

Exposure Control Plan

North Dakota State University

Exposure Control Plan

Review and Approval Authority

Prepared and Edited by: University Police & Safety Office

Reviewed and Approved by: University Police & Safety Office

Note: This plan is provided as a resource and guide for all affected colleges/departments. Please use this material as it relates to your specific hazards. Feel free to add any additional site specific information to comply with the minimum requirements set forth in this plan.

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BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN Table of Contents

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Exposure Control Plan

North Dakota State University is committed to providing a safe and healthful work environment for our faculty, staff and students. In pursuit of this endeavor, the following Exposure Control Plan (ECP) is provided to eliminate or minimize occupational exposure to bloodborne pathogens in accordance with the OSHA standard on bloodborne pathogens. A copy of this standard, Part 1910.1030, Title 29 of the Code of Federal Regulations may be accessed on the University Police and Safety Office web site. This standard requires each employer with employees who have occupational exposure to blood or other potentially infectious materials (OPIM) to have a written Exposure Control Plan. The ECP for the University is designed to eliminate or minimize employee exposure to bloodborne pathogens including HBV, HCV and HIV, and is specific to NDSU

INTRODUCTION

Each person who has exposure must become familiar with, and adhere to the provisions of our Exposure Control Plan. Part-time, temporary, contract and per diem employees who are determined to have bloodborne pathogen exposure shall be covered by this plan as well. The Exposure Control Plan will be updated when changes occur and annually by the UP&SO. The ECP is a key document to assist NDSU Departments/Supervisors in implementing and ensuring compliance with the standard, thereby protecting our employees. This ECP includes:

- Procedures
- Definitions
- Program administration and responsibilities
- Determination of employee exposure
- Explanation of the epidemiology, modes of transmission and symptoms of HBV, HCV and HIV
- Implementation of various methods of exposure control, including:
 - Universal and Standard Precautions
 - Engineering and work practice controls
 - Personal protective equipment
 - Housekeeping, including regulated waste management
- Hepatitis B vaccination and follow-up
- Post-exposure evaluation and follow-up
- Procedures for evaluating circumstances surrounding an exposure incident
- Communication of hazards to employees and training
- Record keeping
- Program evaluation

The methods of implementation of these elements of the standard are discussed in the subsequent pages of this Exposure Control Plan. A copy of the Exposure Control Plan shall be readily accessible to all employees during work hours, and may be accessed by contacting the University Police and Safety Office (UP&SO) at 231-7759 or on the UP&SO web page.

Faculty, Staff and Students will receive an explanation of this Exposure Control Plan (ECP) during their initial mandatory Baseline Safety Training provided by UP&SO. If requested, a copy of this ECP will be provided to any employee within 15 days of the request.

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DEFINITIONS

Blood – human blood components including plasma, platelets, and serosanguineous fluids (e.g., exudates from wounds). Also included are medications derived from blood, such as immune globulins, albumin, and factors 8 and 9.

Bloodborne Pathogens – includes any pathogenic microorganism that is present in human blood or other potentially infectious material (OPIM) and can infect and cause disease in persons who are exposed to blood containing the pathogen. Pathogenic microorganisms can cause diseases such as HIV, hepatitis B and C, malaria, syphilis, babesiosis, brucellosis, leptospirosis, arboviral infections, relapsing fever, Creutzfeldt-Jakob disease, adult T-cell leukemia/lymphoma (caused by HTLV-I), HTLV-I associated myelopathy, diseases associated with HTLV-II, and viral hemorrhagic fever.

Clinical Laboratory – a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious material.

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

Contaminated Laundry – laundry that has been soiled with blood or other potentially infectious materials or may contain sharps.

Contaminated Sharps – any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed dental wires.

Decontamination – the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Disinfect – the use of a physical or chemical procedure to destroy certain microbial life. Levels of disinfection include low, intermediate and high. Unlike sterilization, even high-level disinfection does not kill bacterial endospores. Surface disinfectants are ranked as either low or intermediate. These include EPA registered tuberculocidal disinfectants or 1:10 freshly mixed bleach and water. If blood or other potentially infectious materials are to be disinfected from a contaminated surface, one of these intermediate-level disinfectants is required to be used.

Engineering Controls – controls that isolate or remove the bloodborne pathogens hazard from the workplace. Examples include safer medical devices, such as sharps with engineered sharp injury protection (SESIPs) and needleless systems.

Exposure Incident – a specific eye, mouth, other mucous membrane, non-intact skin (e.g., dermatitis, hangnails, cuts, abrasions, chafing, and acne), or parenteral contact with blood or other potentially infectious materials incident that results from the performance of an employee's duties.

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Hand Washing Facilities – an area that provides an adequate supply of running potable water, soap and single use towels or hot air drying machines for hand washing.

Licensed Healthcare Professional (HCP) – a person whose legally permitted scope of practice allows him or her to independently perform the activities required by the program, Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up.

HBV – Hepatitis B Virus; the virus that causes hepatitis B

HIV – Human Immunodeficiency Virus; the virus that causes AIDS

Near Miss – a potential hazard that may cause an injury, exposure or illness. No injury/incident has occurred, but the potential is there. Near Miss hazards need to be reported immediately.

Needleless Systems – devices that do not use needles for: (1) the collection of body fluids or withdrawal of body fluids after initial venous or arterial access is established; (2) the administration of medication or fluids; or (3) any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injury involving contaminated sharps. Examples of needleless systems include, but are not limited to, intravenous medication delivery systems that administer medication or fluids through a catheter port or connector site using a blunt cannula or other non-needle connection, and jet injection systems that deliver subcutaneous or intramuscular injections of liquid medication through the skin without use of a needle.

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 an employee's duties. This includes the potential for contact as well as actual contact with blood or OPIM.

Other Potentially Infectious Materials (OPIM) –

1. The following human body fluids: semen and vaginal fluid, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva (due to the presence of blood), and any body fluid visibly contaminated with blood
2. Any unfixed tissue or organ (other than intact skin) from a human (living or dead) and; all body fluids in situations where it is difficult or impossible to differentiate between body fluids
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.

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

Personal Protective Equipment – (PPE) specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g. uniforms, pants, shirts or blouses) not intended to function as protection against a hazard, are NOT considered PPE.

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Production Facility – a facility engaged in industrial-scale, large volume or high concentration production of HIV or HBV.

Regulated Waste – liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

Sharps with Engineered Sharps Injury Protections (SESIPs) – non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident. These may include: syringes with guards or sliding sheaths that shield the attached needle after use; needles that retract into a syringe after use; shielded or retracting catheters used to access the bloodstream for intravenous administration of medication or fluids; intravenous medication delivery systems that administer medication or fluids through a catheter port or connector site using a needle that is housed in a protective covering, blunt suture needles; and plastic capillary and blood tubes.

Soiled – dirty. NOT contaminated with blood or OPIM. An employee's uniform may be soiled with dirt and sweat from the day's work. The uniform would be contaminated if blood or OPIM were on the uniform.

Source Individual - any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to: hospital and clinic patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

Standard Precautions – an approach to infection control in which human blood and ALL human body fluids are treated as if known to be infectious for HIV, HBV, HCV or other bloodborne pathogens.

Sterilize - the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal Precautions - an approach to infection control in which human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, HCV or other bloodborne pathogens.

Work Practice Controls - controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g. handling medical waste with gloves).

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PROGRAM ADMINISTRATION

Employer Responsibilities

In compliance with OSHA's Bloodborne Pathogen Standard, NDSU requires each separate location (if applicable) with employees who have occupational exposure to blood or other potentially infectious materials (OPIM) to maintain this written Exposure Control Plan. This plan should be designed to eliminate or minimize individual exposure to bloodborne pathogens including HBV, HCV and HIV, and should be specific to each particular place of employment. All aspects of this plan, including training resources, shall be provided and made available to Faculty, Staff and Students.

The Exposure Control Manager(s)

The exposure control plan will be developed and maintained by the University Police and Safety Office with the help of Staff, Faculty and Students. It should be noted that NDSU Departments are ultimately responsible for the contents of this plan and its implementation by employees within this institution. **The Exposure Control Manager(s) will review this Plan at least annually and whenever necessary to reflect new or changed exposure potential tasks and procedures.** The Exposure Control Manager should be given not only the responsibility to manage the development of the program, but the authority, along with NDSU, to implement and enforce its requirements. This authority should be made clear to all employees.

Specific Responsibilities

Responsibility for Implementing, Maintaining and Updating the ECP

Supervisors and the UP&SO will be responsible for the implementation, maintenance, review and updates of the Exposure Control Plan at least annually, and whenever necessary, to include new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

Responsibility for Engineering and Work Practice Controls, Labeling, Housekeeping and Personal Protective Equipment (PPE)

Supervisors and their Departments will be responsible for providing, maintaining and updating all necessary personal protective equipment (PPE), engineering controls (e.g. sharps containers and SESIPS), labels, and red bags as required by the standard; and will ensure that adequate supplies of the aforementioned equipment are available in the appropriate types and sizes.

Responsibility for Training

The Departments will be responsible for training, documentation of training and making the written ECP available.

Responsibility for Medical Actions and Record Keeping

Departments will be responsible for ensuring that all medical actions required are performed and that appropriate medical records are maintained.

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Employee Responsibilities

Staff, Faculty and Students of NDSU have certain responsibility to prevent bloodborne pathogen exposures. These include:

- Attending all training sessions and signing documentation stating that training has been received for the prevention of the spread of bloodborne pathogens.
- Taking precautions in the handling of sharps, blood or other potentially infectious fluids or materials.
- Immediately reporting an incident/accident that causes any blood and/or other potentially infectious materials to become an exposure or threat of exposure (24 hour requirement).
- Reporting unsafe behaviors, practices or situations immediately in order to prevent accidents.
- Participating in the evaluation of devices engineered to eliminate or reduce the potential for exposure to bloodborne pathogens.
- Participating in the process of establishing policies and procedures intended to eliminate or reduce the potential for exposure to bloodborne pathogens.
- Reporting “Near Misses”

Near Misses

Changing an unsafe behavior is the best method of preventing an accident. Identifying “**Near Misses**” is crucial in order to reevaluate procedures and re-train individuals. Even though only one individual may be identified as performing an exposure potential task in an unsafe manner, there may be others utilizing this same behavior that have simply not been identified. (e.g., employee “popping” the finger off a glove in order to feel a vein) For this reason, if a task is identified as being performed unsafely, all individuals who perform that task will be re-trained on its safe performance. This re-training should be documented.

