the accidental release of contents or placed in a secondary container if leakage is possible. This secondary container must be closable, constructed to contain all contents securely and prevent leakage during handling, storage, transport, or shipping and, labeled/color-coded according to the Federal standard and the section designated "Label Requirements" in this document.

3.6.3.2 Containers for Other Potentially Infectious Wastes

Containers for potentially infectious wastes generated during operations conducted at (COMPANY) must be:

- Closable;
- Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport, or shipping;
- Labeled/color-coded according to the Federal standard and the section entitled "Label requirements" in this document; and
- Closed prior to removal to prevent the accidental release of materials.

If outside contamination of the waste container occurs, the primary container will be placed in a secondary container. This secondary container must be closable, constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping, labeled/color-coded according to the Federal standard and the section designated "Label Requirements" in this document, and closed prior to removal to prevent the accidental release of materials.

3.6.4 Housekeeping Procedures for Laundered Items

The following housekeeping procedures for items to be laundered are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by employees who are potentially exposed to bloodborne pathogens.

Contaminated laundry will be handled as little as possible with a minimum of agitation. Contaminated laundry will be containerized in the area of use and shall not be sorted or rinsed in the location of use. Wet laundry which presents a potential leak problem will be placed in leak-proof containers. Contaminated laundry will be placed in containers which are labeled/color-coded according to the Federal standard and the section on labels in this document.

> *Special Note*: According to the Federal standard, facilities that utilize Universal Precautions in the handling of all soiled laundry, the labeling/color-coding of laundry containers is not necessary if alternative labeling or color-coding permits all employees to recognize that Universal Precautions must be used with these items. This exemption only applies while such containers remain within the facility. Labeling/color-coding is mandated for those containers when they leave the facility. However, it is prudent practice to label all containers with the contents of the container and their associated hazard.

Employees who have contact with contaminated laundry must wear gloves and other appropriate personal protective equipment, as deemed necessary for the safe handling of this laundry. Employees should contact their supervisor or members of the (Safety Department) if they have any questions concerning the type of personal protective apparel appropriate for certain job tasks.

3.6.5 Additional Housekeeping Procedures

The following procedures are prudent practices, not mandated by the Federal standard but nonetheless implemented by (COMPANY). Floors need to be cleaned regularly. Accumulated dust and other solid particulates may pose respiratory hazards. Stairways

and hallways cannot be used for storage. Access to exits and emergency equipment should never be blocked.

3.7 PROCEDURES FOR HEPATITIS B VACCINATIONS AND MEDICAL EVALUATIONS

3.7.1 Hepatitis B Vaccinations

Hepatitis B vaccinations are an important part of the Exposure Control Program which has been instituted at this facility. In keeping with (COMPANY)'s concerns for employee safety and the criteria that this facility must meet under the Bloodborne Pathogen Standard, (COMPANY) has implemented the guidelines described in this section for the Hepatitis B vaccination program.

The Hepatitis B vaccine and vaccination series are available to all employees who have occupational exposures to potentially infectious materials. These vaccinations are provided at no cost to the employee and are provided by or under the supervision of a licensed physician (or another licensed healthcare professional).

3.7.2 Booster Vaccinations

If routine booster doses of Hepatitis B vaccine are recommended by the U.S. Public Health Service, these booster shots will be made available to (COMPANY) employees. These vaccinations are provided at no cost to the employee and are provided by or under the supervision of a licensed physician (or another licensed healthcare professional).

3.7.3 Obtaining Hepatitis B Vaccinations

In accordance with the requirements of the standard, the Hepatitis B vaccination will be provided to employees after the appropriate information on the Hepatitis B virus is

reviewed during training programs. Such training is described in the section on training. Vaccinations are provided within ten (10) working days of initial assignment to all employees who have occupational exposures.

> *Special Note*: Describe the actual procedures for obtaining Hepatitis B vaccinations. For example, provide the name of the healthcare professionals who have been designated by the Company to provide vaccinations and how employees can schedule an appointment for vaccinations. As per the requirements of the standard, these vaccinations are provided at no cost to the employee, made available at a reasonable time and place, and are provided by or under the supervision of a licensed physician (or another licensed healthcare professional).

3.7.3.1 Exemptions to the Hepatitis B Vaccination Program

Employees who have already completed the Hepatitis B vaccination series are exempt from the (COMPANY)'s vaccination requirements. Employees for whom antibody testing has revealed an immunity the Hepatitis B virus or for whom vaccination is contraindicated for medical reasons are also exempt from the vaccination requirements.

3.7.3.2 Employees Who Decline the Hepatitis B Vaccination Series

Employees may decline the Hepatitis B vaccination. When an employee elects not to participate in the Hepatitis B vaccination program, the employee declining treatment must sign the following statement.

Mandatory Hepatitis B Vaccination Declination Statement:

> I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring the Hepatitis B Virus infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccination, I continue to be at risk of acquiring Hepatitis B, a serious disease. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.
>
> (Signature of the Employee)

As indicated by the above statement, employees who decline Hepatitis B virus vaccination may receive the vaccination series at a later date. These vaccinations will be

provided at no cost to the employee at that time. These vaccinations will also be provided by or under the supervision of a licensed physician (or another licensed healthcare professional).

3.7.4 Post-Exposure Vaccinations and Medical Evaluations

Post-exposure vaccinations and medical evaluations following an exposure incident are essential to an effective Exposure Control Program. In keeping with (COMPANY)'s concerns for employee safety and the criteria that this facility must meet under the Bloodborne Pathogen Standard, these guidelines have been developed to provide post-exposure evaluations and vaccinations to employees.

Post-exposure vaccinations and medical evaluations are available to all employees who have had an exposure incident. These vaccinations and evaluations are provided at no cost to the employee and are provided by or under the supervision of a licensed physician (or another licensed healthcare professional) at a reasonable time and place.

All necessary laboratory tests are conducted by an accredited laboratory. Accreditation of these facilities will be confirmed by a designate of (Safety Department).

3.7.4.1 Availability of Evaluations and Their Results

Confidential medical evaluations and follow-up's will be made available to all affected employees following the report of an exposure incident. These medical evaluations will include the following elements (in accordance with the Bloodborne Pathogen Standard and (COMPANY)'s concerns for employee health and safety):

- Documentation of the routes of exposure and circumstances by which exposure occurred.
- Identification and documentation of the source individual, unless such identification is not possible or prohibited by state or local law.
  *The source individual's blood will be tested as soon as feasible after consent is obtained in order to obtain the person's HIV/HBV status.
  *When the source individual's consent is not required by law, this individual's blood will be tested to determine HIV/HBV status.
  *When the source individual is already known to be infected with Hepatitis B

Virus or Human Immunodeficiency Virus, testing for the person's HIV/HBV status need not be repeated.

Results of the source individual's testing will be made available to the exposed employee. The employee will then be informed of the applicable laws concerning disclosure of the identity and infectious status of the source individual.

3.7.4.2 Obtaining Post-Exposure Evaluations

Special Note: Describe the actual procedures for obtaining post exposure evaluations.

Post-exposure measures designed to prevent the spread of the disease or development of disease symptoms will be made available to the employee, when medically indicated. This program follows the recommendations of the U.S. Public Health Service and includes counseling and evaluation of reported illnesses.

3.7.4.2.1 Collection and Testing of Employee Blood Samples

A sample of the employee's blood will be collected as soon as possible after the exposure incident. The sample shall be tested for HIV/HBV status as soon as employee consent is obtained.

If the employee consents to baseline blood collection, but does not give consent at that time for Human Immunodeficiency Virus serologic testing, the sample shall be preserved for at least 90 days. If the employee elects to have the baseline sample tested within this 90 day period, such testing will be done as soon as possible after the decision has been made.

3.7.4.3 Healthcare Professional's Written Opinion

(COMPANY) will obtain a copy of the evaluating healthcare professional's written opinion within 15 days of completion of the evaluation. This written opinion will be immediately made available to the employee.

In terms of Hepatitis B Virus evaluations, the healthcare professional's written opinion for Hepatitis B vaccination will be limited to whether Hepatitis B vaccination is indicated for the employee, and if the employee has received such vaccination. Written

opinions concerning other results of post-exposure evaluations are limited to the following information, in accordance with the regulation:

- An indication that the employee has been informed of the results of the evaluation.
- An indication that the employee has been told about medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

All other findings or diagnoses not specified in the above paragraphs will remain confidential and cannot be included in the written report.

3.7.5 Medical Record-Keeping

(COMPANY) maintains accurate medical records, in accordance with 29 CFR 1910.20, for employees with occupational exposures. These records include:

- The name and social security number of the employee.
- A copy of the employee's Hepatitis B vaccination status, including the dates of all Hepatitis B vaccinations and any medical records related to the employee's ability to receive such vaccination.
- A copy of all results of examinations, medical testing, and follow-up procedures.
- A copy of the healthcare professional's written opinion.
- A copy of the exposure information supplied to the healthcare professional.

These medical records will be kept confidential and will not be disclosed without the employee's express written consent to any person within or outside the work place (except as may be required by law). (COMPANY) maintains these records for the duration of an employee's employment plus 30 years thereafter.

3.8 Labeling and Marking

3.8.1 Communication of Hazards to Employees

Communication of the hazards associated with blood, blood products, or other potentially infectious materials is extremely important. (COMPANY) provides such hazard information

to employees through the use of labels and signs. (COMPANY) also provides information and training programs which review the hazards associated with bloodborne pathogens. Information on training is provided in the next section in training.

3.8.1.1 Label Requirements

Warning labels will be affixed to containers of regulated waste, refrigerators, and freezers containing blood or other potentially infectious materials. Labels should also be affixed to containers used to store, transport, or ship blood or other potentially infectious material.

Labels must include the universal biohazard symbol and be fluorescent orange or orange-red, with lettering or symbols in a contrasting color. Labels are also required for equipment which has been contaminated with potentially infectious materials. Such labels will meet the requirements described in the previous paragraph. Labels can be obtained at (provide location).

3.8.1.1.1 Materials Exempt from Label Requirements

Red bags or red containers may be substituted for labels. Containers of blood or blood products that are labeled as to their contents and have been released for transfusion or other clinical use, are exempt from these requirements (i.e. the bag does not require the biohazard symbol).

Individual containers placed in a labeled container during storage, transport, shipment, or disposal are also exempted from the label requirements. Regulated waste that has been decontaminated need not be labeled or color-coded. However, it is prudent practice to label all containers holding potentially infectious materials with the contents and the hazards associated with the materials.

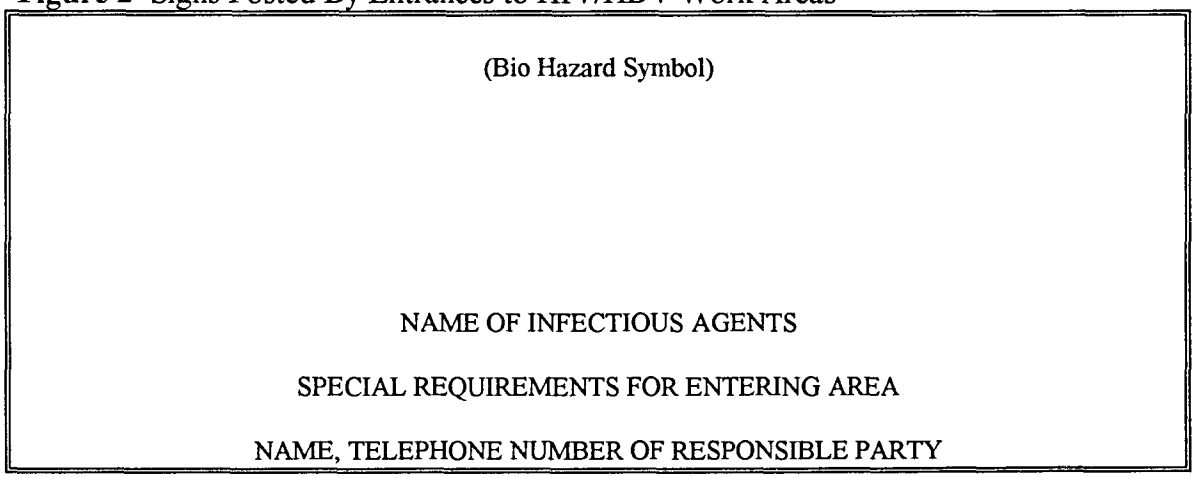
3.8.1.2 Requirements for Sign

> *Special Note*: The following requirements for signs are mandatory for HBV/HIV research and production facilities under the regulation. The procedures described in the section are optional for other types of facilities and may be omitted from the Exposure Control Plan. There are no

minimum dimensions specified in the Bloodborne Pathogen Standard, however it is stated that the size should be that which is "conspicuous."

Signs will be posted at the entrance of all work areas in which potentially infectious materials are handled. These signs will be fluorescent orange red (or predominately so), with lettering in contrasting color, and displayed in a conspicuous manner. These signs must contain, at a minimum, the information which is depicted in Figure 2.

Figure 2 Signs Posted By Entrances to HIV/HBV Work Areas



3.9 Record-Keeping Procedures

The OSHA Bloodborne Pathogen Standard describes stringent requirements for the maintenance of medical and training records. This information can be extremely important in assessing the exposure and health history of the employee. Detailed reviews of the record-keeping procedures specific to medical records and training records which are implemented at (COMPANY), and required by the Bloodborne Pathogen Standard, are provided within the sections on medical evaluations and training in this document. Additional information concerning medical and training records are given in the following sub-sections.

3.9.1 Employee Medical Records

Employee medical records are provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, and to designated representatives of the Federal Occupational Health and Safety Administration. Should an employee leave this facility and be hired by another company, their medical records will be transferred in accordance with the procedures set forth in 29 CFR 1910.20.

3.9.2 Employee Training Records

Employee training records are provided to the subject employee, upon request, for examination and copying and to anyone having written consent of the subject employee, and to designated representatives of the Federal Occupational Health and Safety Administration.

3.9.3 Maintenance of Records

Table 7 summarizes the record-keeping procedures in place at (COMPANY) for the records required by the Bloodborne Pathogen Standard, as well as other records which may be pertinent to employee health and safety.

Table 7 Record-Keeping Procedures

RECORD	LOCATION	RESPONSIBLE PERSONNEL	COMMENT
Training			Required by Bloodborne Pathogen Standard.
Medical			Required by Bloodborne Pathogen Standard.
Inspection			
Exposure Investigation			
Other:			

3.10 Special Practices for HIV/HBV Research Laboratories and Production Facilities

Special Note: This section of the Exposure Control Plan specifically addresses standard requirements for HIV/HBV research laboratories and production facilities. It does NOT apply to clinical laboratories, diagnostic facilities, nor any other type of operation. Safety department personnel who are completing this Exposure Plan should add one of the following statements;

- This chapter is not applicable to the operations conducted at this facility.
- The sub-sections of this section pertinent to HIV/HBV research facilities are applicable to this facility.
- The sub-sections of this section pertinent to HIV/HBV production facilities are applicable to this facility.

3.10.1 Definitions of HIV/HBV Research Laboratories and Production Facilities

According to the Bloodborne Pathogen Standard, HIV/HBV research facilities are those laboratories using laboratory-scale amounts of HIV/HBV-containing materials. The standard defines HIV/HBV production facilities as those which engage in industrial-scale, large-volume, or high-concentration production of HIV/HBV-containing materials. Because of the high concentration and/or large volume of the potentially infectious materials handled at research laboratories and production facilities, special safety procedures must be developed for the protection of employees. A description of these safety procedures begins in the section of this document entitled "Requirements for Basic Safe Work Procedures".

3.10.2 Requirements for Training and Biosafety Manuals

According to the requirements of the Bloodborne Pathogen Standard, HIV/HBV research and production facilities must prepare a Biosafety Manual (a document which describes the safe work procedures instituted to address the hazards of specific work tasks). The Biosafety Manual for this facility is called (provide name of the manual) and employees

can find this manual at (provide location of manual). This manual will be reviewed and updated annually by members of (Safety Department). Personnel who may be exposed to potentially infectious materials must read this manual and follow the safety practices described in the document.

Employees at research and production facilities must have specialized training which exceeds the training requirements described in the section of this document on information and training for the Bloodborne Pathogen Standard. In keeping with (COMPANY)'s concerns with employee safety and the criteria that HIV/HBV research and production facilities must meet under the Bloodborne Pathogen Standard, (COMPANY) has implemented the following training guidelines.

3.10.2.1 Facility Training Guidelines

> *Special Note*: Add the training guidelines currently in place at your Company. The guidelines listed below are mandatory for employee training programs at HBV/HIV research and production facilities for full compliance with the standard.