ACCIDENTS, NEAR MISSES, UNSAFE BEHAVIORS, AND UNSAFE SITUATIONS WILL IMMEDIATELY BE REPORTED TO: The University Police and Safety Office at 231-7759

Methods for reporting unsafe behaviors established by NDSU may include:

- Confidential meetings with the Safety Office
- Report forms
- Contact the UP&SO at 231-7759

EMPLOYEE EXPOSURE DETERMINATION

Bloodborne Diseases

The Bloodborne Pathogen Standard was promulgated to protect workers from exposure to bloodborne pathogens. These bloodborne pathogens (carried in the blood and OPIM) can be spread from one person to another through parenteral, mucous membrane and non-intact skin contact. This can lead to the contraction of serious bloodborne diseases. The most common of these diseases are hepatitis B caused by the hepatitis B virus (HBV), hepatitis C caused by the hepatitis C virus, and Acquired Immune Deficiency Syndrome (AIDS) caused by the human immunodeficiency virus (HIV). There are many other bloodborne diseases that can be contracted on the job in the same way as these three. These include malaria, syphilis, human T-lymphotrophic virus Type 1, babesiosis, brucellosis, leptospirosis, arboviral infections, relapsing fever, Creutzfeldt-Jakob disease and viral hemorrhagic fever. We will discuss HBV, HCV and HIV.

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Hepatitis B Virus

The Hepatitis B virus (HBV) has been a major bloodborne hazard facing healthcare and other professions for decades. Since OSHA's mandate of the use of Universal Precautions as well as the HBV vaccine for all employees performing tasks that would expose them to blood or OPIM, thousands of workers have been spared this disease. Hepatitis B is still a problem for the general public as well as those unvaccinated workers. This disease affects almost 1.5 million people in the United States, resulting in thousands of hospitalizations and many deaths. Of those infected with hepatitis B:

- 1/3 of those infected will have no symptoms at all
- 1/3 of those infected will have mild flu symptoms
- 1/3 of those infected may suffer from flu-like symptoms so severe that they may require hospitalization. These symptoms are: jaundice, dark urine, fatigue, anorexia, abdominal pain, nausea, skin rash, and fever

The incubation period for HBV is 160-180 days. About ten percent of those infected with HBV will become chronically infected. When an individual develops chronic hepatitis B, a variety of outcomes are possible, ranging from a chronic carrier state with very little, if any, liver damage, to ongoing chronic hepatitis of varying degrees of severity. The latter may at times progress to cirrhosis with all its clinical implications.

The good news is that there is a vaccine that can prevent infection from HBV. More about the vaccine and your rights as an employee will be discussed later in this ECP.

Hepatitis C Virus

HCV infection occurs among persons of all ages, but the highest prevalence rates of HCV infection are found among males aged 30 to 49 years. The incubation period of the acute infection is 7-8 weeks. Less than 15% of patients with HCV infection have a spontaneous cure. HCV infection causes chronic hepatitis in 85% of patients.

- 85% of those infected with HCV have no symptoms at all
- 15% suffer symptoms including: jaundice, dark urine, fatigue, abdominal pain, loss of appetite

There is no vaccine that can prevent infection from HCV. The best prevention is to practice Universal Precautions and follow the policies and procedures set down in this Plan intended to prevent or decrease your chances of acquiring any bloodborne disease on the job.

Human Immunodeficiency Virus

HIV, the virus that causes Acquired Immune Deficiency Syndrome (AIDS), attacks the body's immune system. A person infected with HIV:

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

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There is no vaccine to prevent infection. Let us reemphasize that the best prevention is to practice Universal Precautions and follow the policies and procedures set down in this Plan intended to prevent or decrease your chances of acquiring any bloodborne disease on the job.

How Are Bloodborne Pathogens Transmitted

Pathogens, which are contained in blood and OPIM, must be introduced into the body for an employee to become exposed. An “exposure potential task” is a task that could potentially expose the employee in one of the following ways:

- Parenteral exposure from needles, scalpels, broken glass, sharp instruments, or anything that can pierce, puncture or cut your skin that is contaminated with blood or OPIM.
- Non-intact skin such as an existing wound, eczema, broken cuticle, or rash coming in contact with blood or OPIM.
- Mucous membranes such as the eyes, nose, and mouth becoming splashed, sprayed, or touched with blood or OPIM.

Remember, touching contaminated surfaces can be a mode of spreading disease. The HBV virus can survive on environmental surfaces and objects dried and at room temperature for as long as a week. More about decontamination of surfaces will be discussed in the “Housekeeping” section of this ECP.

Determining At Risk Employees and Tasks

Determination is made without regard to the use of personal protective equipment when determining which tasks, procedures, and job positions may have occupational exposure potential. Employees shall be informed by their Department/Supervisor of the exposure potential tasks required by their jobs.

All job positions that involve tasks and procedures during which exposure to blood or OPIM may take place, fall into one of two categories:

- Job classifications in which **all** employees may have occupational exposure (e.g., Police, Nurses, Physicians, College of Pharmacy, Family Science and Day Care, Wellness Center, Athletic Trainers, Veterinary and Micro Science, Health Nutrition and Exercise Science, Safety Office, Biotechnology, Residence Life, Faculty, Staff, Students working with human blood and tissue). All the employees with these job classifications have a potential exposure risk.
- Job classifications in which **some** employees have occupational exposure (e.g., Custodial, Housekeeping, Plumbers, Labs, Day Care etc.) For example, a department might employ several personnel, but only one packages the medical waste once a month; or only one person scrubs instruments when it gets really busy.

Note: Even if an employee in a particular job classification “rarely” performs an exposure task such as handling contaminated material, he/she must be trained on bloodborne pathogen exposure, how to safely perform the task, and be offered the HBV vaccine.

Any part-time, temporary, contract and per diem employees hired to perform tasks with potential for exposure to bloodborne pathogens will be trained by the Department or Supervisor regarding the controls utilized within this institution to eliminate or reduce exposure. Provision of HBV vaccine,

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post-exposure follow-up, record keeping, and generic training will be provided by the contracted employee or service.

ENGINEERING AND WORK PRACTICE CONTROLS

Engineering and work practices designed to eliminate or minimize employee exposure shall be used when performing exposure potential tasks. All procedures involving blood and OPIM will be performed in a way that prevents or minimizes splashing, spraying, spattering, and generation of droplets. Where occupational exposure remains, personal protective equipment shall also be used. Engineering and work practice controls will be evaluated, maintained, and/or replaced on a regular schedule to ensure their continued effectiveness. This department identifies the need for changes in engineering controls and work practices through review of incident records, use of checklists, evaluation forms and employee interviews. Should an exposure incident occur while using these controls, the controls will be evaluated as to the reason for the failure, corrected, and changes will be made to this Exposure Control Plan in order to prevent future incidents. Training of employees will occur immediately, reflecting the new changes.

Some of the sharps, or breakable sharps, devices used that pose a risk of exposure to bloodborne pathogens include needles for injections, lancets, scalpels, syringes, phlebotomy devices, vascular access catheters, suture needles, capillary tubes, vacuum tubes, etc.

Specific engineering and work practice controls used to eliminate or minimize employee exposure to bloodborne pathogens include but may not be limited to:

- Non-glass capillary tubes
- SESIPs (Sharps with Engineered Sharps Injury Prevention)
- Universal Precautions or Standard Precautions
- Sharps Containers
- Avoiding distractions and slowing down when necessary

Universal Precautions (UP) and Standard Precautions (SP)

NDSU as well as OSHA requires that Universal Precautions or Standard Precautions be observed to prevent contact with blood or body fluids. The difference between UP and SP is as follows:

Universal Precautions: All blood and OPIM are treated as if known to be infectious for HIV, HBV, HCV and other bloodborne pathogens, regardless of the perceived low or high risk of the patient/person from whom they came.

Standard Precautions: Incorporates the major features of Universal Precautions and Body Substance Precautions and applies these principles to **all** individuals regardless if their diagnosis is presumed infection status. Standard Precautions apply to (1) blood, (2) all body substances, secretions, and excretions (except sweat) regardless of whether or not these substances contain visible blood, (3) non-intact skin, (4) mucous membranes, and (5) non-preserved tissues. Standard Precautions are designed to reduce the risk of transmitting of microorganisms from both known and unknown sources of infection in the hospital setting.

At a minimum, all employees at this institution will practice Universal Precautions.

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Hand Washing

- Employees will wash their hands for approximately 20 seconds with soap and tepid running water immediately or as soon as possible after all glove or other personal protective equipment removal. Hand sanitizers may be used in situations if there are no means to wash (i.e., health fair). This procedure must be followed by washing with soap and water as soon as feasible.
- Employees will wash skin with soap and water or flush mucous membranes with water immediately following contact with blood or OPIM.
- Workers who have exudative lesions or weeping dermatitis should refrain from all direct patient care and from handling other patient care equipment until the condition resolves.

Sharps Handling

Sharps with Engineered Sharps Injury Protections (SESIPs)

Medical devices with sharps injury prevention features that are cleared by the FDA {510(K)} will be used whenever possible. Devices should have design features with the following characteristics:

- A fixed safety feature that provides a barrier between the hands and needle after use; the safety feature should allow or require the worker's hands to remain behind the needle at all times
- The safety feature is an integral part of the device and not an accessory
- The safety feature is in effect before disassembly and remains in effect after disposal to protect users, trash handlers, and for environmental safety
- The safety feature is as simple as possible, and requires little or no training to use effectively
- The device will not jeopardize patient or employee safety or be medically inadvisable
- The device will make an exposure incident involving a contaminated sharp less likely to occur.

Examples of such devices include:

- Needle-protected systems
- Needleless systems
- Self-sheathing needles
- Safety phlebotomy needles
- Retracting lancets
- Plastic blood tubes and plastic or mylar-coated capillary tubes
- Blood transfer devices
- Blunt suture needles

Engineering Controls and SESIPS Evaluation

Evidence to ensure engineering controls and sharps-injury protection effectiveness, sharps and engineering controls will be evaluated on a regular basis. Identification, evaluation and selection of effective engineering controls shall be accomplished through:

- Review of materials provided by research entities, government regulations, industry associations, and product manufacturers such as:
<http://www.osha.gov/SLTC/bloodborne pathogens/index.html>
<http://www.healthsystem.virginia.edu/pub/safetycenter>
- Use of evaluation forms and hands-on assessment of devices

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- Following the Procedures for New Technology, SESIPs, and ECP Evaluation
- Annual review of new technology

Specific SESIPs Evaluated

Device Name	Device Use	Manufacturer	Date Evaluated

PROCEDURES FOR NEW TECHNOLOGY, SESIPS, AND EXPOSURE CONTROL PLAN EVALUATION AND UPDATE

1. A review of the bloodborne pathogen standard in this manual will precede policy development.
2. Research will be accessed on products through available data from a variety of sources which may include our state medical association, American Medical Association, American Nurses' Association, Association for Professionals in Infection Control and Epidemiology, and websites of prospective safety device manufacturers. When reviewing the bloodborne pathogen standard, reviewer will not simply skip to the engineering controls section and add the new requirements.
3. Employee training program will be reviewed to assure training on HCV as well as the other required topics is in place.
4. Suppliers or manufacturers should be contacted for samples of safety needles, safety scalpels and blades, blunt suture needles, IV connectors and any other safety sharps replacement device. Instructional materials such as videos and data on proper use will be requested.
5. A staff meeting will be scheduled to discuss the new regulations and plans for evaluating products. Clinical employees or job classifications asked to volunteer to participate in the evaluation of any safety device that will replace a device they current use will be identified in this ECP.
6. Once the sample products arrive, all evaluators will meet. Each evaluator will receive one evaluation tool for each brand of device being evaluated. Instructional videos and manufacture-provided training should be utilized when possible.
7. Implement the clinical trial of the product(s). During the trial period, each evaluator should complete the evaluation tool for each product tried.
8. The evaluation team will meet to review evaluations and discuss the pros and cons of each device evaluated. The team will decide, using the objective data gathered, what devices will

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be implemented. If safety devices for certain procedures are not to be implemented, the team will justify in writing why and how this decision was made. The following criteria may justify not switching to a safety device from a traditional device:

- No safety device on the market for the particular procedure
 - Less safe for the operator than your traditional device
 - Interfered with patient care delivery
 - Was less safe for the patient
9. The final step is to fully implement the safety devices, as well as any other new engineering devices and procedures determined to be good choices to prevent the potential for sharps injuries.
 10. File documentation of all evaluations and updates.
 11. After a month or so (sooner if problems with a device arise), the team should meet again to establish if the products that have been implemented are still working as first determined.
 12. The exposure control plan, procedures and new technology will be reviewed at least annually. As required by OSHA and NDSU, safety policies and procedures will be enforced. Compliance by employees to the safety policies and procedures may be encouraged in a variety of ways:
 - Progressive discipline (i.e., three strikes you're out) is one way. A written policy on enforcement of safety policies must be enforceable. Do not establish a written policy if the facility does not intend to enforce it.
 - A positive reinforcement approach should always be attempted prior to discipline. One example would be adding safety compliance to performance reviews. If an employee knows that his or her next raise will be in part based on compliance to facility safety policies and procedures, the employee is likely to increase compliance.

General Sharps Handling Procedures

Faculty, Staff and Students shall not break, shear, or clip contaminated sharps under any circumstances. Faculty, Staff, Students and physicians will make use of the "safe zone", and will never directly pass contaminated sharps to each other.

You may not bend, recap or remove needles or other sharps unless the medical procedure requires such and no alternative is available. If this is the case, using a one-handed technique or recapping device when performing the procedure is required. In addition, the facility must be able to justify this necessity (i.e. injection of local anesthesia).

Students requiring the use of sharps (needles, lancets) must obtain an individual sharps disposal container from the Resident Hall office.

Sharps Containers for Disposable and Reusable Sharps

Disposable sharps shall be discarded immediately or as soon as feasible in containers that are:

- Able to be closed prior to removal
- $\frac{3}{4}$ Full
- Puncture resistant
- Leak-proof on sides and bottom
- Labeled biohazard or color-coded red

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- Easily accessible to personnel and located as close as possible to the point of use, or where sharps might be found.
- Maintained upright throughout use
- Replaced routinely and may not be overfilled
- Appropriate in size for devices placed in them
- Designed with visible opening, below eye level, if wall-mounted
- Designed with an unobstructed opening that allows devices to drop in easily

Sharps containers shall be re-evaluated annually by using such methods as checklists, evaluation tools such as the one provided by National Institute for Occupational Safety and Health (NIOSH), manufacturer information, and current research to determine the safety and appropriateness of the containers being utilized within each facility.

Contaminated sharps shall **never** be transported down the hall. If it is necessary to maintain a sharps container other than near the point of use, the sharps container shall be carried to the point of use. If the container already contains sharps, it must be closed prior to transport.

- **Reusable** sharps such as scissors that are contaminated shall be placed as soon as possible after use in appropriate containers until properly reprocessed. These containers shall be:
 - Puncture resistant
 - Labeled with biohazard or red
 - Leak-proof on the sides and bottom
 - Designed so sharps are not stored or processed in a manner that requires employees to reach by hand into the containers where the sharps have been placed

Employee Input

NDSU shall solicit input from both managerial and non-managerial employees responsible for direct patient care and research regarding the identification, evaluation, and selection of effective engineering controls, including safer medical devices.

Faculty, Staff and Students selected to evaluate such devices should represent the range of exposure situations encountered in this workplace, such as PI's, pediatrics, phlebotomy, and surgery.

A Sharps Injury Log

Under Federal OSHA regulations, NDSU (SIC code 801) is exempt from maintaining a sharps injury log as that exemption applies to partial exemption of 29 CFR 1904. Despite this exemption, NDSU has elected to establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. This may help NDSU to identify the need to eliminate identified unsafe engineering devices. The information in the sharps injury log shall be recorded and maintained as to protect the confidentiality of the injured employee for a minimum of five years by the University Police and Safety Office. The sharps injury log shall contain, at a minimum:

- The type and brand of device involved in the incident
- The department or work area where the exposure incident occurred and an explanation of how the incident occurred.

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The fact that NDSU is exempt from the OSHA 300 and Sharps Injury Log does not exempt the University from all other elements of the Bloodborne Pathogen standard, including revisions and evaluation of engineering controls such as safety needles.

Note: Certain states with their own state OSHA programs require all facilities regardless of size to maintain a Sharps Injury Log.

Preventing Contamination of Food and Personal Items

Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where contamination could occur. Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench-tops where blood or OPIM are present. If nurses' stations, physicians', researchers or teaching work areas could be contaminated with blood or OPIM from exposure potential tasks being performed in those areas, eating and drinking is not allowed.

- Applying make-up, placing contact lenses, brushing teeth and other personal hygiene procedures may be allowed in the following areas: restrooms, personal office, etc.
- Storage of food and drink is allowed in the following areas: break room, refrigerator and cabinets, non-clinical/research/teaching desk areas, personal offices, reception area.

Transport or repair of contaminated equipment

Equipment that could become contaminated with blood or OPIM must be examined prior to service or shipment and decontaminated if feasible. If equipment cannot be decontaminated, biohazard labels stating which portions of the equipment remain contaminated must be affixed to those portions. Always be sure the service person, on or off site, has been notified of potential exposure from such equipment.

- Equipment to be shipped or serviced: (e.g., Sterilizers, Patient-Care Equipment, Instruments, Other Equipment).
- Should the above equipment (or other that may not be listed here) become even potentially contaminated with blood or OPIM: sterilization, when possible, should take precedence over disinfection. If sterilization or high level disinfection (submersion) is not possible, all exposed surfaces shall be wiped down and, if possible, lines shall be flushed with an EPA registered tuberculocidal disinfectant.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal Protective Equipment (PPE) will be provided at no cost to employees. It is to be used whenever there is potential risk of exposure to blood or OPIM. PPE shall be evaluated as to appropriateness, size and effectiveness as needed and on an annual basis. PPE will consist of, but may not be limited to, gloves, masks, fluid resistant gowns, lab coats, face shields, eye protection, and resuscitation devices.

Each department will make every effort to ensure that each employee uses appropriate personal protective equipment. It is the responsibility of each Faculty, Staff, and Student to follow the policies established within this Exposure Control Plan. Failure to do so could be subject to disciplinary action. Each individual shall also notify the Exposure Control Manager or their Supervisor if he or she is having problems using provided PPE in order for appropriate changes to be made.

Exposure Control Plan

PPE is only effective if it prevents blood or OPIM contamination of the person's clothes, uniform, eyes, nose, mouth, and skin. PPE has limitations, and therefore should not be used if it is in poor condition. The individual's uniform is not PPE. If a lab coat is only worn as part of the uniform and removed or covered prior to performing exposure potential tasks, it would not be considered PPE. On the other hand, if the lab coat is being worn to protect clothing from potential contamination, it would be considered PPE.

- Appropriate sizes, types, and alternative PPE such as hypoallergenic gloves will be provided at no charge to employees.
- Cleaning, repair, replacement, and disposal of PPE will be provided at no charge to employees.
- If a garment is penetrated by blood or OPIM, the garment shall be removed immediately, or as soon as feasible.
- PPE will be removed prior to leaving the work area and placed in a designated area or container for storage, laundry, or disposal.

If a rare situation occurs where it is the individual's professional judgment that the brief declination to wear PPE is in the best interest of delivery of healthcare or protection of a co-worker, the supervisor will evaluate that situation and determine procedures to be followed in future instances. In the case of such a situation, the supervisor shall be notified immediately.