- Employees must demonstrate proficiency in standard micro biological practices and techniques and in the practices and operations specific to the facility before being allowed to work with Human Immunodeficiency Virus or Hepatitis B Virus.
- Employees must have prior experience in the handling of human pathogens or tissue cultures before working with Human Immunodeficiency Virus or Hepatitis B Virus.
- For employees with no prior experience in handling human pathogens, a progressive training program is provided. For example, initial work activities do not include the handling of infectious agents. A progression of work activities are assigned as techniques are learned and proficiency is developed. Employees are allowed to participate in work activities involving potentially infectious materials only after proficiency has been demonstrated.
- Others: (As determined by the Safety Personnel)

3.10.3 Requirements for Basic Safe Work Procedure

The following safe work procedures for HIV/HBV research laboratories and production facilities are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030 and are implemented at (COMPANY):

Special Note: Add the procedures applicable to the operations currently conducted at your Company. Any of the procedures described below which apply to your facility MUST be implemented for full compliance with the standard.

- All regulated waste is either incinerated or autoclaved.
- Laboratory doors are kept closed when work involving HIV/HBV is in progress.
- Contaminated materials that are to be decontaminated at a site away from the work area must be placed in a durable, leak-proof, labeled/color-coded container that is closed before removal from the work area.
- Access to the work area shall be limited to authorized personnel. Written policies and procedures must be established which describe the process whereby employees are authorized to enter these work areas. The written procedures for this facility are provided in the section of the document entitled "Written Procedures Describing the Authorization Process for Entry into HIV/HBV Work Areas".
- When potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol will be posted on all access doors. Such signs are described in the section in this document designated "Requirements for Signs".
- All activities involving potentially infectious materials will be conducted in biological safety cabinets or other physical containment devices.
- No work with potentially infectious agents will be conducted on open benches.
- Laboratory coats, gowns, smocks, uniforms, or other appropriate protective apparel will be used within the work area and in animal rooms. This protective apparel will not be worn outside of the work area and will be decontaminated before being laundered.
- Care will be taken to avoid all skin contact with potentially infectious materials. Gloves will be worn by employees while working with animals and those who are handling potentially infectious materials.
- Vacuum lines will be protected with liquid disinfectant traps and high-efficiency particulate filters (or filters of equivalent or superior efficiency). These filters are checked routinely and are maintained or replaced, as necessary.
- Hypodermic needles and syringes will be used for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles.
- Only needle-locking syringes or disposable syringe-needle units (i.e. the needle is integral to the syringe) may be used for the injection or aspiration of other potentially infectious materials.
- Extreme caution shall be used when handling needles and syringes. Needles will not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. Needles and syringes must be promptly placed in an appropriate disposal container and has to be autoclaved or decontaminated before reuse or disposal.
- All spills will be immediately contained and cleaned-up by staff trained and equipped to respond to releases of potentially infectious materials. Emergency response procedures are more fully described in the chapter on emergency response in this

document.

- The personnel who are trained to respond to such releases can be reached by calling: (give number).
- A spill or accident that results in an exposure incident will be immediately reported to the supervisor and (Safety Department).
- Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protective equipment and physical containment devices will be used for all potentially infectious materials which pose a threat of exposure to droplets, splashes, spills or aerosols.
- Biological safety cabinets will be certified when installed, whenever they are moved, and on an annual basis.

The following procedures are not mandated by the Bloodborne Pathogen Standard; however, they are prudent practices which are required at by this facility.

- (List all other requirements that are specific to the facility's needs)

3.10.4 Procedures Specific to HIV/HBV Research Facilities

In keeping with (COMPANY)'s concerns with employee safety and the criteria that Research facilities must meet under the Bloodborne Pathogen Standard (COMPANY) has implemented the following procedures specific to HIV/HBV research facilities.

> *Special Note*: Add the procedures applicable to the operations currently conducted at your facility. If your facility meets the definition of a HIV/HBV research facility, all of these procedures described below MUST be implemented for full compliance with the standard.

- Each laboratory contains facilities for hand washing.
- Each laboratory contains facilities for eye washing.
- An autoclave for decontamination of regulated waste is available.

The following procedures are not mandated by the Bloodborne Pathogen Standard; however, they are prudent practices which are required at by this facility.

- (List all other requirements that are specific to the facility's needs)

3.10.5 Procedures Specific to HIV/HBV Production Facilities

In keeping with this (COMPANY)'s concerns with employee safety and the criteria that Research facilities must meet under the Bloodborne Pathogen Standard (COMPANY) has

implemented the following procedures specific to HIV/HBV production facilities.

> *Special Note*: Add the procedures applicable to the operations currently conducted at your facility. If your facility meets the definition of a HIV/HBV production facility, all of the procedures described below MUST be implemented for full compliance with the standard.

- Work areas must be separated from areas that are open to unrestricted traffic flow within the building.
  Passage through two sets of doors is the basic requirement for entry into the work area from access corridors or other contiguous areas.
  a) Physical separation of high-containment work areas from access corridors or other areas may also be provided by:
  b) Double-doored clothes-change rooms.
  c) Airlocks.
  d) Other access facilities which require two sets of doors before entry into work areas.
- Access doors to work areas or containment models with potentially infectious materials are self-closing.
- Surfaces of doors, walls, floors, and ceilings in the work area are water resistant so that they can be cleaned easily. Penetrations in these surfaces should be sealed to facilitate decontamination.
- Each work area containing potentially infectious materials has facilities for hand washing.
- Each work area containing potentially infectious materials has facilities for eye washing.
- An autoclave for decontamination of regulated waste is available.
- A ducted exhaust-air ventilation system is provided. The exhaust air is not recirculated to any other area of the building, is discharged outside, and is dispersed away from occupied areas and air intakes.

The following procedures are not mandated by the Bloodborne Pathogen Standard; however, they are prudent practices which are required at by this facility.

- (List all other requirements that are specific to the facility's needs)

3.10.6 Written Procedures Describing the Authorization Process for Entry into HIV/HBV Work Areas

According to the requirements of the Bloodborne Pathogen Standard, written policies and procedures must be established which describe the process whereby employees are authorized to enter work areas where HIV/HBV-containing materials are handled. This

section provides the policies and procedures instituted at this facility.

> *Special Note*: Add the procedures which most accurately describe the authorization process at your Company. These procedures are not required by the Bloodborne Pathogen Standard, but provide some guidelines which facilities may choose to adopt.

- Employees must complete the training program, as described in the section on training within this document, before receiving authorization.
- Employees must have (provide length of time) of experience in handling human pathogens before applying for authorization.
- Employees will demonstrate proficiency in standard micro biological techniques before being allowed to apply for authorization.
- Employees receive authorization to enter HIV/HBV work areas from designated members of the (Safety Department).
- Employee authorization to enter HIV/HBV work areas are obtained only after the recommendation of the work area supervisor.
- Employee authorization to enter HIV/HBV work areas is indicated in the following manner:
  a) Special badge or mark on badge.
  b) Specially marked or colored apparel.
  c) Name appears on roster outside work areas.
  d) Name appears on a list reviewed by security or other staff member before personnel enter work area.
  e) (List others)
- Employee authorization may be revoked by the work area supervisor or designated members of the (Safety Department) because of one or more of the following reasons:
  a) Failure to follow safety procedures described in the Exposure Control Plan or associated training program.
  b) Failure to wear appropriate personal protective apparel during the performance of job tasks.
  c) Failure to complete mandatory refresher training programs.
  d) (List others)

3.11 Schedule for Implementation of the Bloodborne Pathogen Standard Requirements

Table 8 outlines the schedule for (Company)'s implementation of the applicable elements of the Bloodborne Pathogen Standard. Safety and Health Department personnel should complete Table 8 by entering the requested information.

Table 8 Schedule for Implementation of Exposure Control Program

ELEMENT OF THE STANDARD	MANDATORY IMPLEMENTATION DATE	SLATED IMPLEMENTATION DATE AT THE COMPANY	ACTUAL IMPLEMENTATION DATE AT THE COMPANY
Exposure Control Plan	May 5, 1992		
Training and Information	June 4, 1992		
Record-keeping	June 4, 1992		
Engineering Controls	July 6, 1992		
Work Practices	July 6, 1992		
Personal Protective Equipment	July 6, 1992		
Housekeeping	July 6, 1992		
Special Practices for HIV/HBV Research laboratories and production facilities	July 6, 1992		
Hepatitis B Vaccination Program	July 6, 1992		
Post-Exposure Vaccinations and Medical Follow-up's	July 6, 1992		
Labels and Signs	July 6, 1992		

3.12 Response Procedures for Incidents Involving Potentially Infectious Materials

There is always the potential for accidents in the work place. Some of these incidents may involve potentially infectious materials (i.e. spilled container of regulated waste, or treating an accident victim who may be bleeding). Employees must be aware of emergency procedures that are taken whenever an incident involving potential biological hazards occurs.

3.12.1 The Emergency Response Plan

Protecting human health and safety is the primary consideration for all employees responding to the emergency - their own as well as their co-workers. Important steps in the (COMPANY) emergency plan include:

- Assist any personnel involved and remove them from exposure to further possible injury.
  *Avoid all contact with blood or other bodily fluids (i.e. vomit, salvia).
  *Wear appropriate personal protective equipment (gloves, face protection) when there is the potential from contact with potentially infectious materials.
- Warn employees in surrounding areas of potential hazards.
- Provide appropriate first aid, if trained to do so.
- Extinguish small fires with a portable fire extinguisher, if trained to do so.
- Report all exposure incidents to area supervisor and (Safety Department).

(COMPANY) has a contingency plan which contains procedures for evacuation, reporting and drills. All employees are expected to be familiar with this information. (COMPANY)'s Plan is located (provide location).

Personnel must be familiar with the alarm system found in their work areas. Also, isolation areas (such as cold rooms or sterile rooms) must have alarms or a telephone to notify those working within these rooms that an emergency situation exists in another area of the facility. These devices will also permit laboratory or safety personnel to be notified if an employee is trapped within the isolation area.

In terms of accidental releases of potentially infectious materials, the easiest spills to handle are the ones which don't occur. The best method to reduce spills is for workers to limit the quantity of materials that are being handled. Secondary containment will confine spills and possibly prevent employee exposures. (COMPANY)'s infectious materials handling policy incorporates four important elements:

- Prevention: The safe work procedures described in this document are designed to aid in preventing spills from occurring.
- Containment: Employees should familiarize themselves with safety controls associated with designated work tasks in facilities and on equipment used during performance of these tasks.
- Clean-up: Workers must know how to handle spilled materials. They must also

realize when they are capable of responding to a release and when a spill is beyond their control. They must know who to contact to handle the spill cleanup, when a spill is beyond their designated ability to handle.

- Significant Release Response: Employees must call the following number to contact personnel trained to clean-up significant releases of potentially infectious materials: (provide phone number). Safety procedures specific to emergency responders, who are trained to respond to such incidents, are provided in the section for Hazardous Materials Response Team members in this document.

  Special Note: OSHA does not formally define a "significant release" in the Bloodborne Pathogen Standard. However, it is prudent practice to differentiate between an incidental release (which can be handled by area employees) and a significant release (which must be handled by trained personnel). The following suggestions are provided for the definition of "significant release": 1) any amount of material known to be contaminated with HIV or HBV which has escaped its secondary containment; 2) 100 ml or more of material which is known, or suspected to be, contaminated with HIV or HBV which has escaped its primary containment.

- Reporting: Employees should be aware of when to report spills to appropriate facility personnel. They need to familiarize themselves with when outside agencies need to be notified of a chemical release.

3.12.2 Review of Accidents and Spills

All accidents and spills should be carefully reviewed to eliminate the hazards which led to the incident. The goal of such investigations is to make recommendations to improve safety and not to assign blame. Emergency response procedures should also be reviewed to determine what was done correctly and what elements of response procedures should be changed.

3.12.3 First Aid

Personnel trained in first aid will be available during normal work hours. (Insert information on how to obtain first aid at COMPANY.)

Those at the first aid station are trained in Cardio-Pulmonary Resuscitation (CPR), techniques to handle heavy bleeding and shock, and how to treat chemical contaminations of the skin and eyes or those that occurred via ingestion.

3.13 Exposure Incident Evaluation

Exposure incident investigation is a necessary and effective technique for preventing future occurrences. When an exposure occurs, it is vital that supervisors and employees take the opportunity to determine the causes of an incident and to determine how to eliminate them. Incidents also include near misses. (COMPANY) assures all employees that no punishment or threats will be associated with reporting of an incident. This section of the Exposure Control Plan describes the incident investigation policies for (COMPANY).

3.13.1 Exposure Incident Reporting

All exposure incidents and "near misses" must be reported. Employees and supervisors must consider that even near misses represent warnings of future exposure incidents. All accidents and incidents should also be investigated and the underlying causes determined. An "Exposure Incident Investigation" form is provided in Appendix B of this document.

3.13.2 Immediate Actions to Take in the Event of an Exposure

The safety and health of employees and visitors is of primary concern. Supervisors must insure exposed employees receive the medical attention appropriate to the exposure they received. Call (provide phone number) and contact members of the (Safety Department) to initiate the appropriate exposure incident response procedures at (COMPANY).

3.13.2.1 Secure the Site of the Exposure Incident

During certain incidents, the site of the exposure incident may be isolated for the duration of emergency response procedures and subsequent investigation. Nothing should be removed from the exposure site without approval from the personnel in charge of the situation. Investigations will be more effective if the site is maintained as it was when the exposure occurred, insofar as is possible.

3.13.2.2 Preserving Evidence

Area supervisors/safety personnel may be required to gather evidence quickly and efficiently. Observing and recording fragile or perishable evidence, reviewing environmental conditions, the use of photography and video taping, and interviewing witnesses are all techniques used to gather data for the subsequent exposure investigation.

3.13.3 Reports

The purpose of exposure incident reporting is to alert and inform people about the circumstances of an accident. The report should be clear and concise and describe the events and details of the investigation. Some of the information that should be in an exposure incident evaluation report (based on the Federal Occupational Safety and Health Administration's Form 101), includes the following items:

- Name of personnel exposed.
- Social Security Number.
- Sex and Age of exposed personnel.
- Home address.
- Date of exposure incident.
- Occupation at time of exposure.
- Employment category (regular, seasonal, etc.).
- Length of employment.
- Time in occupation or job assignment at time of exposure.
- Specific location of exposure.
- Pathogen (if Known) to which personnel were exposed.
- Phase of employee's work day at time of exposure.
- Description of how exposure occurred.
- Sequence of exposure incident.
- Task and activity at time of exposure.
- Posture of employee (i.e. standing at lab bench).
- Supervision at time of exposure.
- Causal factors.
- Nature of exposure and part of body contaminated.
- Time of exposure.
- Quantity of material to which personnel were exposed.
- Name and address of physician and hospital performing post-exposure examinations..

- Names of others potentially exposed in same incident.
- Date of subsequent diagnosis of illness resulting from incident.
- Corrective actions.

Additional information that may be included in a report to management could include a cost analysis of the accident and comments on corrective actions and training needs.

The form used for Exposure Incident Investigation within (COMPANY) is given in Appendix B of this document. Exposure incident investigation forms can be found in (provide location). All exposure incident investigation records are maintained by the (Safety Department) and are located in (provide location).

3.13.4 Correction of Unsafe Work Conditions

Any hazard or problem identified through employee complaints, routine inspections, or exposure incident investigations are reported to the area supervisor and the (Safety Department). The supervisor will contact Maintenance, the Safety and Health Department, and any outside agency or business necessary to solve the problem. This correction procedure is overseen and documented thoroughly by the (Safety Department).

When an imminent hazard exists which cannot be immediately abated without endangering employees and/or property, all exposed personnel will be removed from the area except those designated and trained to correct the existing condition.

Exposure incidents which occur at this facility will be reviewed during the training sessions. Items to be discussed during this portion of the training will include:

- Pathogen (if known) to which personnel were exposed.
- Specific location of exposure.
- Description of how exposure occurred.
- Sequence of exposure incident.
- Task and activity at time of exposure.
- Causal factors.
- Nature of exposure and part of body contaminated.
- Corrective actions.

CHAPTER 4

EMPLOYEE EXPOSURE SITUATIONS AND SAFE WORK PRACTICES

The previous chapter describes strategies for "Employee Exposure Determinations" (these procedures identify employees who are most likely to experience occupational exposures to bloodborne pathogens) and "Methods of Compliance" (procedures which ensure employee protection from occupational exposures to bloodborne pathogens). This chapter combines these two issues to describe typical employee exposure situations and how to address exposure hazards through specific safe work practices.

Safety and Health Department personnel are encouraged to review this information and to include information which reflects work practices and operations at their facility. Job classifications and work tasks for numerous occupations impacted by the standard are provided in a series of tables. Following every table is a description of safe work practices for each group. The aim of safe work practices is to eliminate or reduce the exposure hazards which are associated with the work tasks listed in each table. These procedures are based in the recommendations of the Center for Disease Control.

4.1 Universal Precautions in Safe Work Practices

Since medical history and examinations cannot reliably identify all persons infected with bloodborne pathogens, precautions must be used by employees to prevent any contact with blood and body fluids. This approach, which is recommended by the Center for Disease Control, is referred to as "Universal Blood and Bodily Fluid Precautions" or "Universal Precautions".