Gloves

Gloves will always be worn when there is reasonable anticipation that an individual will have hand contact with blood or OPIM, mucous membranes, or non-intact skin, when performing vascular access procedures, and when handling or touching contaminated items.

- Disposable exam gloves are to be changed when contaminated or they become torn, punctured or sticky (integrity is compromised.)
- Disposable exam gloves are meant to be single use. They are not to be washed or decontaminated for re-use on the same or a new patient.
- To be used as proper PPE, gloves must be worn on both hands. Glove fingers are not to be removed.
- When removing disposable gloves:
 - Pinch the part of the glove covering the palm of one gloved hand and pull the glove off being careful not to touch the ungloved hand
 - Next, place the thumb of the ungloved hand inside the remaining gloved hand's glove, being careful not to touch the outside of the glove, and pull it off. Dispose of properly and wash hands immediately.
- Utility gloves will be worn for all housekeeping duties and will be removed and disinfected or discarded into regular trash if cracked, peeling, torn, punctured, or otherwise deteriorating and therefore not functioning as an adequate barrier.
- Exam gloves will be in various locations including laboratory counters, sterilization, procedure room cabinets, etc.
- Following their use, disposable gloves are deposited appropriately, e.g., in the regular trash, unless they are determined to be regulated waste...see definition of Regulated Waste.
- Following their use, utility gloves are cleaned appropriately, e.g., washing with soap and water, and spraying with surface disinfectant if contaminated. Gloves should be autoclaved periodically. The gloves should be stored in a manner to allow drying of inside of gloves.

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Masks and Protective Eyewear

Masks are provided and shall be worn when performing procedures with potential for producing splash or splatter.

N-95 respirator masks designed to prevent blood exposure must be worn when certain procedures, such as use of lasers, could produce smoke or fumes as well as blood or OPIM splatter.

Goggles, shields, masks with shield attached or eye wear with solid side shields shall be worn to protect the mucous membranes of the eyes when procedures with potential for producing splash or splatter are performed.

Whenever tasks are performed that could generate aerosols that may contain blood or OPIM, the employee should wear a mask in combination with a shield or other protective eyewear.

Note: If splash or spray to the face is a potential, all mucous membranes must be covered.

Masks are to be changed immediately or as soon as feasible:

- If they become damp or contaminated
- After each patient

Following its use, reusable eye/face protection is cleaned appropriately, e.g., placing reusable shield in sink and washing with soap and water. Spray with disinfectant if eye protection has become contaminated. Rinse with water prior to placing on face. If prescription glasses are used as PPE, they must have solid side shields.

If masks or disposable shields are used, dispose of in regular trash unless determined to be regulated waste.

Resuscitation/Ventilation Devices

Faculty, Staff and Students will use bag-valve devices or shields with one-way valves if CPR is required to be performed. Following their use, reusable resuscitation devices are cleaned appropriately, e.g., washing with soap and water and spraying with disinfectant. If disposable devices are used, dispose of in trash unless determined to be regulated waste - place in red bag.

Protective Clothing/Garments

Task-appropriate garments such as lab coats, fluid resistant gowns, surgical caps, or shoe covers will be worn when exposure potential tasks are performed. The type and characteristics will depend upon the task and degree of potential exposure. For example, while performing a particular task, there is potential for fluid to soak through a lab coat, then the lab coat would not be appropriate PPE for this task.

Note: While personal shoes are certainly not considered PPE, and should be covered if there is a chance of exposure to blood or OPIM, shoes that are close-toed, and prevent slipping should always be worn. This will prevent or reduce accidental exposure from spills, dropping of needles, and other potential foot hazards.

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When removed, contaminated gowns or jackets should be handled so as to prevent contamination of the individual. Pull garments off inside out and containerize.

- Following their use, disposable garments should be discarded appropriately, e.g., placed in trash unless determined to be regulated waste. Protective garments should be removed prior to leaving the work area.
- Following their use, reusable garments are handled appropriately, e.g., placed in red biohazard bag or laundry bag provided by laundry service.

Certain tasks with additional exposure potential that are not being performed at this time may need to be added to the task table. The decision as to the type of PPE must be based upon the potential for exposure to uniform, eyes, nose, mouth, hands, or non-intact skin. Always assess the situation carefully prior to making a decision regarding PPE. The following are examples of MINIMAL PPE to be worn for exposure potential tasks:

Check if Task Performed	TASK	PPE (Add additional PPE as Required)
	Picking up and disposing of contaminated sharps	Gloves
	Cleaning up body fluid spills	Gloves, mask, eye protection, gown
	Disinfecting contaminated objects	Gloves, mask, eye protection, gown
	Handling contaminated laundry (blood or OPIM on it)	Gloves, mask, eye protection, gown
	Handling contaminated waste (blood or OPIM on it)	Gloves, mask, eye protection, gown
	Performing CPR	Resuscitation device. Depends on the severity of the injury and presence of blood or OPIM.
	Performing first aid	Depends on the severity of the injury and presence of blood or OPIM. Gloves at a minimum.
	Finger and/or heel sticks	Gloves
	Injections	Gloves
	Vascular access	Gloves
	Dressing removal	Gloves
	Suturing/stapling	Gloves
	Suture/staple removal	Gloves
	Foreign body removal	Gloves

Exposure Control Plan

	Biopsy	Gloves
	Surgical procedures with potential for splash or splatter	Sterile gloves, mask, eyewear, gown
	Surgical procedures without potential for splash or splatter	Sterile gloves, mask
	Specimen handling	Gloves
	Throat culture	Gloves
	Flex sigmoidoscopy	Gloves, mask, eyewear, gown
	Cryosurgery	Gloves, mask
	Colposcopy	Gloves, mask
	Lab procedures dealing with blood or OPIM	Gloves, mask, eyewear, gown
	Lab procedures dealing with non-blood or OPIM body fluids	Gloves
	Ear lavage and/or nasal smear	
	Vaginal sonogram	Gloves
	Pelvic and rectal exams	Gloves
	Penile and/or vaginal collection	Gloves
	Urinary catheter placement and removal	Gloves
	Clip skin tags	Gloves
	Arthrocentesis	Gloves
	I & D	Gloves

Personal Protective Equipment (PPE) Training and Certification

The Occupational Safety and Health Administration (OSHA) has revised certain standards effecting the design, selection and use requirements for PPE designated to protect the eyes, face, head, feet and hands.

Included in this revision is the requirement for the employer to assess the workplace to determine if hazards are present that would necessitate the use of PPE. If such hazards are found to be present, the employer will:

Exposure Control Plan

- select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment
- communicate selection decisions to each affected employee
- select PPE that properly fits each affected employee

The Supervisor will be responsible for the hazard assessment, selection, and training on the use of appropriate PPE for the tasks or procedures employees will perform.

PPE Certification of Hazard Assessment

- **Defective and damaged equipment or PPE shall not be used.**
 - **If tasks are performed that may require face and eye protection from:**
 - Flying particles
 - Liquid chemicals
 - Acids or caustic liquids
 - Chemicals gases or vapors
 - Biohazards
 - **If tasks are performed that may require hand protection from:**
 - Harmful substances that could be absorbed
 - Severe cuts or lacerations
 - Severe abrasions
 - Punctures
 - Chemical Burns
 - Thermal Burns
 - Biohazards
 - **If tasks are performed that may require head/foot protection from:**
 - Punctures
 - Falling objects
 - Chemical burns
 - Biohazards
- **PPE Training**
 - **Potentially exposed employees will be trained on the following:**
 - When PPE is necessary
 - What PPE is necessary
 - How to properly don, doff, adjust and wear PPE
 - Limitations of the PPE
 - Proper care, maintenance, useful life of PPE
 - Disposal of PPE

Faculty, Staff and Students shall be retrained if it is determined the previously trained do not demonstrate a complete understanding of the need for use of the PPE and do not properly utilize the PPE.

Faculty, Staff and Students shall be retrained if there is a change in workplace task, type of PPE, or the need for PPE.

Exposure Control Plan

Housekeeping

NDSU shall ensure that all work areas are maintained in a clean and sanitary condition. All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or OPIM. Surface decontamination shall occur:

- After completion of procedures where work surfaces become contaminated.
- Immediately or as soon as feasible when surfaces become overtly contaminated or after any spill of blood or OPIM.
- At the end of the work shifts if the surface may have become contaminated since the last cleaning.
- Any protective coverings will be replaced after each patient/procedure if they may have become contaminated.
- All bins, pails, cans and similar receptacles intended for reuse that could potentially become contaminated will be inspected regularly, and will be cleaned immediately or as soon as feasible upon visible contamination.
- Broken glassware which may be contaminated shall not be picked up directly with the hands. It will be picked up using forceps, tongs, or a dust pan and brush.

The following written schedule for worksite cleaning and method of decontamination is based upon:

- Location within the facility (exam room vs. medical records)
- Type of surface to be cleaned (sink vs. floor)
- Type of soil present (dirt vs. blood)
- Tasks or procedures being performed in the area (patient care vs. bookkeeping)

ALWAYS FOLLOW THE MANUFACTURER'S DIRECTIONS WHEN USING CLEANERS AND DISINFECTANTS

Cleaning and Disinfecting Schedule

- | | |
|-----------------|---|
| • Room: | Exam rooms (and other direct patient care areas) |
| • Surfaces: | Surfaces that cross contamination could have occurred |
| • Frequency: | Disinfect daily or immediately following patient procedure if surfaces could have become contaminated. If using barriers, they shall be changed between patients. |
| • Disinfectant: | When cleaning and disinfecting contaminated surfaces, use an EPA registered tuberculocidal surface disinfectant or cleaner. |
| • PPE used: | Gloves (as well as mask and goggles if splatter or aerosol is created) |
- | | |
|-----------------|--|
| • Room | Laboratories |
| • Surfaces: | Surfaces where cross contamination could have occurred |
| • Frequency: | Disinfect immediately following procedure if surfaces could have become contaminated. Disinfect at the end of each work shift. |
| • Disinfectant: | When cleaning and disinfecting contaminated surfaces, use an EPA registered tuberculocidal surface disinfectant or cleaner. |
| • PPE used: | Gloves (as well as mask and goggles if splatter or aerosol is created) |

Exposure Control Plan

3. • **Room** **Sterilization**
 - Surfaces: Surfaces where cross contamination could have occurred
 - Frequency: Disinfect immediately following procedure if surfaces could have become contaminated. Disinfect at the end of each work shift.
 - Disinfectant: When cleaning and disinfecting contaminated surfaces, use an EPA registered tuberculocidal surface disinfectant or cleaner.
 - PPE used: Gloves (as well as mask and goggles if splatter or aerosol is created)

4. • **Room/Other:** **All areas**
 - Surface: Waste containers, horizontal surfaces, drawers with instruments, and floors
 - Frequency Daily as appropriate
 - Disinfectant: EPA registered tuberculocidal surface disinfectant on all areas that could have become contaminated with blood or body fluids, or in all other cases a low-level cleaner/disinfectant may be used for cleaning soiled surfaces.
 - PPE used: Gloves (mask if aerosol or splatter is created)

5. • **Room/Other:** **Entire facility**
 - Surface: Vacuum floors, dust surfaces, clean rest rooms
 - Frequency Daily as appropriate
 - Disinfectant: Cleaners and low-level disinfectants
 - PPE used: Gloves (mask and gown if splatter may occur)

Thorough cleaning (all surfaces, including vertical surfaces) will be performed in exam rooms, labs, procedure rooms and other areas at an appropriate frequency (e.g., monthly at a minimum). If vertical surfaces become soiled, cleaning shall occur as soon as feasible.

Blood or OPIM Spill Cleanup

Spill clean-up kit will consist of absorbent, dustpan and broom/scoop (for this use only), PPE, and plastic bag. Blood or OPIM spills are to be cleaned up immediately or as soon as feasible:

- Determine **what PPE is to be used**, depending on size and location of spill (gloves, mask and eyewear recommended.)
- If fluid spill only on hard surface, **place paper towels or absorbent over the spill** to absorb fluid. If a large spill, or if spill contains broken glass, place absorbent only over spill to absorb, and sweep into dustpan. Never pick up glass with your hands. If dried spill, soak with disinfectant first.
- Place paper towels (or material in dustpan) **into a red bag. Broken glass will be placed into sharps container using tongs or dustpan.**
- **Spray contaminated surface** with EPA registered tuberculocidal disinfectant or cleaner **and wipe** with clean paper towel in order to clean. This may need to be repeated.
- **Spray again** with the disinfectant and let sit according to manufacturer's instructions in order to disinfect. Be sure to block off the area to reduce potential of slips and falls.

Exposure Control Plan

- **If spill is on carpeting**, sprinkle with disinfecting absorbent, allow to absorb, then sweep or scoop it up. Clean area with appropriate cleaner using gloves and any other PPE determined necessary. **Never vacuum** area until the absorbent has been cleaned up and the carpet cleaned.
- **Dispose of red bag immediately** in medical waste receptacle.
- **Dispose of PPE** in trash or medical waste receptacle if determined to be regulated waste.
- **Review procedures** to determine the cause of this spill and if changes in policy and procedure need to be made.

Blood and OPIM spill kits are located in all labs, research and procedure areas. Contact the University Police and Safety Office for information on spill kits.

Laundry

- Contaminated laundry (if contaminated with blood or OPIM) shall include:
 - Reusable PPE
 - Reusable coverings such as towels, Lab coats, etc. contaminated with blood or OPIM
 - Any employee clothing or uniform contaminated with blood or OPIM
- Contaminated laundry **shall not be**:
 - Sorted or rinsed at the location of use
 - Taken home for laundering by employees
- Contaminated laundry shall be:
 - Handled as little as possible and with a minimum of agitation
 - Bagged or containerized at the location where it was used
 - Placed in plastic bags if there is a chance of soaking or leaking through the bag
 - Handled with a minimum PPE of gloves
 - Placed and transported in red bags or biohazard labeled containers **unless**:
 - NDSU treats all laundry universally (as if all contaminated). In this case, an alternative colored bag may be used, such as blue or yellow, as long as all employees are aware that the blue or yellow bags hold contaminated laundry
 - The laundry facility where the laundry is being sent for cleaning treats all laundry universally (as if all contaminated). If this is the case, this facility's laundry may be sent to the launderer in the laundry's provided bag or the alternative colored bag used by this facility

Handling of contaminated laundry will be as follows:

- Soiled (simply dirty) laundry is segregated from laundry contaminated with blood or OPIM
- Or**
- All laundry is treated with universal precautions (as if all contaminated)

Laundry items should be containerized appropriately using these examples as guides:

- Lab coats, scrub jackets, patient drape, towels, bedding and other laundry that has been contaminated with blood or OPIM shall be placed into a red bag located in the storage room closet.
- Items NOT contaminated, but simply soiled shall be placed in a separate laundry bag for washing separate from any contaminated laundry.

Exposure Control Plan

- If contaminated items are laundered on-site, they shall be cleaned in the following manner: (BSA, Wellness Center, etc.)
 - Use gloves and gown (additional PPE if determined necessary)
 - Wash at 160 degrees Fahrenheit (hot)
 - Use bleach if uncertain of the temperature
 - Dry at 212 degrees Fahrenheit (hot)
 - Discard any blood or OPIM-contaminated plastic bags
 - Laundry is to be handled only by trained employees

Since lab jackets/coats can harbor a variety of contaminants, they should be changed daily to prevent cross-contamination.

If employee, faculty, student or patient clothing or other items that cannot be discarded become contaminated with blood or OPIM, they will be removed, taking care not to contaminate skin, hair, etc. They will be laundered as contaminated (see above) or containerized in red or alternative colored bag and sent to laundry or dry cleaners at no charge to employee or patient.

Sterilization and Disinfection

Sterilization and disinfection procedures used are taken from the current Centers for Disease Control and Prevention guidelines located on the web at: <http://www.cdc.gov/hai/>

Surface Disinfection

The cleaning and disinfection of contaminated work surfaces after completion of procedures is required to ensure that individuals are not unwittingly exposed to blood or OPIM remaining on a surface. Appropriate disinfectants to be used on work surfaces include a diluted bleach solution (1:10 bleach to water mixed daily and stored in plastic containers) and EPA-registered tuberculocidal surface disinfectants. The EPA has created a list of surface disinfectants. List B or E at <http://www.epa.gov/oppad001/chemregindex.htm> would be appropriate surface disinfectants to use for blood or OPIM disinfection. If the agent is to be used to both clean and disinfect, contact the company to determine if the disinfectant is also marketed as a cleaner.

Instrument Sterilization and Disinfection Reprocessing Definitions

Critical Items: Instruments or devices that enter into the body or contact blood or broken skin. These items must be sterilized.

Semi-Critical Items: Instruments or devices that may touch mucous membranes but do not penetrate tissue or contact blood or broken skin. These items should be sterilized if at all possible, but at a minimum soaked in a high level disinfectant.

Non-Critical Items: Devices, such as a blood pressure cuff, which only touch intact skin, may be disinfected with a low or intermediate level disinfectant.

Sterilization: Sterilization is the destruction of all microbial forms. It should be used for all critical items and all semi-critical items when possible. (Scopes and other sensitive equipment should be disinfected according to the manufacturer's instructions.)

- Heat sterilization such as autoclave, flash sterilizer, gas or dry heat is the preferred method of sterilization.

Exposure Control Plan

- Chemical sterilization (i.e., glutaraldehyde) will sterilize after hours of submersion, but instruments cannot retain their sterility, so it is not appropriate for critical items.

Disinfection: The destruction of some but not all forms

- High-level (destruction of all organisms except spores) chemical disinfection with chemical sterilant (glutaraldehyde) usually 20 minutes submerged. Used for semi-critical items that cannot be sterilized. **NOT TO BE USED FOR CRITICAL ITEMS.** Glutaraldehyde should not be used as a surface disinfectant due to the release of vapors that could be a respiratory hazard.
- Intermediate-level (destruction of most lipophylic, many hydrophylic viruses and many bacteria.) This is used for surface disinfection
- Low-level (does not affect many organisms.) Used for non-critical cleaning such as blood pressure cuffs, floors and trash cans. This is included in many instrument pre-soaks.

One-time-use disposable items should be used if critical items cannot be heat sterilized and monitored to confirm sterility.

Instrument Reprocessing Procedure

Instruments shall be sterilized after each use. Instruments will be cleaned and sterilized or disinfected according to manufacturer's recommendations by autoclave, chemical sterilization, or other proven method of instrument sterilization. Instruments may need to be processed using anti-rust solution.

Instrument Transport

- Place instruments into reusable container/cassette in exam room after use
- Gloved individuals shall carry instruments/devices in reusable container to sterilization area
- Place in a holding solution (soapy water) if not cleaned immediately

Instrument Cleaning

Note: Use of an ultrasonic cleaning unit is recommended for cleaning of instruments due to the reduced possibility of splash and sharp instrument injury.

If cleaning instruments by hand:

- Don utility gloves, mask/shield, and gown and scrub instruments to remove debris
- Rinse instruments with water. Do not reach into holding container by hand as visibility may be limited and a cut injury may occur. Once rinsed, dump instruments out on towed surface to dry
- Pat or allow to air dry
- If reusable, transport container shall be disinfected with an intermediate level disinfectant to prevent cross contamination when placed on counters, etc.

Instrument sterilization or disinfection after cleaning

- Heat sterilization:
 - Lubricate instruments as needed (bag and date if critical instruments)
 - Place into sterilizer for appropriate treatment time

Exposure Control Plan

- Chemical sterilization:
 - Keep lid on containers when not in use
 - Place devices (items that cannot be heat sterilized) into chemical sterilant solution, and follow manufacturer's directions for instrument sterilization. Note: High level chemical disinfection is usually between 10-20 minutes. Sterilization usually takes between 8-10 hours.
 - Note time instruments were placed into solution
 - Each time additional contaminated instruments are added to the solution, ALL instruments start the treatment process-time over.
 - Remove, rinse with water, and place on a non-contaminated surface. Dry and place into clean containers or drawers.