The following safe work practices for healthcare workers are advocated by the Center for Disease Control. When the term Universal Precautions is given in the remainder of this section, it will refer to the following set of work practices.

1. All healthcare workers will use appropriate barrier precautions to prevent skin and mucous membrane exposure when contact with blood or bodily fluids is anticipated.
2. Gloves must be worn when touching blood, bodily fluids, mucous membranes, or non-intact skin.
3. Gloves must be worn when handling items or surfaces contaminated with blood or bodily fluids.
4. Gloves must be worn while performing venipuncture and other vascular access procedures.
5. Gloves must be changed after contact with each patient.
6. Masks and protective eye wear or face shields should be worn during procedures that are likely to generate droplets of blood or other bodily fluids in order to prevent exposures of the mucous membranes of the mouth, nose, and eyes.
7. Gowns or aprons should be worn during procedures that are likely to generate splashes of blood or other bodily fluids.
8. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
9. Hands should be immediately washed after gloves are removed.
10. Employees must take precautions to prevent injuries caused by needles, scalpels, and other sharp instruments or devices during or after medical procedures, when cleaning instruments, and during disposal of used needles.
11. To prevent needle-stick injuries, needles should not be recapped, purposely bent or broken by hand, removed from disposable syringes, or otherwise manipulated by hand.
12. After they are used, disposable syringes, needles, scalpel blades, and other sharp items must be placed in puncture-resistant containers for disposal. These containers should be as close as practical to the area where disposable sharps are used.
13. Mouthpieces, resuscitation bags, or other ventilation devices should be available for use in areas in which the need for resuscitation procedures is reasonably anticipated.
14. Healthcare workers who have exudative lesions or weeping dermatitis must refrain from handling patients and patient-care equipment until the condition is resolved.
15. Pregnant employees should review safe work procedures with supervisors and Safety and Health Department personnel.

4.2 Potential Exposure Situations for Medical Staff

The following descriptions are geared toward the general duties associated with nursing, physician-care, and other medical activities. Activities associated with specialized medical fields may not be fully represented. Safety and Health Department personnel should review the following table, Table 9, and make the appropriate additions and corrections.

Table 9 Potential Exposure Situations for Medical Staff

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Medical Staff : Nurses, Physicians, etc.	Handling patients.	Contact with blood and other bodily fluids.
	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Handling vials, other containers of blood, and bodily fluids.	Breakage of containers may lead to contact with blood and other bodily fluids.
	Working with medical hand pieces and equipment containing blood or bodily fluids.	Cuts and pricks from equipment contact with infectious materials from spills, splashes, and routine equipment-handling procedures.
	Collecting specimens of blood and other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Preparing samples of blood or other bodily fluids for microscopic examination.	Cutting finger on sharp edges of slide/cover slip. Exposure through non-intact skin.
	Testing specimens of blood, other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Pulmonary function test administration.	Aerosol droplet contamination.
	Administration of Cardio-Pulmonary Resuscitation.	Contact with saliva, open wounds of the mouth, aerosol droplets.
	Cleaning and disposal of incontinent stool, urine emesis.	Contact with bodily fluid, accidental spillage.
	Involvement in invasive procedures. (Invasive procedures are defined as surgical entry into tissues cavities or organs and repair of major traumatic injuries).	Contact with large amounts of blood or other bodily fluids.
	Assisting with births.	Contact with blood, placental fluids, other bodily fluids.

4.2.1 Safe Work Practices For Medical Staff

The following safe work practices apply to the general duties associated with nursing, physician-care, and other medical activities. Practices which should be implemented during activities associated with specialized medical fields may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Healthcare workers who participate in invasive procedures must wear gloves and surgical masks.
3. Protective eye wear or face shield should be worn for invasive procedures that commonly result in the generation of droplets, splashing of blood, other bodily fluids, or bone chips.
4. Gowns or aprons should be worn during invasive procedures that are likely to result in the splashing of blood or other bodily fluids.
5. All healthcare workers who assist in vaginal or cesarean deliveries should wear gloves and gowns when handling the placenta or infant until the blood and amniotic fluid have been removed from the infant's skin and should wear gloves during post-delivery care of the umbilical cord.
6. If a glove is torn, the glove must be removed and replaced promptly.
7. If needle-stick or other instrument-related injury occurs, the needle or instrument involved in the incident should be removed from the sterile field.

4.3 Potential Exposure Situation for Medical Staff at Industrial Facilities

The following descriptions are geared toward the general duties associated with nursing, first aid, and other medical activities which occur at industrial sites with medical facilities. Activities in particular industrial facilities may not be fully represented. Safety and Health Department personnel should review the following table, Table 10, and make the appropriate additions and corrections.

Table 10 Potential Exposure Situation for Medical Staff at Industrial Facilities

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Medical Staff (Nurses, Physicians, Medical Technicians, etc.) at Industrial Medical Facilities.	Handling patients.	Contact with blood and other bodily fluids.
	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Handling vials, other containers of blood and bodily fluids.	Breakage of containers may lead to contact with blood and other bodily fluids.
	Working with equipment containing blood or bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment-handling procedures.
	Collecting specimens of blood and other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Preparing samples of blood or other bodily fluids for microscopic examination.	Cutting finger on sharp edges of slide/cover slip. Exposure through non-intact skin.
	Testing specimens of blood, other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Pulmonary function test administration.	Aerosol droplet contamination.
	Administration of Cardio-Pulmonary Resuscitation.	Contact with saliva, open wounds of the mouth, aerosol droplets.
	Handling scalpels, other hand pieces used in medical activities.	Cuts and pricks from equipment. Contact with contaminated equipment.

4.3.1 Safe Work Practices For Medical Staff at Industrial Facilities

The following safe work practices apply to the general duties associated with nursing, first aid, and other activities at industrial medical departments. Practices which should be implemented during activities at particular industrial facilities may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Protective eye wear or face shield should be worn for invasive procedures that commonly result in the generation of droplets, splashing of blood, other bodily fluids, or bone chips.

3. Gowns or aprons should be worn during procedures that are likely to result in the splashing of blood or other bodily fluids.
4. If a glove is torn, the glove must be removed and replaced promptly.
5. If needle-stick or other instrument-related injury occurs, the needle or instrument involved in the incident should be removed from the immediate area of the patient.

4.4 **Potential Exposure Situations for Emergency Medical Service Employees**

The following descriptions are geared toward the general duties associated with emergency medical services. Procedures specific to emergency medical activities may not be fully described. Safety and Health Department personnel should review the following table, Table 11, and make the appropriate additions and corrections.

Table 11 Potential Exposure Situations for Emergency Medical Service Employees

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Emergency Medical Service Employees	Handling patients.	Contact with blood and other bodily fluids.
	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Using scalpels and other medical hand pieces.	Cuts or pricks from equipment, contact with contaminated equipment.
	Working with equipment containing blood or bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment handling procedures.
	Collecting specimens of blood and other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Administration of Cardio-Pulmonary Resuscitation.	Contact with saliva, open wounds of the mouth, aerosol droplets.

4.4.1 Safe Work Practices For Emergency Medical Service Employees

The following safe work practices apply to the general duties associated with emergency medical services. Practices which should be implemented during specific emergency medical activities may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Protective eye wear or face shield should be worn during emergency medical procedures that commonly result in the generation of droplets, splashing of blood, or other bodily fluids.
3. Protective, waterproof clothing should be worn when handling patients who have experienced extensive trauma and contact with large quantities of blood is anticipated.
4. Masks should be worn when splashing or spraying of blood can be reasonably anticipated while conducting emergency medical practices.
5. Gloves should be worn whenever patients are handled. If a glove is torn, the glove must be removed and replaced promptly.
6. If needle-stick or other instrument-related injury occurs, the needle or instrument involved in the incident should be removed from the immediate area of the patient.
7. All equipment involved in emergency medical procedures which became contaminated with blood or other bodily fluids should be cleaned with appropriate germicidal agents immediately after use (or as soon as feasibly possible).
8. In emergency medical situations which involve multiple victims, never use the same equipment contaminated or potentially contaminated with blood or other bodily fluids on different patients until the equipment has been cleaned with appropriate germicidal agents. (The only exception: if a delay in medical care will seriously jeopardize the life of a patient).

4.5 Potential Exposure Situations for Medical Staff at Hemodialysis Centers

The following descriptions are geared toward the general duties associated with activities at hemodialysis centers. Activities in particular situations may not be fully represented. Safety and Health Department personnel should review the following table, Table 12, and make the appropriate additions and corrections.

Table 12 Potential Exposure Situations for Medical Staff at Hemodialysis Centers

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Employees at Hemodialysis Centers	Handling patients.	Contact with blood and other bodily fluids.
	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Handling vials, other containers of blood and bodily fluids.	Breakage of containers may lead to contact with blood and other bodily fluids.
	Working with dialysis machines and equipment containing blood or bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment handling procedures.
	Collecting specimens of blood and other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Preparing samples of blood or other bodily fluids for microscopic examination.	Cutting finger on sharp edges of slide/cover slip. Exposures through contact with non-intact skin.
	Testing specimens of blood, other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Using hand-held instruments during medical activities.	Cuts and pricks from equipment.
	Handling bandages.	Contact with blood.

4.5.1 Safe Work Practices For Employees of Hemodialysis Centers

The following safe work practices apply to the general duties associated with activities at hemodialysis centers. Practices which should be implemented during activities at particular hemodialysis facilities may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Protective eye wear or face shield should be worn for invasive procedures that commonly result in the generation of droplets, splashing of blood or other bodily fluids.
3. Gowns or aprons should be worn during procedures that are likely to result in the splashing of blood or other bodily fluids.
4. If a glove is torn, the glove must be removed and replaced promptly.
5. If needle-stick or other instrument-related injury occurs, the needle or instrument involved in the incident should be removed from the immediate area of the patient.
6. Employees should pay attention to their hands whenever they handle needles, syringes,

or other sharp objects.

7. Employees should flush the dialysis pathway for 30-40 minutes with 500-750 ppm sodium hypochlorite solution after use. Another disinfecting protocol involves the use of a 2.0% formaldehyde solution left in the pathway overnight.
8. Facilities that reuse dialyzes must issue dialyzes to specific patients. An individual dialyzes must never be used on more than one patient. Dialyzes must be cleaned and disinfected before reuse.

4.6 Potential Exposure Situations for Dental Staff

The following descriptions are geared toward the general duties associated with dentistry. Activities associated with specialized dental fields may not be fully represented. Safety and Health Department personnel should review the following table, Table 13, and make the appropriate additions and corrections.

Table 13 Potential Exposure Situations for Dental Staff

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Dentists and Dental Staff.	Handling patients.	Contact with blood and other bodily fluids
	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Handling materials to make dental impressions, bite registrations, etc.	Contact with blood and blood-contaminated saliva.
	Working with equipment containing blood or bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment-handling procedures.
	Involvement in invasive procedures.	Contact with large amounts of blood or other bodily fluids.
	General dental work.	Accidental bites contact with blood-contaminated saliva contact with open mouth sores.
	Cleaning teeth with dental picks and scrapers.	Finger prick from blood contaminated pick or scraper.
	Using drills polishers and other hand pieces.	Contact with hand pieces that are contaminated with blood, saliva, other bodily fluids.

4.6.1 Safe Work Practices For Dental Staff

The following safe work practices apply to the general duties associated with dentistry. Practices which should be implemented during activities associated with specialized dental fields may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Dental staff participating in invasive procedures must wear gloves and surgical masks.
3. Protective eye wear or face shield should be worn for invasive dental procedures that commonly result in the generation of droplets, splashing of blood, or other bodily fluids.
4. Rubber dams, high-speed evacuation, and proper patient positioning should be used to minimize generation of droplets and spatter during dental procedures.
5. Gowns or aprons should be worn during invasive dental procedures that are likely to result in the splashing of blood or other bodily fluids.
6. If a glove is torn, the glove must be removed and replaced promptly.
7. If needle-stick or other instrument-related injury occurs, the needle or instrument involved in the incident should be removed from the immediate area.
8. Hand pieces (i.e. drills, polishers) must be sterilized after use with each patient, because blood, saliva, or gingival fluid of patients may be aspirated into the hand piece or the water line.
9. Hand pieces that cannot be sterilized should be flushed, the outside surface wiped with a germicidal agent, and then rinsed.
10. Hand pieces should be flushed at the beginning of the day and after use with each patient.
11. Ultrasonic scalers and air-water syringes should also be flushed with germicidal agents at the beginning of the day and after use with each patient.
12. Blood and saliva must be thoroughly cleaned from materials that have been used in the mouth (i.e. impression materials, bite registration), especially before polishing and grinding intra-oral devices.
13. Contaminated materials, impressions, and intra-oral devices should also be cleaned and disinfected before being handled in the dental laboratory and before they are placed in the patient's mouth.
14. Dental equipment and surfaces that are difficult to disinfect (i.e. light handles, X-ray unit heads) and that may be contaminated should be wrapped with impervious-backed paper, aluminum foil, or clear plastic wrap. The coverings should be removed and discarded, and clean coverings should be put in-place after use with each patient.

4.7 Potential Exposure Situations Medical and Dental Laboratory Staff

The following descriptions are geared toward the general duties associated with work in medical and dental laboratories. Activities associated with specialized research or diagnostic procedures may not be fully represented. Safety and Health Department personnel should review Table 14, and make the appropriate additions and corrections.

Table 14 Potential Exposure Situations Medical and Dental Laboratory Staff

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Medical and Dental Laboratory Staff	Handling syringes needles.	Accidental self-inoculation, needle-sticks.
	Handling vials, other containers of blood and bodily fluids.	Breakage of containers may lead to contact with blood and other bodily fluids.
	Working with equipment containing blood or bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment-handling procedures.
	Preparing samples of blood or other bodily fluids for microscopic examination.	Cutting finger on sharp edges of slide/cover slip.
	Collecting and testing specimens of blood, other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Separating serum fractions using centrifuge.	Splashing blood by opening centrifuge lid before rotor has stopped spinning.
	Handling materials to make dental impressions, bite registrations, etc. or medical impressions to develop prosthetic devices.	Contact with blood and blood-contaminated saliva.
	Working with specialized glassware and other apparatus during experiments.	Breakage of glassware, leakage from lines, or other problems can lead to contact with other bodily fluids, or solutions, containing high concentrations of bloodborne pathogens.
	Working at laboratory benches and other areas where potentially infectious materials are handled.	Contact with blood, other potentially infectious materials at sites which may or may not be obviously contaminated.
	Using blenders and sonicators.	Generation of body fluid droplets.

4.7.1 Safe Work Practices For Medical and Dental Laboratory Staff

The following safe work practices apply to the general duties associated with research and diagnostic activities in dental and medical laboratories. Practices which should be implemented during activities associated with specialized diagnostic and research activities may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Protective eye wear should be worn in laboratories at all times.
3. Face shields should be worn for procedures that commonly result in the generation of droplets, splashing of blood or other bodily fluids.
4. Laboratory coats should be worn when conducting laboratory procedures. Additional protection, such as gowns or aprons, should be worn during procedures in which the splashing of blood or other bodily fluids can be reasonably anticipated.
5. Gloves should be worn during all procedures which involve the handling of items containing or contaminated with blood, or in areas where there may be places (such as benches) which could be contaminated with potentially infectious materials.
6. If a glove is torn, the glove must be removed and replaced promptly.
7. Gloves should be changed and hands washed after completion of specimen processing.
8. All specimens of blood and bodily fluids should be put in a well-constructed container with a secure lid to prevent leaking during transport.
9. Care should be taken when collecting each specimen to avoid contaminating the outside of the container and laboratory form accompanying the specimen.
10. For routine procedures, such as histologic and pathologic studies or micro biological culturing, a biological safety cabinet is not necessary.
11. Biological safety cabinets should be used whenever procedures are conducted that have a high potential for generating droplets.
12. Mechanical pipetting devices should be used for manipulating all liquids in the laboratory. Mouth pipetting should never be done.
13. Use of needles and syringes should be limited to situations in which there is no alternative.
14. Laboratory work surfaces should be decontaminated with an appropriate chemical germicide after a spill of blood or other bodily fluids and when work activities are completed.
15. Scientific equipment that has been contaminated with blood or other bodily fluids should be decontaminated and cleaned before being repaired in the laboratory or transported to a repair firm.
16. All equipment should be cleaned with a chemical germicide immediately after completion of laboratory procedures. Contaminated equipment should never be stored without the appropriate Biohazard label (an example is given in the section entitled "Label Requirements" in this document).

17. All laboratory staff must wash their hands after competing laboratory activities and must remove protective clothing before leaving the laboratory.