Sterilization Efficacy Testing

Monitoring to assure efficacy of sterilization devices (i.e., autoclave) is required by many states and agencies. Biological monitors contain non-pathogenic bacterial spores. Sterility is defined as the destruction of all life, including bacterial spores. Therefore, to assure sterility of instruments, the bacterial spores within the monitor must be killed. Recommended procedures for efficacy testing:

- Biological monitoring (spore testing) of autoclave will be completed weekly or as monitoring service recommends. A log will be maintained documenting monitoring.
- Spore testing is performed as recommended by the CDC as well as sterilization device manufacturer and monitoring service
- Spore testing log will be maintained by the user.

If a heat sterilization unit (i.e., autoclave) is unavailable, glutaraldehyde or other chemical sterilants may be used for other-than-critical instrument sterilization. These chemicals should be monitored as to the activity of the chemical. Always use appropriate monitors for the specific chemical sterilant being used, and according to manufacturer's directions. This testing does not prove sterility, it only documents that the chemical was active at the time of testing.

Note: once instruments are placed into sterilant, other instruments shall not be added until previous instruments are sterilized. Adding additional instruments starts the sterilization process over for all instruments.

- Chemical monitoring of chemical sterilants should be completed weekly or as monitoring product manufacturer recommends. A log will be maintained documenting monitoring.
- Chemical monitoring is performed by the user
- Chemical monitoring log is maintained by the user

Faculty, Staff and Students will be trained in the use of all disinfectants and sterilants used in their department. All monitoring documentation should be maintained for no less than 5 years.

REGULATED WASTE MANAGEMENT PROGRAM

OSHA defines regulated waste (commonly called medical waste) as:

- Liquid or semi-liquid blood, or other potentially infectious materials (OPIM)
- Contaminated items that would release blood, or OPIM in a liquid or semi-liquid state if compressed

Exposure Control Plan

- Items that are caked with dried blood, or OPIM and are capable of releasing these materials during handling
- Contaminated sharps
- Pathological and microbiological wastes containing blood or OPIM

One of the most confusing topics with which facilities deal is regulated waste. The *amount* of contamination is the key. Some facilities feel more comfortable disposing of all items that have been merely contaminated with blood or OPIM, no *matter* what the amount. OSHA and state and local statutes do not require this. The definition above is the *minimum* to follow.

Note: Faculty, Staff and Students must handle items contaminated with ANY amount of blood or OPIM using Universal Precautions; the definition of regulated waste refers to how much blood or OPIM that item contains in order to decide if it should be discarded in the regular plastic-lined trash container, or the red-bag lined regulated waste container.

Types of Regulated Waste

- **Sharps Waste**
Please refer to “Engineering and Work Practice Controls” in this plan for the proper handling of contaminated sharps and sharps container criteria, transport, and usage.

Always place the sharps container into a secondary container if leakage is possible. This container shall meet the same criteria as the original container.

- **Other Regulated Waste**
Other regulated waste (“soft waste” such as blood soaked gauze) must be placed in containers, which are:
 - Closable
 - Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping
 - Appropriate in size for devices placed in them
 - Designed with a visible opening, below eye level, if wall-mounted
 - Designed with an unobstructed opening that allows devices to drop in easily
 - Labeled with a biohazard label or color coded red
 - Closed prior to removal
 - Placed into a secondary container that meets the same criteria as the primary container, if outside contamination of the primary container occurs

Disposal of all regulated waste shall be in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories. As this statement addresses, federal regulations may be different from each state’s regulations for the packaging, transport, and treatment of medical waste. For this reason, NDSU has researched the proper regulations concerning medical waste for this state and currently abides by those regulations.

Exposure Control Plan

Waste Containment, Transport and Treatment

Only trained employees, utilizing Universal Precautions, will contain regulated medical waste. Waste manifest documenting waste transport shall only be signed by employees trained as to determine if the regulated waste container has been properly contained and labeled.

Regulated waste is contained, transported, and treated in the following manner:

- **Sharps Containers**

- Removal Frequency

- When $\frac{3}{4}$ full, the lid shall be securely closed in order to ready the container for removal and transport to the treatment facility. New sharps containers will be delivered at the time of waste pickup.

- Documentation

- A four-part form is used. The original remains with the generating department. The second copy is retained by the UP&SO. The third copy is held by the incinerating department and the fourth is returned to the UP&SO office following the incineration of the waste.

- **Red bag-lined containers**

- Removal Frequency

- When $\frac{3}{4}$ full, the waste shall be removed and transported for disinfection of incineration.

- Documentation

- Disinfection by immediately transferring the waste to autoclave facilities within the laboratory buildings is processed by the individual departments without UP&SO involvement. For items needing incineration, a four-part form is used. The original remains with the generating department. The second copy is retained by the UP&SO. The third copy is held by the incinerating department and the fourth is returned to the UP&SO office following the incineration of the waste.

Manifests, waste use evaluation, and procedure performance shall be evaluated annually.

Management of the regulated waste program including maintenance of the documentation for NDSU is coordinated by the University Police and Safety Office.

Proof of regulated waste destruction shall be filed and maintained for a minimum of 3 years or time required by state and local jurisdictions.

Documentation of medical waste destruction shall be maintained for the time required by state and local regulations, and at a minimum of 3 years.

Documentation returned by the treatment facility documenting the proper destruction of NDSU's regulated waste is maintained at the University Police and Safety Office. The medical waste disposal service used by NDSU is through NDSU incineration.

Regulated Waste Labeling for Transport

Under normal procedures, no regulated biohazardous waste leaves the campus. This information is to be used for special case purposes only.

Exposure Control Plan

Prior to transport from this facility it is typically required from state environmental agencies that the waste container be labeled. The generator (NDSU) has a “cradle to grave” liability for the waste leaving this facility; it is therefore crucial that correct handling and labeling of waste be performed to protect employees, the public and the environment.

Labeling should typically consist of ½ inch high letters written in indelible ink and including:

- Name and address of the generator (this facility) and
- Identification number (waste transporter account number) or
- Date of shipment.

HEPATITIS B VACCINATION

The hepatitis B vaccine is administered according to the Centers for Disease Control and Prevention (CDC) Guidelines (MMWR, vol. 50, no. RR-11, June 29, 2001; available via internet at <http://www.cdc.gov/mmwr/PDF/RR/RR5011.pdf>

HBV Vaccine

This plan has already discussed that Hepatitis B virus is a very resistant and virulent virus, and is much easier to transmit than HIV. Hepatitis B is a very serious disease. The good news is that it can be prevented. There is a vaccine that is 97% effective against the virus.

- It comes in a series of three injections
- It is synthetic, so you can't get a disease from it
- There are very few medical contraindications (the healthcare professional will evaluate each person prior to injection).

NDSU strongly advises the acceptance of this vaccine if advised by the healthcare professional.

Hepatitis B Vaccine Availability

NDSU makes the hepatitis B vaccine and vaccination series available:

- To all Faculty and Staff who have occupational exposure to blood or OPIM
- At no cost to the employee. (Departmental responsibility)
 - no out of pocket expenses to the employee
 - no use of employee or employee's spouse's insurance
 - no employee reimbursement program is allowed
 - no amortization contract requiring repayment of cost is allowed
 - no waiver of liability with respect to acceptance is allowed
- To employees at a reasonable time and place
- Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional who will provide a written opinion (each state's licensing facility will determine which healthcare professionals in the respective state are allowed to perform this task.) A **Healthcare Professional's Written Opinion for HBV Vaccination** is attached to this program.
- Provided according to recommendations of the U.S. Public Health Service (boosters if they are advised in the future.)*
- Shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

Exposure Control Plan

- To the employee after required training and within 10 working days of assignment to exposure potential tasks.

*Based upon the recommendations made by the U.S. Public Health Service/Centers for Disease Control and Prevention (CDC) in 1998, OSHA requires that a titer be offered and measured on each employee 1-2 months following the last injection of the 3-injection series. If the antibody level is too low or not detectable, the series will be repeated or recommendations of the healthcare professional will be followed. Administration of this titer follows the same criteria as the HBV vaccination series listed above. If antibody testing following the second vaccination series given to the employee shows lack of conversion, the employee will be referred to an infectious diseases specialist to determine the reason for non-conversion.

If the schedule of HBV vaccinations has been interrupted, the entire course does not need to be restarted.

If the vaccination series is interrupted after the first dose, the second and third doses should be given separated by an interval of 3-5 months. Persons who are late for the third dose should be given this dose when convenient.

If a new employee does not have proof of previous administration of the series followed by a titer, a titer will be run to document proof of conversion if it has been less than 6 months since the series was given. It is not recommended by the CDC at this time to test antibody on employees who have had the vaccination series previous to the recommended post-vaccine testing period. It is not recommended by the CDC at this time to give routine booster injections.

Vaccine is **not** required of employees with potential for exposure if:

- Previously received complete hepatitis B vaccination (NDSU will need documentation of vaccine or signed statement as part of the employee's medical record; must also sign HBV declination)
- Antibody testing reveals the employee is immune
- Medical reasons show contraindication to the vaccine. Contraindications include:
 - Allergy to yeast or other ingredients
 - Auto immune disease
 - Fever
- The healthcare professional (HCP) will:
 - Be sent a copy of the OSHA bloodborne pathogen standard by NDSU
 - Establish a medical record and discuss contraindications and immunity
 - Vaccinate employee (or discuss contraindications and immunity)
 - Start post-exposure prophylaxis (if giving HBV vaccine post-exposure) as may be indicated by type of exposure and status of source individual
 - Return a written opinion (vaccine indicated and received), a copy of which NDSU will provide the employee
- NDSU will not make participation in a prescreening program, testing for HBV, a prerequisite for receiving the hepatitis B vaccination.
- If the employee initially declines the vaccine, but at a later date while still employed with bloodborne exposure, decides to accept it, the vaccine will be provided at that time.