4.8 Potential Exposure Situations for Research Staff at Other Laboratory Facilities

The following descriptions are geared toward the general duties associated with work in research laboratories in which materials containing bloodborne pathogens may be handled. Activities associated with specialized research procedures may not be fully represented. Safety and Health Department personnel should review the following table, Table 15, and make the appropriate additions and corrections.

Table 15 Potential Exposure Situations for Research Staff at Other Laboratory Facilities

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Research Laboratory Staff at Universities Biotechnology Firms and Other Facilities.	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Handling vials, other containers of blood and bodily fluids.	Breakage of containers may lead to contact with blood and other bodily fluids.
	Working with equipment containing blood or bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment-handling procedures.
	Preparing samples of blood or other bodily fluids for microscopic examination.	Cutting finger on sharp edges of slide/cover slip. Exposures through non-intact skin.
	Collecting and testing specimens of blood, other bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Work with centrifuges, sonicators, blenders.	Splashes and sprays of blood and other bodily fluids.
	General animal work with specimens infected with bloodborne pathogens.	Accidental bites; contact with blood and other animal body fluids; handling animal tissue samples.
	Working with specialized glassware and other apparatus during experiments.	Breakage of glassware, leakage from lines, or other problems can lead to contact with, other bodily fluids, or solutions containing high concentrations of bloodborne pathogens.
	Working at laboratory benches and other areas where potentially infectious materials are handled.	Contact with blood, other potentially infectious materials at sites which may or may not be obviously contaminated.

4.8.1 Safe Work Practices for Research Staff at Laboratory Facilities

The following safe work practices apply to the general duties associated with research activities in laboratories. Practices which should be implemented during activities associated with specialized research procedures may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Protective eye wear should be worn in laboratories at all times.

3. Face shields should be worn for procedures that commonly result in the generation of droplets, splashing of blood or other bodily fluids.
4. Laboratory coats should be worn when conducting laboratory procedures. Additional protection, such as gowns or aprons, should be worn during procedures in which the splashing of blood or other bodily fluids can be reasonably anticipated.
5. Gloves should be worn during all procedures which involve the handling of items containing or contaminated with blood, or in areas where there may be places (such as benches) which could be contaminated with potentially infectious materials.
6. If a glove is torn, the glove must be removed and replaced promptly.
7. Gloves should be changed and hands washed after completion of specimen processing.
8. All specimens of blood and bodily fluids should be put in a well-constructed container with a secure lid to prevent leaking during transport.
9. Care should be taken when collecting each specimen to avoid contaminating the outside of the container and laboratory form accompanying the specimen.
10. Biological safety cabinets should be used whenever procedures are conducted that have a high potential for generating droplets.
11. For routine procedures, such as histologic and pathologic studies or micro biological culturing, a biological safety cabinet is not necessary.
12. Mechanical pipetting devices should be used for manipulating all liquids in the laboratory. Mouth pipetting should never be done.
13. Use of needles and syringes should be limited to situations in which there is no alternative.
14. Laboratory work surfaces should be decontaminated with an appropriate chemical germicide after a spill of blood or other bodily fluids and when work activities are competed.
15. Scientific equipment that has been contaminated with blood or other bodily fluids should be decontaminated and cleaned before being repaired in the laboratory or transported to a repair firm.
16. All equipment should be cleaned with a chemical germicide immediately after completion of laboratory procedures. Contaminated equipment should never be stored without the appropriate Biohazard label (an example is given in the section entitled "Label Requirements" in this document).
17. All laboratory staff must wash their hands after completing laboratory activities and must remove protective clothing before leaving the laboratory.
18. If large-scale studies are done, restricted access facilities should be made available.
19. Procedures for animal work can be developed which minimize the formation and dispersal of contaminated aerosols, including those from food, urine, and feces. Such procedures may include using HEPA filtered vacuum equipment for cleaning and moistening contaminated bedding before removing from cage.
20. Workers who handle animals should wear plastic or rubber gloves, fully buttoned laboratory coat or jumpsuit, and any other safety apparel appropriate.
21. Disposal procedures of contaminated animal tissue, feces, and urine are the same as those for other potentially infectious materials.

4.9 Potential Exposure Situations for Employees of Blood Banks

The following descriptions are geared toward the general duties associated phlebotomy. Procedures specific to blood bank operations may not be fully described. Safety and Health Department personnel should review the following table, Table 16, and make the appropriate additions and corrections.

Table 16 Potential Exposure Situations for Employees of Blood Banks

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Phlebotomists	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Working with blood-collecting equipment.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment-handling procedures.
	Collecting specimens of blood.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Testing samples for blood type.	Contact with blood.
	Donors who become ill during phlebotomy procedures.	Contact with vomit.
	Handling bags containing blood plasma.	Spillage from container.
	Placing bandages on donors.	Contact with blood, non-intact skin during bandaging procedures.

4.9.1 Safe Work Practices for Blood Bank Employees

The following safe work practices apply to the general duties associated with phlebotomy. Practices which should be implemented during specific phlebotomy procedures may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Gloves should be worn whenever donors are handled. If a glove is torn, the glove must be removed and replaced promptly.
3. Phlebotomists should always pay attention to their hands when they are handling

needles and syringes.

4. If needle-stick or other instrument-related injury occurs, the needle or instrument involved in the incident should be removed from the immediate area of the donor.
5. All equipment involved in phlebotomy procedures which became contaminated with blood should be cleaned with appropriate germicidal agents immediately after use (or as soon as feasibly possible).
6. Areas which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
7. Regular clothing which becomes contaminated with blood during phlebotomy procedures should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.

4.10 Potential Exposure Situations for Employees of Other Facilities Which Handle Tissues and Body Fluids

The following descriptions are geared toward the general duties associated with collecting human tissues and bodily fluids. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 17, and make the appropriate additions and corrections.

Table 17 Potential Exposure Situations for Employees of Other Facilities Which Handle Tissues and Body Fluids

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Employees at Tissue Collection Centers, Fertility Clinics, Sperm Donation Centers, and Similar Institutions.	Handling donors.	Contact with blood, other bodily fluids, or non-intact skin.
	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Working with equipment which contains blood or other bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment-handling procedures.
	Collecting specimens of tissue or bodily fluids.	Accidental self-injection. Spillage of fluids. Aerosol droplet contamination.
	Testing tissue samples or samples of bodily fluids.	Contact with blood.
	Handling containers of blood plasma, tissue, or other bodily fluids.	Breakage of containers may lead to contact with blood and other bodily fluids.
	Using medical hand pieces, such as scalpels, to collect tissue samples.	Cuts or pricks from equipment; contact with contaminated equipment.

4.10.1 Safe Work Practices for Employees of Other Facilities Which Handle Human Tissues and Body Fluids

The following safe work practices apply to the general duties associated with operations in which human tissue or body fluids are collected. Practices which should be implemented during specific collection procedures may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions at all times.
2. Gloves should be worn whenever donors are handled. If a glove is torn, the glove must be removed and replaced promptly.
3. Employees should always pay attention to their hands when they are handling needles and syringes.
4. If needle-stick or other instrument-related injury occurs, the needle or instrument involved in the incident should be removed from the immediate area of the patient.

5. All equipment involved in collection procedures which became contaminated with blood or other bodily fluids should be cleaned with appropriate germicidal agents immediately after use (or as soon as feasibly possible).
6. Areas which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
7. Employee clothing which becomes contaminated with blood or other bodily fluids during collection procedures should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
8. Protective eye wear or face shield should be worn for collection procedures that commonly result in the generation of droplets, or splashing of blood and other bodily fluids. Gowns or aprons should be worn during collection procedures that are likely to result in the splashing of blood or other bodily fluids.

4.11 Potential Exposure Situations for Employees of Law Enforcement Agencies

The following descriptions are geared toward the general duties associated with law enforcement. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 18, and make the appropriate additions and corrections.

Table 18 Potential Exposure Situations for Employees of Law Enforcement Agencies

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Law Enforcement Employees: Police Officers, Sheriff's Officers, etc.	Contact with drug paraphernalia during raid.	Accidental self-inoculation and needle sticks.
	First-aid on victims of accidents, violence, or those experiencing medical emergencies.	Contact with blood, bodily fluids.
	Administration of Cardio-Pulmonary Resuscitation.	Contact with saliva, open wounds of the mouth, aerosol droplets.
	Handling uncooperative individuals.	Getting bitten. Contact with blood, other bodily fluids.
	Contact with knives and other weapons.	Cuts from potentially contaminated items.
	Processing of crime scene during investigations.	Contact with blood, other bodily fluids, potentially contaminated items or surfaces.

4.11.1 Safe Work Practices for Employees of Law Enforcement Agencies

The following safe work practices apply to the general duties associated with law enforcement operations. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by law enforcement employees whenever they anticipate touching blood, bodily fluids, mucous membranes, or non-intact skin while they conduct their operations.
2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects. Law enforcement employees should always pay attention to their hands whenever they handle needles, syringes, and other sharp objects.
6. Mouthpieces, resuscitation bags, or other ventilation devices should be available to those officers who may reasonably be expected to perform CPR.
7. Clothing which becomes contaminated with blood or other bodily fluids during operations should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
8. Areas and equipment which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
9. Pregnant employees should review safe work procedures with Safety and Health Department personnel.
10. Whenever employees handle uncooperative individuals, they should attempt to keep the individual's back towards themselves. This way, the opportunity to be bitten is minimized because the individual is facing away from the employee. Employees should always endeavor to obtain additional assistance whenever they handle an uncooperative individual.

4.12 Potential Exposure Situations for Employees of Correctional Institutions

The following descriptions are geared toward the general duties associated with correctional institutions. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 19, and make the appropriate additions and corrections.

Table 19 Potential Exposure Situations for Employees of Correctional Institutions

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Employees of Correctional Institutions	Contact with drug paraphernalia during search.	Accidental self-inoculation and needle sticks.
	First-aid on victims of accidents, violence, or those experiencing medical emergencies.	Contact with blood, bodily fluids.
	Administration of Cardio-Pulmonary Resuscitation.	Contact with saliva, open wounds of the mouth, aerosol droplets.
	Handling uncooperative individuals.	Getting bitten. Contact with blood other bodily fluids.
	Contact with knives and other weapons.	Cuts from potentially contaminated items.
	Searches of individuals or institutional facilities.	Contact with drug paraphernalia (accidental self-inoculation or needle-sticks). Contact with personal items (such as discarded condoms).

4.12.1 Safe Work Practices for Employees of Correctional Institutions

The following safe work practices apply to the general duties associated with employees at Correctional Institutions. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by employees of correctional facilities whenever they anticipate touching blood, bodily fluids, mucous membranes, or non-intact skin while they conduct their operations.

2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects. Correctional institution employees should always pay attention to their hands whenever they handle needles, syringes, and other sharp objects.
6. Clothing which becomes contaminated with blood or other bodily fluids during collection procedures should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
7. Mouthpieces, resuscitation bags, or other ventilation devices should be available to those personnel who may reasonably be expected to perform CPR.
8. Areas and equipment which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
9. Pregnant employees should review safe work procedures with Safety and Health Department personnel.
10. Whenever employees handle uncooperative individuals, they should attempt to keep the individual's back towards themselves. This way, the opportunity to be bitten is minimized because the individual is facing away from the employee. Employees should always endeavor to obtain additional assistance whenever they handle an uncooperative individual.

4.13 Potential Exposure Situations for Employees of Fire Departments

The following descriptions are geared toward the general duties associated with fire department operations. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 20, and make the appropriate additions and corrections.

Table 20 Potential Exposure Situations for Employees of Fire Departments

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Fire Department Employees	Contact with drug paraphernalia during a response involving an illegal drug lab, hospital, medical facility, dental facility, or other similar facilities.	Accidental self-inoculation and needle sticks.
	First-aid on victims of accidents or those experiencing medical emergencies.	Contact with blood, bodily fluids.
	Administration of Cardio-Pulmonary Resuscitation.	Contact with saliva, open wounds of the mouth, aerosol droplets.

4.13.1 Safe Work Practices For Fire Department Employees

The following safe work practices apply to the general duties associated with fire department operations. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by fire department employees whenever they anticipate touching blood, bodily fluids, mucous membranes, or non-intact skin while they conduct their operations.
2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects. Fire department employees should always pay attention to their hands whenever they handle needles, syringes, and other sharp objects.
6. Mouthpieces, resuscitation bags, or other ventilation devices should be available to those officers who may reasonably be expected to perform CPR.
7. Clothing which becomes contaminated with blood or other bodily fluids during collection procedures should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
8. Turnout gear and other personal protective equipment which becomes contaminated with blood or other bodily fluids should be removed immediately (or as soon as possible) and cleaned by rinsing it with a bleach solution.
9. Areas and equipment which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).

10. Pregnant employees should review safe work procedures with Safety and Health Department personnel.

4.14 Potential Exposure Situations for Life-Guards

The following descriptions are geared toward the general duties associated with life-guards. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 21, and make the appropriate additions and corrections.

Table 21 Potential Exposure Situations for Life-Guards

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Life-Guards	First-aid on accident victims or those experiencing medical difficulties.	Contact with blood, other bodily fluids.
	Performing mouth-to-mouth resuscitation on drowning victims.	Contact with saliva, open sores in and around mouth, and other bodily fluids.
	Discovering syringes, needles, and other medical wastes which have washed ashore.	Pricks and cuts from potentially infectious materials.
	Finding discarded condoms and other personal items.	Contact with blood or other bodily fluids.

4.14.1 Safe Work Practices For Life-Guards

The following safe work practices apply to the general duties associated with life-guard operations. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by life-guards whenever they anticipate touching blood, bodily fluids, mucous membranes, or non-intact skin while they provide life-saving services.
2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with

water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects.
6. Life-guards should contact their local Hazardous Materials Response Team if they discover a significant quantity of medical waste which has washed ashore.
7. Mouthpieces, resuscitation bags, or other ventilation devices should be available to those employees who may reasonably be expected to perform CPR.
8. Clothing which becomes contaminated with blood or other bodily fluids during responses should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
9. Areas and equipment which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
10. Pregnant employees should review safe work procedures with Safety and Health Department personnel.

4.15 Potential Exposure Situations for Designated First Aid/CPR Responders

The following descriptions are geared toward the general duties associated with individuals tasked by their companies to be Designated First Aid/CPR Responders. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 22, and make the appropriate additions and corrections.

Table 22 Potential Exposure Situations for Designated First Aid/CPR Responders

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Designated First Aid\CPR Responders	First-aid on accident victims or those experiencing medical difficulties.	Contact with blood, other bodily fluids.
	Performing Cardio-Pulmonary Resuscitation.	Contact with saliva, open sores in and around mouth, and other bodily fluids.

4.15.1 Safe Work Practices for Designated First Aid/CPR Responders

The following safe work practices apply to the general duties associated with first aid and CPR practices. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by Designated First Aid/CPR Responders whenever they anticipate touching blood, bodily fluids, mucous membranes, or non-intact skin while they provide first aid or CPR procedure.
2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects.
6. Mouthpieces, resuscitation bags, or other ventilation devices should be available to those employees who may reasonably be expected to perform CPR.
7. Clothing which becomes contaminated with blood or other bodily fluids during responses should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
8. Areas and equipment which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
9. Pregnant employees should review safe work procedures with Safety and Health Department personnel.

4.16 Potential Exposure Situations for Employees of Nursing Homes and Similar Facilities

The following descriptions are geared toward the general duties associated with nursing-home care and home health care services. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 23, and make the appropriate additions and corrections.

Table 23 Potential Exposure Situations for Employees of Nursing Homes and Similar Facilities

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Employees of Nursing Homes, Home Health Care Providers, Employees of Hospices and Similar Facilities	First-aid on victims of accidents, or violence, or those experiencing medical difficulties.	Contact with blood, other bodily fluids.
	Performing mouth-to-mouth resuscitation.	Contact with saliva, open sores in and around mouth, and other bodily fluids.
	Handling syringes and needles.	Pricks and cuts from potentially infectious materials.
	Finding discarded condoms and other personal items.	Contact with blood, or other bodily fluids.
	Handling patients.	Contact with blood, other bodily fluids, non-intact skin.
	Feeding patients.	Accidental bites.
	Cleaning incontinent stool, vomit, other bodily fluids from ill patients.	Contact with blood other bodily fluids.

4.16.1 Safe Work Practices for Nursing Homes and Similar Facilities

The following safe work practices apply to the general duties associated with nursing home care and home health care services. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by employees whenever they anticipate touching blood, bodily fluids, mucous membranes, or non-intact skin while they conduct their operations.
2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects.
6. Mouthpieces, resuscitation bags, or other ventilation devices should be available to those employees who may reasonably be expected to perform CPR.
7. Clothing which becomes contaminated with blood or other bodily fluids during patient care activities should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.

8. Areas and equipment which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
9. Pregnant employees should review safe work procedures with Safety and Health Department personnel.

4.17 Potential Exposure Situations for Employees of Custodial Services

The following descriptions are geared toward the general duties associated with custodial services. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 24 and make the appropriate additions and corrections.

Table 24 Potential Exposure Situations for Employees of Custodial Services

JOB CLASSIFICATION	WORK TASK	POTENTIAL EXPOSURE SITUATION
Custodian	Cleaning sinks, toilets, other bathroom fixtures.	Contact with blood and other bodily fluids.
	Clean-up of vomit, other bodily fluids.	Contact with potentially infectious fluids and materials.
	Removal of waste.	Contact with feminine sanitary items and other potentially contaminated materials. Handling disposed syringe needles and other potentially contaminated sharps.
	General site clean-up.	Contact with disposed syringe needles, disposed personal items, and other potentially infectious materials.

4.17.1 Safe Work Practices for Custodial Employees

The following safe work practices apply to the general duties associated with custodial services. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by employees whenever they anticipate touching blood, bodily fluids, and mucous membranes while they conduct their operations.
2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. Employees should wear eye protection whenever they are cleaning toilets, sinks, or other facilities.
6. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects.
7. Clothing which becomes contaminated with blood or other bodily fluids during custodial activities should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
8. Areas and equipment which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
9. Pregnant employees should review safe work procedures with Safety and Health Department personnel.

4.18 Potential Exposure Situations for Employees of Linen and Laundry Services

The following descriptions are geared toward the general duties associated with linen and laundry services. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 25, and make the appropriate additions and corrections.

Table 25 Potential Exposure Situations for Employees of Linen and Laundry Services

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Employees at linen and laundry service facilities.	Handling linens uniforms etc.	Contact with blood bodily fluids.
	Sorting linens uniforms etc.	Accidental needle-sticks from improperly discarded needles and syringes.

4.18.1 Safe Work Practices for Employees of Linen and Laundry Services

The following safe work practices apply to the general duties associated with linen and laundry services. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by employees whenever they anticipate working with laundry and linens from medical and dental facilities. Gloves must be worn when handling items obviously contaminated with blood or bodily fluids.
2. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids. Hands should be immediately washed after gloves are removed.
3. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects.
4. All soiled linen should be bagged at the location where it was used. Linen should not be rinsed or sorted in patient-care areas.
5. Soiled linen should be handled as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of employees handling the linen.
6. Employee clothing which becomes contaminated with blood or other bodily fluids during laundry handling should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
7. If hot water is used to launder linen, the linen should be washed with detergent in water that is at least 71oC (160oF). If the linen is laundered at lower temperatures, laundry services must use appropriate low-temperature detergents.
8. Pregnant employees should review safe work procedures with Safety and Health Department personnel.

4.19 Potential Exposure Situations for Employees of Waste Disposal Services

The following descriptions are geared toward the general duties associated with waste disposal services. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 26, and make the appropriate additions and corrections.

Table 26 Potential Exposure Situations for Employees of Waste Disposal Services

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Waste Removal and Disposal Service Employees	Recontainerizing materials.	Accidental stick and cuts from improperly discarded needles, syringes, and other sharps.
	Handling waste materials labeled with "Biohazard" symbol.	Contact with blood, bodily fluids, other potentially infectious materials.
	Handling waste containers.	Contact with potentially infectious materials contaminating the outside of the container.

4.19.1 Safe Work Practices For Waste Disposal Employees

The following safe work practices apply to the general duties associated with waste disposal. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by employees whenever they anticipate touching wastes marked with a "Biohazard" symbol, or wastes from medical, dental, or biotechnology facilities.
2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. Employees should wear eye protection whenever they are handle waste containers.
6. Employees must take precautions to prevent injuries caused by needles, syringes and other sharp objects.
7. Clothing which becomes contaminated with blood or other bodily fluids during waste disposal operations should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
8. Areas and equipment which become contaminated with blood or other bodily fluids should be cleaned immediately with a bleach solution (1:10 to 1:100 dilution of household bleach).
9. Pregnant employees should review safe work procedures with Safety and Health Department personnel.

4.20 Potential Exposure Situations for Employees of Medical and Dental Equipment Repair Facilities

The following descriptions are geared toward the general duties associated with equipment repair services. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 27, and make the appropriate additions and corrections.

Table 27 Potential Exposure Situations for Employees of Medical and Dental Equipment Repair Facilities

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Employees of Medical and Dental Equipment Repair Facilities.	Working on equipment with the "Biohazard" symbol.	Contact with blood, other bodily fluids because equipment has not been completely decontaminated.
	Working on medical and dental equipment.	Contact with blood, other bodily fluids because equipment may not have been thoroughly decontaminated.
	General equipment repairs. Cuts scrapes punctures from sharp edges of equipment.	

4.20.1 Safe Work Practices For Medical and Dental Equipment Repair Employees

The following safe work practices apply to the general duties associated with equipment repair. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Gloves must be worn by employees whenever they anticipate touching equipment marked with a "Biohazard" symbol, or equipment used for patient-care in medical and dental facilities.
2. Gloves must be worn when handling items or surfaces obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.

5. Prudent practice dictates that all equipment from medical and dental facilities which could potentially come in contact with blood and other bodily fluids be cleansed with an appropriate chemical germicide before equipment repairs begin.
6. Employees must take precautions to prevent injuries caused by sharp edges of equipment.
7. Clothing which becomes contaminated with blood or other bodily fluids during repairs should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.
8. Pregnant employees should review safe work procedures with Safety and Health Department personnel.

4.21 Potential Exposure Situations for Funeral Service Employees

The following descriptions are geared toward the general duties associated with postmortem operations and funeral service practices. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 28, and make the appropriate additions and corrections.

Table 28 Potential Exposure Situations for Funeral Service Employees

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Embalmers, Morticians, Employees at Funeral Homes.	Making incisions for embalming preparation.	Contact with blood, other bodily fluids. Accidental cuts.
	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Working with equipment containing blood, other bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment-handling procedures.
	Placing body on embalming table and positioning body properly.	Contact with blood, other bodily fluids.
	Washing and disinfecting body.	Contact with blood, other bodily fluids.
	Observing condition of body to note any unusual conditions which could have lead to death.	Contact with blood, other bodily fluids.
	Removing foreign materials from throat and mouth.	Contact with blood, other bodily fluids.
	Positioning dentures and facial features.	Contact with blood, other bodily fluids.
	Disinfect and pack body orifices.	Contact with blood, other bodily fluids.
	Contact with sanitary supplies, such as bandages and gauze.	Contact with blood, other bodily fluids, other potentially infectious materials.
	Arranging hair and applying cosmetics.	Contact with bodily fluids.

4.21.1 Safe Work Practices for Funeral Service Employees

The following safe work practices apply to the general duties associated with postmortem operations and funeral service procedures. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions.
2. Gloves must be worn whenever employees handle corpses or items obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.

5. All persons performing or assisting in postmortem procedures should wear gloves, masks, protective eye wear, gowns, and waterproof aprons.
6. Instruments and surfaces contaminated during postmortem procedures must be immediately decontaminated with an appropriate germicide.
7. Instruments used during postmortem procedures (or any item which may have become contaminated with blood or other bodily fluids during funeral preparations) must be cleaned with a chemical germicide immediately after use, or as soon as feasibly possible. They should never be stored before cleaning.
8. Employees must take precautions to prevent injuries caused by sharp edges, needles, and syringes. Employees should watch their hands carefully while handling sharp objects.
9. Employee clothing which becomes contaminated with blood or other bodily fluids during repairs should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.

4.22 Potential Exposure Situations for Autopsy Service Employees

The following descriptions are geared toward the general duties associated with postmortem examinations. Procedures specific to certain operations may not be fully described. Safety and Health Department personnel should review the following table, Table 29, and make the appropriate additions and corrections.

Table 29 Potential Exposure Situations for Autopsy Service Employees

JOB CLASSIFICATION	WORK TASK	EXPOSURE SITUATION
Autopsy Service Employees: Coroners, Laboratory Technicians, etc.	Making incisions during autopsy procedures.	Contact with blood, other bodily fluids. Accidental cuts.
	Handling syringes, needles.	Accidental self-inoculation, needle-sticks.
	Working with equipment containing blood, other bodily fluids.	Accidental contact with potentially infectious materials from spills, splashes, and routine equipment-handling procedures.
	Observing condition of body to note any unusual conditions which could have lead to death.	Contact with blood, other bodily fluids.
	Removing foreign materials from throat and mouth.	Contact with blood, other bodily fluids.
	Contact with sanitary supplies, such as bandages and gauze.	Contact with blood, other bodily fluids, other potentially infectious materials.
	Collecting samples of blood, other bodily fluids and tissue samples.	Contact with blood, other bodily fluids.
	Preparing samples of blood or other bodily fluids for microscopic examination.	Cutting fingers or the sharp edge of slide/cover slip. Exposure through non-intact skin.
	Involvement in invasive autopsy procedures.	Contact with large amounts of blood and other bodily fluids.

4.22.1 Safe Work Practices for Autopsy Service Employees

The following safe work practices apply to the general duties associated with postmortem examinations. Practices which should be implemented during specific situations may not be fully represented. Safety and Health Department personnel should review the following list of procedures and make the appropriate additions and corrections.

1. Follow Universal Precautions.
2. Gloves must be worn whenever employees handle corpses or items obviously contaminated with blood or bodily fluids.
3. Hands and other skin surfaces should be washed immediately and thoroughly with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
4. Hands should be immediately washed after gloves are removed.
5. All persons performing or assisting in postmortem procedures should wear gloves, masks, protective eye wear, gowns, and waterproof aprons.
6. Instruments and surfaces contaminated during postmortem procedures must be

immediately decontaminated with an appropriate germicide.

7. Instruments used during postmortem procedures (or any item which may have become contaminated with blood or other bodily fluids during funeral preparations) must be cleaned with a chemical germicide immediately after use, or as soon as feasibly possible. They should never be stored before cleaning.
8. Employees must take precautions to prevent injuries caused by sharp edges, needles, and syringes. Employees should watch their hands carefully while handling sharp objects.
9. Employee clothing which becomes contaminated with blood or other bodily fluids during repairs should be removed immediately (or as soon as possible) and separated from other clothing until properly laundered.

CHAPTER 5

INFORMATION AND TRAINING

5.1 Information and Training Under the Bloodborne Pathogen Standard

(COMPANY) provides all potentially exposed employees with appropriate training, in accordance with the Federal regulation and (COMPANY)'s concerns for employee health and safety. Such training shall be provided:

- At the time of initial assignment to tasks where occupational exposure may occur.
- Within 90 days after the effective date of the standard.
- Refresher training is provided annually. Additional refresher training may also be provided to employees on the recommendation of (Safety Department) or supervisors.

Additional training will be provided when changes in equipment, tasks, or procedures create new potential exposure situations. This additional training will be provided to employees on the recommendation of the supervisor or members of (COMPANY)'s (Safety Department).

5.1.1 Topics Covered During Training

The training programs offered by (COMPANY) include the following elements:

- An accessible copy of the regulatory text of the Bloodborne Pathogen Standard, 29 CFR 1910.1030, and an explanation of its contents.
- A general explanation of the modes of transmission of bloodborne pathogens.
- An explanation of the Exposure Control Plan.
- An explanation of the appropriate methods for recognizing tasks that may involve exposure to potentially infectious materials.
- Information on the types, proper use, location, removal, handling decontamination and disposal of personal protective equipment.
- Information on the Hepatitis B vaccine.
- Information on the appropriate actions to take in an emergency involving potentially infectious materials.
- Information on emergency incident reporting procedures and medical evaluations

- Information on post-exposure evaluations and vaccinations that are provided after an exposure incident.
- An explanation of the signs and labels used to convey hazard information.
- An opportunity for interactive questions and answers with the person conducting the training session.

Employees should contact their the supervisor or the (Safety Department) if they have any questions concerning these training subjects or when they feel they need additional training.

5.2 Training Script

Special Note: A model script is provided for the administration of the training requirement of the Bloodborne Pathogen Standard. The training must be offered by a qualified individual. OSHA does not clearly define a qualified individual, but rather describes the trainer as someone who is knowledgeable with all elements of the Bloodborne Pathogen Standard and the facility's Exposure Control Plan. The training has to be conducted on a level that the training audience can understand. This may include bilingual training or separation of training groups. Separation is important for facilities that have different level of expertise regarding bloodborne diseases, such as a hospital or other health care facility.

5.2.1 Introduction

Hello. My name is (INSTRUCTOR). I have worked (list qualification's for instruction) and I am knowledgeable of OSHA's bloodborne pathogens standard.

Concerns about AIDS can make needle sticks, spills, or rescues alarming. Yet AIDS is not the only bloodborne pathogen threat that you may face. In fact, you are more likely to be infected by the hepatitis B virus (abbreviated HBV), which is just as deadly.

The "Occupation Exposure to Bloodborne Pathogens" standard details ways that you and (COMPANY) can work together to substantially reduce your risk of contracting a

bloodborne disease on the job.

Employees are covered by the standard if it is reasonably anticipated that you could be exposed to bloodborne pathogens as a result of performing your job duties. You have been asked here today because your jobs or emergency services may expose you to bloodborne pathogens. You may handle contaminated materials, while others may assist an injured employee. The Occupational Safety and Health Administration (OSHA) has issued a standard that, if followed, is designed to prevent exposure. You must use proper precautions to protect yourself.

This discussion is the training requirement for bloodborne pathogens. The company is responsible for providing this training to you. Training will include components of the standard, epidemiology of bloodborne pathogens, exposure control plan, appropriate actions to follow, and a period for questions. You will receive a certificate of completion at the end of the session and a copy will be filed in the personnel department, as well.

If at any point you have questions, or anything you would like to add to our discussion, please do so at any time. Also, I will be available afterwards for questions that you may want to ask me personally.

5.2.2 Terms and Definitions

I would like to start by clarifying terminology that will be used for today's training.

Blood means any human blood, human blood components, and products made from human blood.

Bloodborne Pathogens means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Other Potentially Infectious Materials means

1. The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is impossible to differentiate between body fluids;
2. Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and
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 experimental animals infected with HIV or HBV.

Contaminated means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

HBV means hepatitis B virus.

HIV means human immunodeficiency virus.

Parenteral means piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

Universal Precautions is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

Are there any questions at this point? The terms will become clear as they fit into the discussion.

5.2.3 Overview of Bloodborne Pathogen Training

We will start today with a look at bloodborne diseases. This includes HBV, hepatitis C, HIV. We will cover symptoms, workplace modes of exposure, and a vaccination that is available for HBV.

I also want to give a summary of the major provisions of the Occupational Exposure to Bloodborne Pathogens standard. This covers universal precautions, work practices, personal protective equipment, and housekeeping. You will be provided with a copy of the exposure control plan.

We can end with covering emergency situations and exposure incidents,, including proper labeling.

5.2.4 Bloodborne Diseases

Bloodborne pathogen simply means "carried in blood" "causes disease". Bloodborne diseases that you can be exposed to on the job include hepatitis C, hepatitis B, and delta hepatitis, as well as syphilis, malaria, and human immunodeficiency virus (HIV). The two most common, and significant are hepatitis B (HBV), and human immunodeficiency virus.

Hepatitis means "inflammation of the liver". Hepatitis B virus is the major infectious bloodborne hazard you face on the job. OSHA estimates that more than 5.6 million workers could be potentially exposed to bloodborne pathogens. Hepatitis B infects approximately 8700 health care workers a year, resulting in more than 400 hospitalizations and 200 deaths.

Hepatitis B has a variety of effects upon those that contact the disease. If you become infected with HBV:

- You may suffer from flu like symptoms, becoming so severe that you may require hospitalization.
- You may develop a yellowish skin tone, known as jaundice.
- You may have no symptoms at all being unaware that you are infected.
- Your blood, saliva, and other body fluids may be infectious.

You may spread the virus to sexual partners, family members, and even unborn infants.

Typical symptoms that are experienced with hepatitis B are:

- Decreased Appetite
- Fatigue
- Nausea
- Abdominal Discomfort
- Rashes

Keep in mind that symptoms take six weeks to six months to appear. HBV may severely damage your liver, leading to cirrhosis and almost certain death.

To give some perspective on the seriousness of this disease, I have some figures here. Of those who are infected, 90% recover, while the remaining 10% remain carriers. Two thirds of the carriers remain healthy, yet one third will develop cirrhosis of the liver. This means that one out of 30 infected individuals develops cirrhosis. Also, one Ml of

infected blood is enough to infect 100 million people.

The treatment for HBV is in early experimental stages. The only preventative measure taken today is the Hepatitis B Vaccination. The hepatitis B immune globulin (HBIG) is administered as a post exposure treatment.

Hepatitis C is a relatively new classification for non A and non B hepatitis. The modes of transmission and symptoms are similar to hepatitis B. However, 50% of infected individuals will show symptoms. 25% of the infected individuals will show signs of jaundice. The outcome of infection shows 50% to recover and 50% become carriers. Of the carriers, one third develop chronic active hepatitis. This means one out of six infected individuals will develop cirrhosis.