Exposure Control Plan

- Any employee who consents or declines the hepatitis B vaccine must sign the consent or declination form. This declination is not to have any changes made to the way it is written, including additions or deletions that may change the intent of the document.
- The Supervisor will be responsible for providing/coordinating training on Hepatitis B vaccinations.
- Documentation of the Consent/Declination form will be maintained by the supervisor in the employee's confidential medical file or sent to Human Resources to file.
- Vaccination series and follow-up will be provided by the NDSU Designated Medical Provide, Sanford Clinic Occupational Medicine.
- Students are responsible for the HBV cost and any other associated costs.

POST EXPOSURE EVALUATION & FOLLOW-UP

Employee post exposure evaluation and follow up is administered according to the Centers for Disease Control and Prevention (CDC) Guidelines (MMWR, vol. 50, no. RR-11, June 29, 2001; available via internet at <http://www.cdc.gov/mmwr/PDF/RR/RR5011.pdf>

Incident Management

If a Faculty, Staff or Student should become exposed to blood or OPIM through either:

- Needle stick or other puncture wound from a contaminated sharp
- Splash, splatter, or touch of blood or OPIM to eyes, nose, or mouth
- Exposure to non-intact skin
- They shall wash or rinse the exposed area immediately
- They shall identify the source (patient) of the contamination if known
- They shall report the incident immediately to the University Police and Safety Office

An **NDSU Incident Report** will be filed within 24 hours in order to:

- Provide the appropriate information for the healthcare professional who will attend to the exposed employee
- Discover how the incident happened in order to determine need for policy and procedural changes
- File and maintain the report in the employee's confidential medical record for 30 years plus the length of his/her employment

Following the report of an exposure incident, NDSU shall make available to all employees a post exposure confidential medical evaluation and follow up:

- At no cost to the employee
- At a reasonable time and place
- By or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional
- As according to recommendations of the U.S. Public Health Services
- With all laboratory tests conducted by an accredited laboratory at no cost to the employee
- Shall make the above available to students at the students expense.

This evaluation and follow up will include:

- Documentation of the route of exposure
- Circumstances under which the exposure incident occurred

Exposure Control Plan

- Identification and documentation of the source individual (unless infeasible or prohibited by state or local law)
- Medical Provider testing of source individual's blood as soon as feasible and after consent is obtained to determine if they have HBV, HCV or HIV. If consent is not obtained, this department must establish that legally required consent cannot be obtained. If law does not require the source individual's consent, the source individual's blood, if available, shall be tested and the results documented. If the source individual is already known to be infected with HIV, HCV or HBV, re-testing need not be repeated.
- Completed consent form will be maintained in the affected employees' confidential medical record file, or send to Human Resources to file.
- Results of the source individual's testing shall be made available to the exposed employee. That individual must be informed of the laws concerning infectious status and identity of the source.
- Medical Provider collection and testing of the individual's blood for HBV, HCV and HIV after consent is obtained. If the individual consents to baseline blood testing, but not HIV testing, blood is held for 90 days and tested if employee elects within that time.
- Post exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service (<http://www.cdc.gov/mmwr/PDF/RR/RR5011.pdf>).
- Counseling and evaluation of reported illnesses.
- Individuals exposed to blood or OPIM at NDSU will be immediately referred to Sanford Clinic Occupation Medicine on 12th Ave. N. Fargo, ND or the nearest medical facility.
- The Supervisor is responsible for sending the exposed employee to the Medical Provider.

Information Provided by NDSU to the Healthcare Professional

Information provided to the Healthcare Professional (HCP) to whom the employee will be sent, and includes:

- A copy of the *OSHA bloodborne pathogen standard, 1910.1030*
 - Exposed employee's duties as they relate to the exposure incident.
 - Documentation of how the exposure occurred and route of entry. (e.g., needle stick to finger; splash of blood in eye)

Information Provided to NDSU by the Healthcare Professional

The following information shall be provided to this facility by the healthcare professional after attending to the exposed individual:

- Copy of the evaluating *Healthcare Professional's Written Opinion* (form for the healthcare provider defining what is required and request for treatment is attached to this program) within 15 days. Healthcare Professional's written opinion form will be maintained in the affected employees' confidential medical record file. This written opinion shall be limited to whether the:
 - Hepatitis B vaccination was indicated and given.
 - Employee has been informed of the results of the evaluation
 - Employee has been told about any medical conditions resulting from the exposure which require further evaluation or treatment.
- All other findings/diagnoses shall remain confidential and shall not be included in the report.
- The Safety Office is responsible for assuring this information has been received and filed in the individual's confidential medical file.

Exposure Control Plan

Information Provided to the Employee by NDSU

A copy of the evaluating healthcare professional's written opinion shall be provided by the Safety Office to the exposed individual within 15 days of its receipt from the Healthcare Professional:

Procedures for Evaluating the Circumstances Surrounding an Exposure Incident

Documentation of the circumstances surrounding an exposure incident will follow all such incidents resulting in a parenteral, mucous membrane, or non-intact skin exposure to an individual. This process will help to determine if PPE is being used, training is lacking, engineering devices are appropriate, and if work practices should be changed.

- Were policies and proper procedures being followed?
 - If "no", why not and how can we assure compliance in the future?
 - If "yes", what needs to be changed in order for this not to happen again?
- The circumstances of all exposure incidents will be reviewed to determine:
 - Engineering controls in use at the time
 - Work practices followed
 - A description of the device being used (including type and brand)
 - Protective equipment or clothing being used at the time of the exposure incident
 - Location of the incident and procedure being performed when incident occurred
 - Completion of training

Circumstances shall be reviewed with all who perform the task involved in the incident (assure exposed individual confidentiality), needed changes made to the ECP, re-training documented, and completed forms shall be filed with the incident report in the affected individual's confidential medical record file.

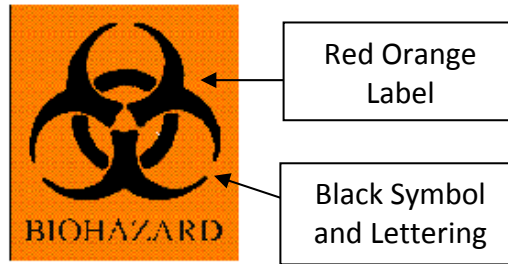
The Supervisor is responsible for reviewing the circumstances of all exposure incidents and if it is determined that revisions are needed.

Completed Reports shall be maintained in the affected individual's confidential medical record file, or in the Human Resources file. Signed re-training forms shall be maintained by the Department.

HAZARD COMMUNICATION THROUGH LABELS AND TRAINING

- **Labeling**
Required warning labels shall be:
 - Fluorescent orange or orange-red with lettering or symbols in a contrasting color
 - On or as close as feasible to the container attached by wire or adhesive in order to prevent their unintentional removal

Exposure Control Plan



Biohazard Label

- Warning labels shall be placed on containers of:
 - Regulated waste
 - Refrigerators or freezers containing blood or OPIM
 - Containers used to store, transport or ship blood or OPIM (except under certain circumstances as earlier indicated in this ECP)
- Warning labels are not required on:
 - Blood products with content labels and released for transfusion
 - Containers of blood or OPIM placed in a labeled container during storage, transport, shipment or disposal
 - Regulated waste that has been decontaminated. (Note: many states require labeling as to the decontaminated condition of such waste, especially sharps, if placed into the solid waste stream.)

Red bags or red containers may be substituted for labels.

The following items should be labeled with the biohazard label, or a red bag/container should be used (this list may not be all-inclusive):

- ***Specimen racks***
- ***Specimens leaving the facility***
- ***Contaminated laundry containers***
- ***Regulated waste containers***
- ***Refrigerators containing blood or OPIM***
- ***Dishwasher or ultrasonic cleaning units used to clean instruments***
- ***Reusable sharp instrument containers***
- ***Instrument soak tubs***
- ***Sharps containers***
- ***Centrifuge and other potentially contaminated lab equipment***
- ***Equipment to be serviced that has not be disinfected or sterilized***
- ***Any other items potentially contaminated with blood or OPIM***

Training

NDSU will ensure that all Faculty, Staff and Students with occupational exposure participate in training:

- At no cost and during working hours

Exposure Control Plan

- At the time of initial assignment to tasks where occupational exposure may take place, and at least annually thereafter
- If modification of individual's exposure potential tasks occur
- If addition of a new task presenting potential exposure occurs

This training program will consist of the following:

- Material appropriate in content, vocabulary, educational level, literacy, and language
- Explanation of the contents of the bloodborne pathogen standard
- General explanation of epidemiology/symptoms of bloodborne disease
- Explanation of the modes of transmission of bloodborne pathogens
- Explanation of this Exposure Control Plan, and how to obtain a copy
- Explanation of how to recognize tasks and other activities that may involve exposure to blood or OPIM
- Explanation of the use and limitations of methods that will prevent or reduce exposure including engineering and work practice controls, and personal protective equipment *
- Information on the types, proper use, location, removal, handling, decontamination and disposal of PPE
- Explanation of the basis for selection of PPE
- Information on the efficacy, safety, and method of administration of the hepatitis B vaccine, the benefits of being vaccinated, and that the vaccine is free to employees
- Information on the proper actions to take and person to contact in an emergency involving blood or OPIM
- Explanation of the procedure to follow if an exposure occurs including method of reporting and medical follow up available
- Explanation of the labeling and color coding used
- Opportunity for interactive questions and answers with the person conducting the training
- Trainer knowledgeable in the elements involved in this training program as it relates to the particular department

*** Note:** Training on the explanation of the use and limitations of methods that will prevent or reduce exposure including engineering, work practice controls, and personal protective equipment (PPE) is a very important requirement of training. The development of safer engineering controls introduces a variety of new techniques and practices to the work environment. OSHA's compliance directive emphasized "the necessity of effective training and education whenever new engineering controls are implemented. Training must include instruction in any new techniques and practices. "Hands on" training is particularly useful.

Trainers including consultants, manufacturers' reps, etc., should provide a brief description of their qualifications to provide this training, which will be maintained in the training records file.

Training documentation forms must be signed by each employee being trained. Location of training records is documented by the University Police and Safety Office.