The human immunodeficiency virus (HIV) attacks the body's immune system. Certain cells are invaded, decreasing their ability to fight off infection. Eventually there will be a total collapse of the immune defense mechanism, causing the disease known as AIDS, Acquired Immune Deficiency Syndrome.

Currently there is no vaccine to prevent infection. A person infected with HIV:

- May carry the virus without developing symptoms for several years.
- Will eventually develop AIDS.
- May suffer from flu like symptoms, fever, diarrhea, and fatigue.
- May develop AIDS related to illnesses including neurological problems, cancer, and other opportunistic infections.

HIV is primarily transmitted through sexual contact, but may also be transmitted through contact with blood and some body fluids. HIV is not transmitted by touching or working around people who carry the disease.

5.2.5 Workplace Transmission

In the workplace, bloodborne pathogens are transmitted in the same ways. HBV, HIV and other pathogens may be present in:

- Body fluids such as semen, vaginal secretions, cerebrospinal fluid, synovial fluid,

pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, and any body fluid that is visibly contaminated with blood.
- Unfixed tissue or organ other than intact skin from a living or dead humans.

Bloodborne pathogens may enter your body and infect you through a variety of means including:

- An accidental injury with a sharp object contaminated with infectious material. Sharps include needles, broken glass, anything that can pierce, puncture, or cut your skin.
- Open cuts, nicks and skin abrasions, even dermatitis and acne, as will as the mucous membranes of your mouth, eye, or nose.
- Indirect transmission, such as toughing a contaminated object or surface and transferring the infectious materials to your mouth, eyes, nose, or open skin.

HBV can survive on environmental surfaces dried and at room temperature for at least one week. Other pathogens can not survive as well. Make sure after an accident that the area is thoroughly cleaned and disinfected.

5.2.6 Hepatitis B Vaccination

The hepatitis B vaccination is available to you at no cost. The vaccine is administered by three injections over a six month period. Today's vaccines are safe and effective.

- Those now used in the U.S. are made from yeast and can not be infected with HIV or other bloodborne pathogens.
- The complete series is 85 to 95% effective at protecting you from getting HBV or becoming a carrier for nine years or longer.

There is information prepared on this. Please review this and return the consent form to the (Human Resources Department). You may choose not to receive the vaccination at this time. If so, you must sign the declination form and return this to (Human Resources Department).

5.2.7 Standard Summary

Officially titled 29 CFR Part 1910.1030, "Occupational Exposure to Bloodborne Pathogens", the standard is the first to regulate biohazardous materials. The purpose has been to limit occupational exposure to blood and other potentially infectious materials

because any exposure could result in transmission of bloodborne pathogens, which could lead to disease or death.

We will cover a summary of the major provisions established by the standard. You have been given a copy of the standard and there is a complete copy of the final ruling on file in the library and other locations.

Exposure Control Plan: OSHA requires (COMPANY) to identify, in writing, tasks and procedures, as well as job classifications where occupational exposure to potentially infectious materials occurs, without regard to personal protective equipment and clothing. The exposure control includes:

- Specific measures you must take to minimize your risk of exposure.
- Procedures to follow if there is and exposure incident.

A copy has been made available to you. Additional copies can be obtained through (Human Resources Department).

Universal Precautions: You may not be able to tell for sure which people carry bloodborne pathogens by taking a medical history or by examination. Both HIV and HBV infect people of all ages and backgrounds. Remember that:

- Many people carry bloodborne infections without visible symptoms.
- Many people carry bloodborne infections without even knowing it.

By using "universal precautions" we resolve this uncertainty by requiring you to treat all human blood and certain body fluids as if they were known to be infected with HIV, HBV or other bloodborne pathogens. You can't identify every person who may transmit infection. You can not afford not to since it takes just one exposure to become infected.

Next, there are five major tactics to reduce your exposure to bloodborne pathogens on the job:

- Engineering Controls
- Employee Work Practices
- Personal Protective Equipment
- Housekeeping Hepatitis B Vaccine

None of these approaches are 100% effective but, together they will greatly reduce your risk of infection.

5.2.8 Engineering Controls

Engineering controls are physical or mechanical systems used to eliminate hazards at their source.

5.2.9 Work Practice

Work practice controls are procedures you must follow on the job to reduce your exposure to bloodborne pathogens or infectious materials. The following are the specific work practice procedures you must follow:

Needle sticks. To Avoid Needle sticks:

- Do not bend, recap, shear or break contaminated needles and other sharps.
- Recap or remove contaminated needles from disposable syringes only when medically necessary. To recap needles, us a mechanical device or a one handed technique.
- Place disposable and reusable contaminated sharps in an appropriate puncture resistant, leak proof container immediately after use.
- Report any sharps containers that are mounted too high or otherwise not easily accessible.

Hand washing. If infectious material gets on your hands, the sooner you wash off, the less chance you have of becoming infected.

- Hand washing keeps you from transferring contamination from your hands with non-abrasive soap and running water as soon as possible.
- If skin or mucous membrane comes in direct contact with blood, was or flush with water as soon as possible.

Personal Hygiene. Additionally,

- When performing procedures involving blood or other potentially infectious materials, minimize splashing, spraying, splattering and generation of droplets.
- Do not eat, drink, smoke, apply cosmetics or lip balms, or handle contact lenses where you may be exposed to blood or other potentially infectious materials.
- Avoid petroleum based lubricants that may eat through latex gloves. Applying hand cream is acceptable if you thoroughly was your hands before putting on gloves.
- Do not keep food and drinks in refrigerators, freezers, cabinets or on shelves, countertops or bench tops where blood or other potentially infectious materials may be present.

5.2.10 Personal Protective Equipment

Personal protective equipment protects you from contact with potentially infectious materials. This includes gloves, masks, gowns, protective eye wear, and resuscitation devices. Under normal working conditions, protective equipment must not allow potentially infectious materials to contact your work clothes, street clothes, undergarments, skin or mucous membranes. The type of protective equipment appropriate for a given task depends on the degree of exposure you anticipate.

You must follow these rules to insure that your protective equipment does its job. General rules for personal protective equipment:

- You must be trained to use equipment properly.
- Protective equipment must be appropriate for the task.
- You must use protective equipment each time you perform a task.
- Your equipment must be free of physical flaws that could comprises safety.
- Your gloves must fit properly.
- If, when wearing equipment, it is penetrated by blood or other potentially infectious materials, remove it as soon as feasible.
- Before leaving the work are, remove all protective equipment and place in the designated area or container for washing, decontamination, or disposal.

There is one exception to the rule. If you believe using protective equipment would prevent proper delivery of health care or jeopardized your safety or a co-worker's, you may temporarily and briefly abandon its use in an emergency. After the incident, the circumstances will be investigated to determine if such a situation could be prevented in the future. In all other circumstances, wearing appropriate protective equipment is not only your best option - it's your only option.

Resuscitation Devices. Mechanical emergency respiratory devices and pocket masks are types of personal protective equipment designed to isolated you from contact with a victim's saliva during resuscitation. Avoid unprotected mouth to mouth resuscitation. The person may expel saliva, blood, or other body fluids during resuscitation.

Gloves. Gloves act as a primary barrier between your hands and bloodborne

pathogens. Latex or nylon gloves are used most frequently. Heavy duty utility gloves should be used for housekeeping duties. Here's how to use them:

- You must wear gloves when you anticipate hand contact with blood, potentially infectious materials, mucous membranes or non intact skin.
- If you are allergic to latex or nylon gloves, you will be provided with hypoallergenic gloves, glove liners, powderless gloves, or another alternative.
- Since gloves can be torn or punctured by sharps, bandage any cuts before being gloved.
- Replace disposable single use gloves as soon as possible if contaminated, torn, punctured or damaged in any way. Never wash or decontaminate for reuse.
- Utility gloves may be decontaminated and reused unless they are cracked, peeling, torn, or no longer provide barrier protection.

Glove Removal and Demonstration: You must follow a safe procedure for glove removal, being careful that no pathogens form the soiled gloves contact your hands.

- With both hands gloved, peel the second glove from the inside, and hold it in the gloved hand.
- With the exposed hand, peel the second glove from the inside, tucking the first glove inside the second.
- Dispose of the entire bundle promptly.
- Remove gloves when they become contaminated, damaged or before leaving the work area.
- Wash your hands thoroughly.

5.2.11 Housekeeping

Good housekeeping protects every worker, and is every workers responsibility. The general rules for housekeeping are:

- Clean and decontaminate all equipment and environmental working surfaces after contact with other potentially infectious materials.
- Do not pick up broken glass which may be contaminated with gloved or bare hands. Use tongs or a brush and dustpan.
- Place contaminated sharps and infectious wastes in designated sharps containers. The containers should be labeled or color coded leak proof containers that are closable and easily accessible to those who use them. Do not allow containers to over fill.
- Handle contaminated laundry as little as possible and with minimal agitation. Place soiled laundry in labeled or color coded leak proof bags or containers without sorting or rinsing.

5.2.12 Exposure Incidents

If you are exposed, report the incident immediately. The standard requires that the post exposure medical evaluation and follow up be made available immediately for employees who have had an exposure incident. Document the routes of exposure and how exposure occurred. At a minimum, the evaluation and follow up includes the following elements:

- Identify and document the source individual, unless prohibited by state or local law or indeterminable.
- Obtain consent and test source individual's blood as soon as possible to determine HIV and HBV infectivity and document the results.
- Provide employee with source individuals test results and information about disclosure laws concerning the source identity and infectious status.
- Obtain consent and provide confidential medical examination and blood test for exposed employee.

Within 15 days after evaluation of the exposed employee, the employer will provided the employee with a written copy of the health care professional's opinion.

5.2.13 Labeling

The standard requires that florescent orange or orange red warning labels be attached to containers of regulated waste, to refrigerators and freezers containing blood and other potentially infectious materials, and to other containers used to store, transport, or ship blood or other potentially infectious materials, and to other containers used to store, transport, or ship blood or other potentially infectious materials. The label must contain the biohazard symbol and the word bio-hazard, and can be attached by string, wire, or adhesive. There is an example label with the information that you have been given.

5.2.14 Questions and Answers

You have an opportunity to ask any questions you may have. If you have a question at some other time, you can contact the (Human Resources department), (Safety Department), or consult the Exposure Control Plan.

Figure 3 Certificate of Completion for Bloodborne Pathogen Training

CERTIFICATE OF COMPLETION

for

Education and Training Component

of

OSHA's Bloodborne Pathogens Standard

This will serve to confirm that (Employee Name) attended training on (Date), at (Location). The seminar provided education and training regarding the OSHA Bloodborne Pathogens Standard. The following information and education was provided:

1. Overview of Standard
2. Description of Bloodborne Pathogens (epidemiology, transmission, signs of symptoms of bloodborne diseases)
3. Components of the Exposure Control Plan (companies are responsible for review of their individual plan)
4. Definitions of Exposure determination
5. Universal precautions
6. Engineering controls
7. Safe work practices
8. Personal protective equipment
9. Housekeeping responsibilities-including regulated medical waste
10. Hepatitis B vaccine and Post-exposure evaluation and follow-up
11. Documentation and record-keeping: medical records & training records
12. Questions and answers

The following literature was provided:

1. Copy of Standard
2. Fact Sheet - summary of key provisions
3. Hepatitis B information sheet

Thank you for your participation in this program.

(Instructor's name and credentials)

& (Company representative)

5.3 Training Records

Training records for this facility are kept in the following locations: (give locations).

These records include the following items:

- The dates of the training session.
- A summary of the training session.
- The names and qualification of all persons conducting the training; and,
- The names and the job titles of all persons attending the training sessions.

The training records are maintained for at least three years from the date on which the training occurred.

5.3.1 Training Certificate

Each employee will be issued a copy of the following certificate. The certificate is presented in Figure 3. A copy of this certificate will be kept on record.

CHAPTER 6

COMPLIANCE PROCEDURES FOR HAZARDOUS MATERIALS RESPONSE TEAMS

Special Note: Add the following statement which applies to the operations conducted at your facility.

- There is no Emergency Response Team at this facility. Therefore, the procedures described in this section are not applicable.
- There is an Emergency Response Team at this facility. Therefore, the procedures described in this section are applicable.
- The only employees who may be exposed to potentially infectious materials during the performance of their duties are members of the Emergency Response Team. Therefore, ONLY the statements described in this section are applicable.

6.1 OSHA Definition of Hazardous Substance

Hazardous substances, according to the definition given in OSHA's Hazardous Waste Operations and Emergency Response Standard, 1993, include:

> "Any biological agent and other disease-causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may be reasonably anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring."

Hepatitis B Virus and Human Immunodeficiency Virus are disease-causing agents which would fall into OSHA's definition of hazardous substances. The safety programs for personnel who may be exposed to hazardous substances in operations described in the Hazardous Waste Operation and Emergency Response Standard must include the

handle hazardous wastes or who respond to releases of hazardous substances have the potential to be exposed to bloodborne pathogens.

6.2 OSHA Definition of Hazardous Materials Response Team

Many facilities have Hazardous Materials Response Teams. The definition (under 29 CFR 1910.120) of a Hazardous Materials Response Team is as follows: An organized group of employees, designated by the employer, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance.

6.3 Emergency Response Teams

Often, industrial Hazardous Materials Response Teams are also trained to handle a wide variety of other emergencies (i.e. basic first-aid, fire-response, etc.). Such teams will be referred to as "Emergency Response Teams" through the remainder of this section. Exposure risks faced by members of Emergency Response Teams may differ significantly than those faced by employees performing their routine work assignments. At some facilities, the only employees who are likely to face potential exposures to bloodborne pathogens are members of the Emergency Response Team. This section describes the requirements of the Bloodborne Pathogen Standard as they pertain to Emergency Response Teams.

6.4 Personnel Implementing the Exposure Control Plan for the Emergency Response Team

(Chief Executive Officer): This person holds the ultimate responsibility for all biological safety issues at this facility. The (Chief Executive Officer), in cooperation with other administrators, provides continuing support, both motivational and financial, for the Exposure Control Program.

(Exposure Control Program Administrator or Health/Safety Department Designate). This person must work with administrators and other employees and implement the policies of (COMPANY). Duties of this staff member include:

- Monitoring procedures involving potential occupational exposure to potentially infectious materials;
- Guiding the development of precautionary procedures for the kind of potentially infectious material to which Emergency Response Team members may be exposed.
- Knowing the requirements under the Bloodborne Pathogen Standard concerning potentially infectious materials;
- Ensuring that medical practices and training programs are in accordance with the requirements of the Bloodborne Pathogen Standard; and,
- Revising, reviewing and improving the Exposure Control Program.

6.5 Responsibilities of Emergency Response Team Members

(COMPANY) wants to provide the safest work environment possible. Ultimately, however, you are responsible for your own safety. Members of the Emergency Response Team must accept this responsibility and comply with (COMPANY) safety policies described in this Exposure Control Plan and in the associated training program. Emergency Response Team members are expected to:

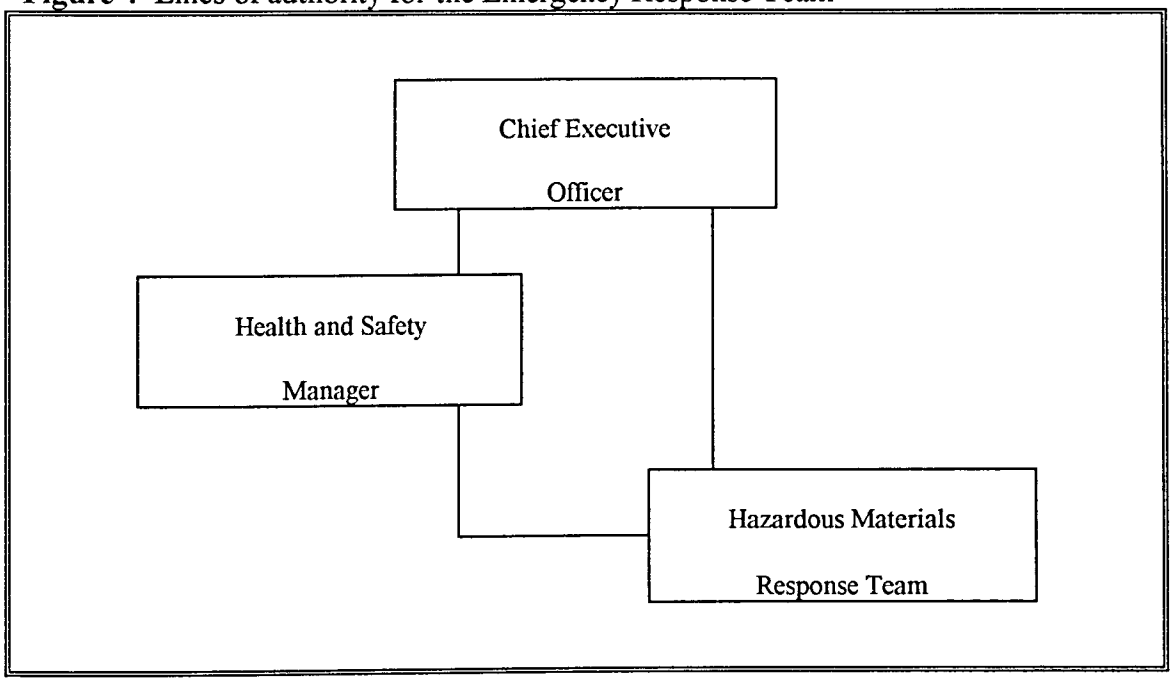
- Minimize all potential exposures to infectious materials or contaminated items;
- Avoid unsafe practices and report unsafe conditions;

- Label containers and samples holding potentially infectious materials appropriately;
- Be familiar with emergency situations in which they may be exposed to potentially infectious materials;
- Be familiar with emergency response procedures for infectious materials which have been implemented at this facility;
- Learn what precautions and protective equipment are needed for specific jobs;
- Practice good hygiene;
- Take responsibility for themselves and co-workers.

6.6 Lines of Authority for the Emergency Response Team

The lines of authority for the Emergency Response Team at (COMPANY) under the Exposure Control Program are given in Figure 4 below.

Figure 4 Lines of authority for the Emergency Response Team



6.7 Methods of Compliance with Standard Requirements for Emergency Response Team Operations

The following sections describe the procedures and practices which have been established by (COMPANY) to protect members of Emergency Response Teams from exposures to bloodborne pathogens.

6.7.1 Universal Precautions for the Emergency Response Team

The principle of Universal Precautions is a conservative approach to infection control. Simply stated, the concept behind Universal Precautions is that: ALL HUMAN BLOOD AND BODY FLUIDS ARE TREATED AS IF THEY ARE KNOWN TO CONTAIN HEPATITIS B VIRUS, HUMAN IMMUNODEFICIENCY VIRUS, OR OTHER BLOODBORNE PATHOGENS.

This approach must be used by Emergency Response Teams members at this facility whenever they have contact with blood, body fluids, or other potentially infectious materials during an emergency response incident.

6.7.2 Engineering Controls for Protection of the Emergency Response Team

Engineering controls are those devices which isolate or remove the bloodborne pathogen hazard from the work place. These engineering controls are examined as part of a stringent inspection program.

Table 30 lists the engineering controls which have been implemented, where appropriate, to protect Emergency Response Team members from potential exposure situations. Safety and Health Department personnel should complete Table 30 by entering the appropriate information.

Table 30 Engineering Controls and Inspection Schedule

ENGINEERING CONTROL	COMMENT
Sharps Disposal Containers	Ensure that these containers are in good condition (or are placed in properly labeled secondary containment) before leaving a incident site.
Hand-washing Facilities	Use these facilities wherever involved in an incident in which there has been a potential for exposure to potentially infectious materials.
Other:	

6.7.3 Hand-Washing Facilities for the Emergency Response Team

Hand-washing facilities are available to Emergency Response Team members, in accordance with the Federal standard. These facilities must be used by emergency responders every time they come in contact with potentially infectious agents. (Provide the location of the hand-washing facilities to be used by Emergency Response Team members.)

Emergency Response Team members should also shower as soon as possible after every response incident.

6.8 Work Practices for Emergency Response Teams

Work practices are defined as those procedures which have been developed by (COMPANY) to reduce or eliminate Emergency Response Team member exposures to bloodborne pathogens during the execution of their response duties.

During emergency response situations, the chief safety policy of (COMPANY) is to eliminate all exposures. Emergency Response Team members must understand these procedures fully, and they must implement these practices, when appropriate.

6.8.1 Basic Hygiene Practices for Hazardous Material Response Team Members

The following basic hygiene procedures are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to bloodborne pathogens during an emergency response incident.

All emergency response procedures involving blood or other potentially infectious materials shall be performed in such a manner as to prevent or minimize splashing, spraying, spattering, and generation of droplets of these substances.

Emergency Response Team members must wash their hands immediately after removal of gloves and other personal protective equipment (or as soon as feasibly possible) when they are involved in a response where there is the potential for contact with infectious materials.

If accidental skin contamination occurs during a response, the Emergency Response Team member who was contaminated will be immediately removed from the incident site. The affected area will be washed with copious amounts of an antiseptic and water for 15 minutes. If the eyes or mucous membranes are accidentally contaminated, they should be flushed with water for at least 15 minutes.

All accidental exposures must be reported to (Incident Commander), the members of the (Safety Department) and the work area supervisor.

6.8.2 Additional Safety Procedures for Emergency Response Situations

The following procedures are prudent practices and are not mandated by the federal standard. Nonetheless, these procedures will be implemented by (COMPANY) for members of the Emergency Response Team.

Emergency Response Team members should shower after participation in a response. Water and a mild soap, or an antiseptic cleanser, should be used for skin cleansing.

Emergency Response Team members with acne, dermatitis, open wounds, or other skin problems should avoid participation in incidents involving potential contact with potentially infectious materials. If they must participate, responders with skin problems should review safe work procedures with their the (Incident Commander, Safety Officer, team supervisors, and members of Safety Department).

6.8.2.1 Contaminated Needles and Other Sharps Handling Procedures

The following sharps-handling procedures are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to contaminated needles or other sharps potentially contaminated by bloodborne pathogens.

Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed unless no alternative is feasible or such action is required by a specific emergency response procedure. Contaminated needles and other contaminated sharps will not be removed, bent, or recapped, unless it is through the use of a mechanical device or a one-handed technique. Shearing or breaking of contaminated needles is forbidden.

6.8.3 Actions Prohibited During Emergency Response Operations

The following work area policies are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to bloodborne pathogens.

Eating, drinking, smoking, or applying cosmetics will not occur in the incident area during emergency mitigation.

6.9 Containerization Procedures During Emergency Response Activities

The following containerization procedures are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to bloodborne pathogens.

Potentially infectious material wastes generated during emergency response procedures shall be placed in containers which prevent leakage during collection, handling, processing, storage, transport, or shipping. These containers must be closed prior to being stored, transported, or shipped.

6.9.1 Labeling Wastes Generated by Emergency Response Team

Emergency Response Team members, in cooperation with the members of the (Safety Department), will ensure that containers for disposal of wastes generated during incident mitigation are labeled in accordance with the standard and the procedures described in the section on labels in this document.

6.9.2 Secondary Containment of Wastes

When Emergency Response Team members determine that outside contamination of a primary container has occurred (or if specimens contained within the primary container could puncture that container), the primary container will be placed within a secondary container which prevents leakage during handling, processing, storage, transport, or shipping. The secondary container has to be puncture-resistant and labeled/color-coded under the requirements of the standard and the section on labels in this document.

6.10 Equipment-Handling Procedures During Emergency Response

The following equipment-handling procedures are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to bloodborne pathogens.

6.10.1 Decontamination of Equipment

Equipment which may become contaminated with blood or other potentially infectious materials during an incident will be decontaminated by Emergency Response Team members. If Emergency Response Team members are unable to thoroughly decontaminate a piece of equipment during an incident, a label (prepared in accordance with the Federal standard and the section on labels in this document) will be attached to the equipment stating which portions remain contaminated. Designated employees of (COMPANY) will ensure that appropriate hazard information is conveyed to all affected employees, as well as to servicing and repair representatives.

6.11 Personal Protective Equipment Provided to Emergency Response Team

(COMPANY) provides, at no cost to the Emergency Response Team member, appropriate personal protective equipment. Table 31, on the following page, lists the personnel protective clothing available at this facility and information on how to obtain these supplies. Safety and Health Department personnel should complete Table 31 by entering the requested information.

Table 31 Personal Protective Clothing for Emergency Responders Used During Incidents Involving Potentially Infectious Materials

ITEM	HOW TO OBTAIN	COMMENT
Single-Use Gloves	(i.e. order from stockroom, obtain from Safety Dept., etc.).	Check for leaks, tears, punctures before each use. Use gloves only one time. Dispose in appropriate waste container. Gloves should be worn whenever an incident victim is handled.
Other Gloves		Check for leaks, tears, punctures before each use. Dispose in appropriate waste container.
Protective Suits		Check the condition of suit before each use. Do not wear suits which are obviously soiled, torn, or in poor condition. Follow standard disposal procedures for suits, as appropriate. Suits should be worn when their is the potential for contact with large quantities of blood, bodily fluids, or other potentially infectious materials.
Safety Goggles/Safety Glasses		Always wear eye protection during emergency mitigation procedures involving blood, blood products, or other potentially infectious materials. Clean with appropriate antiseptic agents. Dispose of these items in appropriate containers.
Face Shields		Wear face shields whenever there is an opportunity for exposure to large quantities of blood, blood products or other potentially infectious materials. Wear face shields whenever there is a likelihood of splash, sprays, mists, or the production of respirable droplets. Clean with appropriate antiseptic agents. Dispose of these items in appropriate containers.
Hoods Hair Nets		Check for leaks, tears, punctures before each use. Dispose in appropriately waste container. Responders with long hair should wear these items whenever there is the potential for contact with large quantities of blood, bodily fluids, or other potentially infectious materials.
Shoe Covers Boots		These items should be worn when gross contamination with potentially infectious materials is anticipated.
Respiratory Protective Equipment (Self Contained Breathing Apparatus Air-Purifying Respirators)		Respiratory Protection is selected after review of the incident (hazardous materials involved, quantity of the substance, location of the emergency, opportunity for contact with bloodborne pathogens). Emergency Response Team members should check the condition of all respiratory protective equipment before use during an incident response.
Other:		

Hypoallergenic gloves, glove liners, powderless gloves, or other similar apparel are available to Emergency Response Team members who are allergic to the gloves normally

provided. Emergency Response Team members who require such items should contact their supervisor or the (Safety Department).

If protective clothing is penetrated by blood or potentially infectious materials, these items will be removed immediately after the responder is of a safe distance from the site of the emergency. All personal protective equipment will be removed prior to leaving the response area. Cleaning, laundering, disposal, repair and replacement of personal protective equipment will be done at no cost to the Emergency Response Team member.

6.12 Housekeeping Procedures During Emergency Response

Effective housekeeping is important during emergency response to minimize all potential hazards. The following housekeeping procedures for equipment are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to bloodborne pathogens. All equipment and working surfaces will be decontaminated after contact with blood or other potentially infectious materials. Surfaces contaminated with potentially infectious materials during an emergency incident will be washed with disinfectant after completion of emergency response procedures. Table 32, on the following page, provides a schedule for cleaning emergency response equipment and describes the appropriate decontamination method. Safety and Health Department personnel should complete Table 32 by entering the requested information.

Table 32 Schedule for Cleaning and Method of Decontamination for Emergency Response Equipment

ITEM or AREA	METHOD OF DECONTAMINATION	CLEANING SCHEDULE	COMMENT
Personal Protective Apparel	Wash with bleach solution obtained from stockroom.	After the completion of emergency response procedures involving potentially infectious materials.	This is an example as to how this particular table should be completed.
Response Equipment	Wash with bleach solution.	After completion of emergency response procedures involving potentially infectious materials.	

Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and surfaces in areas affected by an emergency incident involving potentially infectious materials must be replaced. All bins, pails, cans, and similar receptacles intended for reuse which may be expected to become contaminated with blood or other potentially infectious materials will be routinely inspected, cleaned, and decontaminated. These receptacles shall also be immediately decontaminated whenever they become visibly contaminated.

6.12.1 Housekeeping Procedures for Sharps

The following housekeeping procedures for sharps are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to bloodborne pathogens. Broken glassware which may be contaminated will never be picked up directly with the hands. A brush and dustpan, tongs, or forceps will be used to clean-up all broken glassware.

6.12.2 Housekeeping Procedures for Waste Materials

The following housekeeping procedures for waste materials are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to bloodborne pathogens. When moving containers of contaminated sharps from an area, the containers will be closed immediately prior to removal to prevent the accidental release of contents or placed in a secondary container if leakage is possible. This secondary container must meet the requirements that are described in the previous section on containerization procedures in this document. Containers for other potentially infectious wastes generated at this facility also meet the requirements given in the previous section on containerization procedures in this document.

If outside contamination of the waste container occurs, it will be placed in a secondary container. This secondary container must meet the requirements described in the previous section on containerization procedures in this document.

6.12.3 Housekeeping Procedures for Laundered Items

The following housekeeping procedures for items to be laundered are mandatory under the Bloodborne Pathogen Standard, 29 CFR 1910.1030. These procedures have been implemented by (COMPANY) and must be followed by Emergency Response Team members who are potentially exposed to bloodborne pathogens. Emergency Response Team members who have contact with contaminated laundry during emergency response procedures must wear gloves and other appropriate personal protective equipment, as deemed necessary for the safe handling of laundry.

6.13 Procedures for Hepatitis B Vaccinations for Emergency Response Team Members

The following sections describe the procedures established by (COMPANY) to provided its Emergency Response Team members vaccinations for the Hepatitis B Virus.

6.13.1 Booster Vaccinations

If routine booster doses of Hepatitis B vaccine are recommended by the U.S. Public Health Service, these booster shots will be made available to (COMPANY) Emergency Response Team members. These vaccinations are provided at no cost to the Emergency Response Team member and are provided by or under the supervision of a licensed physician (or another licensed healthcare professional).

6.13.2 Obtaining Hepatitis B Vaccinations

In accordance with the requirements of the standard, the Hepatitis B vaccination will be provided to Emergency Response Team members after the appropriate information on the Hepatitis B virus is reviewed during training programs. Such training is described in the previous section on training in this document. Vaccinations are provided within ten working days of initial assignment to all Emergency Response Team members who have potential occupational exposures.

> *Special Note*: Describe the actual procedures for obtaining Hepatitis B vaccinations. For example, provided the name of the healthcare professionals who have been designated by the Company to provide the vaccinations and how Emergency Response Team members can schedule an appointment for vaccinations. As per the requirements of the standard, these vaccinations are provided at no cost to the Emergency Response Team member, made available at a reasonable time and place, and are provided by or under the supervision of a licensed physician (or another licensed healthcare professional).

6.13.3 Exemptions to the Hepatitis B Vaccination Program

Emergency Response Team members who have already completed the Hepatitis B vaccination series are exempt from (COMPANY)'s vaccination requirements. Emergency Response Team members for whom antibody testing has revealed an immunity the Hepatitis B virus or for whom vaccination is contraindicated for medical reasons are also exempt from the vaccination requirements.

6.13.4 Emergency Response Team Members Decline the HBV Vaccination Series

Emergency Response Team members may decline the Hepatitis B vaccination. When an Emergency Response Team member declines the Hepatitis B vaccination, the Emergency Response Team member must sign the following statement.

6.13.4.1 Mandatory Hepatitis B Vaccination Declination Statement

> "I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis B virus infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccination, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me."
>
> (Signature of the Employee.)

As indicated by the previous statement, Emergency Response Team members who decline Hepatitis B virus vaccination may receive the vaccination series at a later date. These vaccinations will be provided at no cost to the Emergency Response Team member at that time. These vaccinations will also be provided by or under the supervision of a licensed physician (or another licensed healthcare professional).

6.14 Post-Exposure Vaccinations and Medical Evaluations for Emergency Response Personnel

Post-exposure vaccinations and medical evaluations are available to all Emergency Response Team members who have had an exposure incident. These vaccinations and evaluations are provided at no cost to the Emergency Response Team member and are provided by or under the supervision of a licensed physician (or another licensed healthcare professional) at a reasonable time and place. All necessary laboratory tests are conducted by an accredited laboratory. Accreditation of these facilities will be confirmed by an employee of (Safety Department).

6.14.1 Availability of Evaluations and Their Results

Confidential medical evaluations and follow-up's will be made available to all affected Emergency Response Team members following the report of an exposure incident. These medical evaluations will include the elements described in the previous section on medical evaluations in this document.

Results of the source individual's testing will be made available to the exposed Emergency Response Team member. The Emergency Response Team member will then be informed of the applicable laws concerning disclosure of the identity and infectious status of the source individual.

6.14.2 Obtaining Post-Exposure Evaluations

> *Special Note*: Describe the actual procedures for obtaining post exposure evaluations at your facility.

Post-exposure measures designed to prevent the spread of the disease or development of disease symptoms will be made available to the Emergency Response Team member, when

medically indicated. This program follows the recommendations of the U.S. Public Health Service and includes counseling and evaluation of reported illnesses.

6.14.2.1 Collection and Testing of Blood Samples

The Emergency Response Team member's blood will be collected as soon as possible after the exposure incident. These samples shall be tested for HIV/HBV status as soon as Emergency Response Team member consent is obtained.

If the Emergency Response Team member consents to baseline blood collection, but does not give consent at that time for Human Immunodeficiency Virus serologic testing, the sample shall be preserved for at least 90 days. If the Emergency Response Team member elects to have the baseline sample tested within this 90 day period, testing will occur after the decision has been made.

6.14.3 Healthcare Professional's Written Opinion

(COMPANY) will obtain a copy of the evaluating healthcare professional's written opinion within 15 days of completion of the evaluation. This written opinion will be immediately made available to the Emergency Response Team member. In accordance with the standard, the healthcare professional's written opinion for Hepatitis B vaccination will be limited to whether Hepatitis B vaccination is indicated for the Emergency Response Team member, and if the Emergency Response Team member has received such vaccination. Written opinions concerning the results of post-exposure evaluations are limited to the following information, in accordance with the regulation:

- An indication that the Emergency Response Team member has been informed of the results of the evaluation.
- An indication that the Emergency Response Team member has been told about medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

All other findings or diagnoses not specified in the above paragraphs will remain confidential and cannot be included in the written report.

6.14.4 Medical Record-Keeping

(COMPANY) maintains accurate medical records (in accordance with 29 CFR 1910.20) for Emergency Response Team members with occupational exposures. These records include the information indicated in the previous section on medical record-keeping in this document. These medical records will be kept confidential and will not be disclosed without the Emergency Response Team member's express written consent to any person within or outside the work place (except as may be required by law). (COMPANY) maintains these records for the duration of an Emergency Response Team member's employment plus 30 years thereafter.

6.15 Communication of Hazards to Emergency Response Team Members

The following sections describe the methods implemented by (COMPANY) to communicate the hazards of bloodborne pathogens to members of the Emergency Materials Response Team.

6.15.1 Label Requirements

The procedures described in the previous section entitled "Label Requirements" in this document are applicable to all operations.

6.15.2 Requirements for Signs

The procedures described in the previous section of this document entitled "Requirements for Signs" are followed at this facility.

6.15.3 Information an Training

(COMPANY) provides all Emergency Response Team members with appropriate training,

in accordance with the Federal regulation and (COMPANY)'s concerns for employee health and safety. In addition to the training required under 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response), training under the Bloodborne Pathogen Standard will be provided:

- At the time of initial assignment to the Emergency Response Team
- Refresher training is provided annually. Additional refresher training may also be provided to Emergency Response Team members on the recommendation of (Safety Department) or team leaders.

Additional training will be provided when changes in equipment, tasks, or procedures create new potential exposure situations. This additional training will be provided to team members on the recommendation of the supervisor or designated members of the (Safety Department).

6.15.3.1 Topics Covered During Training

The training programs offered by (COMPANY) include the following elements:

- A copy of the regulatory text of the Bloodborne Pathogen Standard, 29 CFR 1910.1030, and an explanation of its contents.
- A general explanation of the modes of transmission of bloodborne pathogens.
- An explanation of the Exposure Control Plan.
- An explanation of the methods for recognizing emergency response procedures that may involve exposure to potentially infectious materials.
- Information on the personal protective equipment to be used during procedures involving potential exposure situations, as well as information on the procedures for handling, decontaminating and disposing of this personal protective equipment.
- Information on the Hepatitis B vaccine.
- Information on the appropriate actions to take in an emergency involving potentially infectious materials
- Information on emergency incident reporting procedures.
- A review of how Emergency Response Team members will obtain medical evaluations.
- Information on the post-exposure evaluations and vaccinations that are provided after an exposure incident.
- An explanation of the signs and labels used to convey hazard information.
- An opportunity for interactive questions and answers with the person conducting the training session.

Emergency Response Team members should contact their team leader or members of the (Safety Department) if they have any questions concerning these training subjects or when they feel they need additional training.

6.15.4 Emergency Response Team Training Records

Training records are kept in (give location). These records include the items described in the previous section on training in this document. The training records are maintained for at least three years from the date on which the training occurred.

6.16 Emergency Response Team Operations Record Keeping Procedures

Table 33, below, summarizes the record keeping procedures currently in place at (COMPANY) for the records required by the Bloodborne Pathogen Standard which are pertinent to Emergency Response Team operations. Safety and Health Department personnel should complete the information given in Table 33 by entering the requested information.

Table 33 Record-Keeping Procedures

RECORD	LOCATION	RESPONSIBLE PERSONNEL	COMMENT
Training			Required by Bloodborne Pathogen Standard.
Medical			Required by Bloodborne Pathogen Standard.
Other:			

6.17 Special Practices for HIV/HBV Research Laboratories and Production Facilities Emergency Response Activities

Special Note: This section of the Exposure Control Plan specifically addresses standard requirements for HIV/HBV research laboratories and production facilities. It does NOT apply to clinical laboratories, diagnostic facilities, nor any other type of operation. Facilities with Emergency Response Teams who may enter HIV/HBV research Laboratories and Production Facilities must follow the practices described in the previous section of this document, entitled "Special Practices for HIV/HBV Research Laboratories and Production Facilities". Otherwise, this section may be omitted from the Exposure Control Plan.

6.18 Emergency Response Team Exposure Incident Evaluations

All exposure incidents and exposure "near misses" during emergency response activities must be reported. Emergency Response Team members must consider that even near misses represent warnings of future exposure incidents. All exposure accidents and incidents should be investigated and the underlying causes determined. An "Exposure Incident Investigation" form is provided in Appendix B of this document. Other procedures pertinent to exposure incident evaluations is provided in the previous chapter of this document entitled "Exposure Incident Evaluations".

CHAPTER 7

CONCLUSION AND SUGGESTIONS

Every employer must realize the danger in exposing their employees to any bloodborne disease in the workplace. It is the employer's responsibility to insure that risk of exposure is eliminated. As previously indicated, this document is intended to serve as an employer compliance guide to the OSHA Bloodborne Pathogens Standard. A central component of the compliance effort will be the development of an Exposure Control Plan tailored to specific locations. Implementation of the Bloodborne Pathogen Standard can be eased by use of this document, or others similar to it. Before utilizing this document, the Bloodborne Pathogen Standard should be read thoroughly. After familiarization with the standard, the model control plan, in the order presented, should be implemented, adding information that is specific to the site or location at issue. There are several locations in the document that require judgment to be exercised. The model plan must be completed in its entirety to assure that the Exposure Control Plan complies with the Federal standard. If an employer is experiencing problems with compliance, he should consult a safety professional or the local OSHA Area Office.

The Bloodborne Pathogen Standard and the safety issues that it addresses is not a new concern, but one of growing importance. Concerns about the AID's epidemic have contributed to the development and implementation of the Federal standard. However, other bloodborne diseases, which have been around for some time, also justify development of the Bloodborne Pathogen Standard. One such bloodborne disease is Hepatitis B. Current medical science has found remedies and preventative techniques to combat the Hepatitis B virus. In fact, according to the Newark New Jersey Star Ledger of April 22, 1993, Health and Human Services Secretary, Donna Shalala believes the Federal

Shalala wants to implement a mandatory Hepatitis B vaccination series to every child in America. Government officials who share her ideals will be at the forefront of containing, and possibly eradicating certain preventable bloodborne diseases, such as Lyme disease, herpes virus, malaria, babesiosis and Chagas's disease.

The Bloodborne Pathogen Standard leaves few unanswered questions. The review process leading up to the final standard was extremely thorough and the majority of its contents were already in practice in many health care settings. The Occupational Safety and Health Review Commission will play an important role in the interpreting the provisions of the standard as OSHA begins to enforce it and as citations are contested. The Federal Courts will then fine tune the standard with its decisions on appeals.

There is occupational exposure to bloodborne pathogens in many professional and sub-professional fields, where personnel require training. Training will be a key provision of the standard to follow. This is the first OSHA regulation to require interpretive training. How this is to be facilitated is uncertain, but, if successful, it may serve as a means for revision of all OSHA's training requirements. Full compliance will depend on the training requirement. Users of this documentation should follow the chapter on training carefully and may want to incorporate a testing protocol for their particular training needs.

The Bloodborne Pathogen Standard covers many diverse application areas. The standard is not meant to hinder or stop employers from providing quality health care for their employees, nor are they encouraged to eliminate first aid services. These actions would defeat the purpose of the standard. However, several employers have formed a misleading impression of undue compliance hardship after reviewing the standard. OSHA recognizes the need for regulation that prescribes safeguards to protect workers against the health hazards related to bloodborne pathogens. OSHA wants to limit occupational exposure to blood and other potentially infectious materials since any exposure could result in transmission of bloodborne pathogens. Any exposure to a bloodborne pathogen

could lead to disease or death. The goal of the standard is to provide safe working conditions that protect employees from being unnecessarily exposed to health hazards. Implementation of the standard will reduce the risk of exposure by workers in many different occupational settings to bloodborne diseases and maintain the quality of their service while improving the overall safety for every employee.

APPENDIX A

GLOSSARY OF BLOODBORNE PATHOGEN TERMS

GLOSSARY OF DEFINITIONS

The following is a summary of important terms which can be found in the OSHA Bloodborne Pathogen Standard and reference materials that are provided to employees as part of (COMPANY)'s information and training programs. Supervisors and employees members may wish to review and become familiar with these definitions.

ANTIBODY A molecule made by lymph tissue that defends the body against bacteria, viruses, or other foreign bodies. Also called immunoglobulins.

ANTIGEN A substance foreign to the body that causes the body to produce antibodies.

ASSISTANT SECRETARY The Assistant Secretary of Labor for Occupational Safety and Health or a designated representative.

BACTERIA A one-celled microorganism that can cause infection.

BLOOD Human blood, human blood components, and products made of human blood.

BLOODBORNE PATHOGEN Pathogenic microorganisms present in human blood and that can cause disease in humans.

CHAIN OF INFECTION The sequence of events that must occur for an infection to spread.

CLINICAL LABORATORY A work place where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

COMMUNICABLE Capable of being transmitted from person to person.

COMMUNICABLE DISEASE Any disease carried from one person or animal to another by direct or indirect contact.

CONTAMINATED Presence or reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

CONTAMINATED LAUNDRY Laundry which has been soiled with blood or other potentially infectious materials on an item or surface.

CONTAMINATED SHARPS Any contaminated object that can penetrate skin.

DECONTAMINATION The use of physical or chemical means to remove, inactivate, or

destroy bloodborne pathogens on a surface or item to the point they are no longer capable of transmitting infectious particles.

DIRECTOR Director of the National Institute of Occupational Health and Safety, U.S. Department of Heath and Human Services, or designated representatives.

DISEASE A condition of abnormal function involving any structure, part, or system of an organism that may or may not stem from an infection.

ENGINEERING CONTROLS Controls that isolate or remove bloodborne pathogens from the work place.

EXPOSURE INCIDENT Specific eye, mouth, mucous membrane, non-intact skin, or parenteral contact with blood or potentially infectious materials that result from the performance of an employee's duties.

FUNGUS A parasitic plant that lacks chlorophyll.

HAND-WASHING FACILITIES A facility providing an adequate supply of running potable water, soap, and single use towels or hot air drying machines.

HBV Hepatitis B virus.

HIV Human immunodeficiency virus.

HOST Person who becomes diseased by being infected by bacteria, viruses, or fungi.

INFECTION The invasion of the body by organisms that reproduce and cause disease.

INFECTIOUS AGENT An organism responsible for a disease.

LICENSED HEALTHCARE PROFESSIONALS Persons whose legally permitted scope of practices allows them to perform Hepatitis B vaccinations, post-exposure evaluations, and medical follow-up's.

MODE OF TRANSMISSION The way in which organisms are carried from reservoirs to hosts.

OCCUPATIONAL EXPOSURE Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of duties.

OTHER POTENTIALLY INFECTIOUS MATERIALS These materials include the following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, and salvia in dental procedures. Potentially infectious materials also include any body fluid visibly contaminated with blood and all body fluids in situations where it is difficult to differentiate between body fluids. Other potentially infectious materials also include any unfixed tissue or organ (other than intact skin) from a human (living or dead); 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 experimental animals infected with Human Immunodeficiency Virus or Hepatitis B Virus.

PARENTERAL The action of piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

PERSONAL PROTECTIVE EQUIPMENT Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (i.e. uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

PRODUCTION FACILITY A facility engaged in industrial-scale, large-volume or high concentration production of Human Immunodeficiency Virus or Hepatitis B Virus.

REGULATED WASTE Liquid or semi-liquid blood or other potentially infectious materials and contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed. Regulated wastes also include items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps, pathological and micro biological wastes containing blood or other potentially infectious materials.

RESEARCH LABORATORY Laboratory producing or using research laboratory-scale amounts of Human Immunodeficiency Virus or Hepatitis B Virus.

RESERVOIR A place where organisms can survive and multiply without necessarily

causing or exhibiting disease in a potential host population.

ROUTE OF ENTRY The way in which an organism enters a host.

SOURCE INDIVIDUAL Any individual, living or dead, whose blood or other potentially infectious fluids may be a source of occupational exposure to the employee.

STERILIZE The use of physical or chemical procedures to destroy all microbial life.

UNIVERSAL PRECAUTIONS An infection control approach in which all human blood and certain human body fluids are treated as if known to be infectious for Human Immunodeficiency Virus, Hepatitis B Virus, and other bloodborne pathogens.

VIRUS Extremely small microorganisms that can only grow inn the cells of other organisms.

APPENDIX B

EXPOSURE INCIDENT INVESTIGATION FORM

EXPOSURE INCIDENT INVESTIGATION FORM

Employer:

Investigator:

Date of Exposure Incident:

Employee Information:

Name(s)	Home Address	Age and Sex	Soc. Security #	Length of Employment

Time and location of incident:

Employee task and activities at time of incident:

Description of incident/illness:

Supervisor at time of incident:

Part(s) of body contaminated:

Quantity of potentially infectious material to which personnel were exposed:

Name and address of physician and hospital providing post-exposure care:

What workplace condition, practice, or personal protective equipment contributed to the incident?

Describe corrective actions:

Have corrective measures been taken?

Date of the last area inspection:

Name of Inspector:

Was a company safety policy violated?

Which policy:

Will a new safety policy need to be adopted?

Provide new policy recommendations:

Additional Comments:

APPENDIX C

EMPLOYEE EXPOSURE EVALUATION FORM

EMPLOYEE EXPOSURE EVALUATION FORM

Please complete this form to the best of your ability. The information you provide will be used in the (COMPANY) review of employee exposure hazards, in regard to bloodborne pathogens (i.e. the Hepatitis B Virus, the Human Immunodeficiency Virus). The information requested in this document ONLY refers to occupational exposures that you may experience during your work for this company. The information you provide will be kept confidential and will be reviewed ONLY by designated Company employees.

All questions concerning this form should be directed to: (Provide Name)

Name: Job Title:

Brief description of job duties:

Please circle the appropriate responses:

How often do you come in direct contact with a human body by handling a person (living or dead) as a routine part of your work duties?

Never Daily Weekly Monthly Other:

What types of biological materials do you have greatest potential to come in contact with on the job?

Human: Blood Saliva Vomit Serum Plasma Semen Vaginal Secretions Tissue Organs Cerebrospinal Fluid Synovial Fluid Pleural Fluid Pericardial Fluid Peritoneal Fluid Amniotic Fluid Cell/Tissue Cultures

Other: All of the Above

Animal: Blood Organ Tissue Other: All of the Above

Have these animals been infected with Human Immunodeficiency Virus or Hepatitis B virus? Yes No

Are you:

a) A member of an emergency response team?

b) Trained in first aid and authorized to practice first aid on the job?

c) Trained in Cardio-Pulmonary Resuscitation (CPR) and authorized to perform CPR on the job?

d) A healthcare worker.

e) A police officer, fire-fighter, emergency medical technician, or other person who may come in contact with a human body (living or dead) during an emergency situation?

Do you ever see the biohazard symbol on containers you handle or in work areas that you enter? Yes No

Have you received immunization for the Hepatitis B Virus? Yes No

Are you likely to handle the following items during the performance of your work duties and how often?

1. Syringes
2. Discarded Diapers
3. Needles
4. Infectious Waste
5. Containers
6. Uniforms
7. Other Waste Containers
8. Linens
9. Potentially Contaminated Broken Glass
10. Discarded Condoms
11. Equipment Containing Blood, Bodily Fluids
12. Feminine Sanitary Products
13. Vials, Test Tubes, Bags, Other Containers Holding Blood, Other Bodily Fluids
14. Discarded Bandages
15. Other:

Have you ever been sprayed or splashed with blood or other bodily fluids? Yes No

Provide a brief description of incident?

Have you ever been pricked by a needle while performing work-related duties? Yes No

Provide a brief description of incident.

Have you been cut by broken glass or other objects potentially contaminated with

infectious materials while performing work related duties? Yes No

Provide a brief description of incident.

Have you ever been bitten by a person during performance of your work duties? Yes No

Provide a brief description of incident.

Do you perform housekeeping or maintenance in areas where potentially infectious materials are used? Yes No

Have you ever cleaned up blood or other bodily fluids? Yes No

Have you cleaned areas (i.e. lab benches, sinks) obviously contaminated with blood or other bodily fluids? Yes No

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