Exposure Control Plan

The **Bloodborne Pathogen Test** or an equivalent test should be given to all personnel following training in order to evaluate learning. This test may also be used as a tool to determine retention of knowledge throughout the year. Completed test will be maintained by the Supervisor.

RECORD KEEPING

OSHA record keeping is required for all OSHA standards. The record keeping information here pertains to the bloodborne pathogen standard requirements specifically.

MEDICAL RECORDS

NDSU departments and the Safety Office shall establish and maintain an accurate record for each employee with occupational exposure or send to Human Resources to file. This record shall 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 relative to the employee's ability to receive vaccination.
- A copy of all results of examinations, medical testing, and follow-up procedures concerning exposure incidents
- The employer's copy of the healthcare professional's written opinion concerning exposure incidents
- A copy of the incident report (which must include duties of the individual concerning the incident, route and circumstances of exposure)

PLEASE SEE ADDITIONAL RECORD KEEPING REQUIREMENTS.

- **All employee medical records will be maintained by HR/PR**
- **The Supervisor or HR/PR will be in charge of accessing medical records and providing copies to employees upon request within 15 days.**

This record shall be maintained for at **least the duration of employment plus 30 years** in accordance with 29 CFR 1910.1020. If an employee has worked for NDSU for less than 12 months, medical records are not required to be maintained for 30 years, but may be provided to the employee upon separation and noted so in their personnel file.

Note: All records surrounding an exposure incident, incident reports, and other employee medical record forms, regardless of the affected employee's length or status of employment, will be maintained for 30 years plus the employee's length of employment.

Training Records

The training documentation/in-service form shall include:

- Name of the employer
- Date of training
- Trainer and the trainers qualifications
- Title and summary of the session
- Signature of the individual receiving the training
- Training records will be maintained for a minimum of three years from the date of training.

Exposure Control Plan

PROGRAM EVALUATION

Each department is required to comply with the bloodborne pathogens standard. NDSU expects its employees to adhere to all aspects of this Exposure Control Plan. These procedures have been established to eliminate or reduce exposure to bloodborne pathogens. Without commitment of both employer and employees to safety and health in this workplace, employees are likely to suffer injury and illness.

It is procedure to evaluate the effectiveness of this bloodborne pathogen program on a regular basis. It may accomplish these evaluations in a variety of ways including:

- Management and employee evaluation of engineering controls and personal protective equipment
- Management and employee evaluation of training programs
- Employee self-evaluations and safety recommendations
- Self-directed audits

Exposure Control Plan

NDSU SHARPS INJURY LOG

(This or equivalent information may be mandatory)

Date of Injury	Department or Work Area Where Injury Occurred	Type and Brand of Device Involved in the Incident	Explanation of How the Incident Occurred

Maintain Confidentially

Exposure Control Plan

NORTH DAKOTA STATE UNIVERSITY

BLOOD AND OPIM SPILL CLEAN UP

Spill clean-up kit will consist of absorbent, dustpan and broom/scoop (for this use only), PPE, and plastic bag. Blood or OPIM spills are to be cleaned up immediately or as soon as feasible:

- Determine **what PPE is to be used**, depending on size and location of spill (utility gloves and mask at a minimum).
- If fluid spill only on hard surface, **place paper towels over the spill** to absorb fluid. If a large spill, or if spill contains broken glass, place absorbent beads over spill, follow manufacturer directions and sweep into dustpan. Never pick up glass with your hands. If dried spill, soak with disinfectant first.
- Place paper towels (or material in dustpan) **into plastic bag**.
- **Spray contaminated surface** with EPA registered tuberculocidal cleaner and disinfectant **and wipe** with clean paper towel in order to clean.
- **Spray again** with disinfectant and let sit according to manufacturer's directions in order to disinfect. Be sure to block off the area to reduce potential of slips and falls.
 - *If spill is on carpeting, sprinkle with disinfecting absorbent, allow to absorb, sweep or scoop up. Clean area with appropriate cleaner using gloves and any other PPE determined necessary. **Never vacuum area or the absorbent on the spill.** Follow above steps and completely clean area prior to any vacuuming.*
- Immediately **dispose of plastic bag** in medical waste receptacle.
- **Dispose of PPE** in medical waste receptacle if considered regulated waste.
- **Review procedures** to determine the cause of this spill and if procedural changes need to occur.
- Call the Safety Office for guidelines on pick up.

Blood and Body Fluid Spill Kits are located

Facility Name: _____

Location to be posted: _____

Exposure Control Plan

NORTH DAKOTA STATE UNIVERSITY EMPLOYEE HEPATITIS B VACCINATION SERIES -- CONSENT / DECLINATION FORM

(This form is mandatory) As an employee of this facility, 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 (HBV) infection. Hepatitis B virus is a viral infection with a major effect on the liver. Due to this potential, I have been offered the Hepatitis B vaccination series, which is 98% effective in preventing Hepatitis B.

I understand that the vaccination series will include an initial dose followed by a 2nd dose one month later, 3rd dose taken six months after the first. Antibody testing is performed 1-2 months after the third dose to assure antibody production.

An evaluation by a Healthcare Professional as to the indication for the Hepatitis B vaccination, potential side effects, contraindications, and answers to any questions I may have will be provided prior to the series.

I have been informed that this vaccine and vaccination series will be:

- At no cost to me, the employee, and assumed by my department and offered at a reasonable time and place.
- Provided under the supervision of a licensed physician, or by or under the supervision of another licensed healthcare professional.
- Provided in accordance with recommendations of the U.S. Public Health Service.
- Provided all laboratory tests conducted by an accredited laboratory at no cost to me, the employee, but assumed by my department.
- My responsibility to complete the series and follow medical recommendations.

Please Sign Choice 1), 2), or 3) Below

1) I, _____ (Name of Employee), on _____ (Date), **CONSENT** to the Hepatitis B vaccination series and follow-up as recommended by the U.S. Public Health Service, offered by my employer, and as stated above.

Please provide a copy of this form to the Medical Provider

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 vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future should 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.

2) I, _____ (Name of Employee), on _____ (Date), **DECLINE** the HBV vaccination series and follow-up.

3) I, _____ (Name of Employee), on _____ (Date), **DECLINE** the HBV vaccination series and follow-up based on the fact that I have previously had the vaccination series.

(Employee's Signature) _____ (Date)

(Employee's Job Classification)

(Supervisor's Signature) _____ (Date)

Date of Hire	Date of Consent or Decline	Date of Dose 1	Date of Dose 2	Date of Dose 3	Date of Titer	HCP Written Opinion and Vaccine Data on File?
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Please file copies of this report in the employee's confidential Employee Medical Record File

Exposure Control Plan

NORTH DAKOTA STATE UNIVERSITY POST EXPOSURE PROCEDURES/PLAN (Completion of all Post Exposure Procedures is mandatory)

DATE OF INCIDENT: _____

DEPARTMENT: _____

Follow these procedures if an individual is exposed to Blood or Other Potentially Infectious Materials (OPIM) through:

- Parenteral contact (contaminated sharp object punctures the skin)
- Mucous membrane contact (blood or OPIM in the eyes, nose, or mouth)
- Non-intact skin contact (blood or OPIM on rash, hangnails, etc.)

Employee:

- Wash skin with soap and water; rinse mucous membranes
- Identify the source of the contamination if known (the source is the person whose blood or body fluid came in contact with the exposed employee)
- Notify supervisor or employer immediately (some post-exposure prophylactic regimens should be started **WITHIN 2 HOURS** of exposure)

Employer:

- Consult with exposed individual regarding incident and Healthcare Professional (HCP) referral
- Consult in private with source individual regarding incident and HCP referral
- Complete **Incident Report** with employee: copy for UP&SO; file original
- Have source sign **Source Consent/Declination** and file (permission or refusal to test blood)
- Have employee sign **Employee Post Exposure Consent/Declination** and file (permission or refusal to test/treat)
- Refer Employee to Designated Medical Provider and have employee (if consents to treatment) take:
 - Copy of **OSHA's Bloodborne Pathogen Standard** (1910.1030)
 - **"Request for Treatment/HCP Written Opinion"** for HCP to sign and return
 - Applicable **employee medical records**, including HBV vaccination status. If these records are given by NDSU to anyone but the exposed employee, a signed authorization must be received from the employee first.
 - Copy of **Incident Report**
 - Source's blood test results and disease status if known (HIV, HCV, HBV)
- Complete Sharps Injury Log within 7 days of incident (optional for medical offices in federal and most state-OSHA states)
- Received **DMP's written opinion** within 15 days and file in employees medical record file
- Provide **DMP's written opinion** to employee within 15 days of receipt by this office
- Hold a safety meeting with all employees who perform the same task
- Perform **re-training**
- Make changes to any engineering devices (SESIPs) by removing or ordering new
- Make any necessary changes to Exposure Control Plan

Supervisor Signature

Date

File completed form in Exposed Employee's Medical Record File in the Human Resources Office.

Exposure Control Plan

NORTH DAKOTA STATE UNIVERSITY **SOURCE INDIVIDUAL TESTING CONSENT / DECLINATION FORM** (This or equivalent information is mandatory)

Date _____

I, _____, have been informed that an exposure incident involving an employee of North Dakota State University has occurred while performing procedures involving my blood or other potentially hazardous materials on _____ (date).

As required by law, I have been requested to consent to testing my blood for possible infection with hepatitis B, or C or HIV. I have been informed that this testing is to alleviate concerns and anxiety of the exposed employee as well as to allow healthcare professionals to proceed with appropriate medical evaluation and treatment of the employee if needed. I have also been informed that, as required by law, **the results of these tests will remain confidential** between the exposed employee and me.

I understand that I have not been exposed to any body fluid or disease, only the employee has been exposed to my blood or body fluid. I understand that I am at no risk of contracting a disease. If I have further questions or concerns, I will discuss them with facility management.

I understand that I will receive results of results of my testing, and that all expenses associated with this testing will be incurred by the Department.

PLEASE SIGN ONE CHOICE BELOW

I, _____, **consent** to having hepatitis B, C and HIV testing performed under the conditions stated above.

Signature of consenting source individual

Date

I, _____, **refuse to consent** for testing to determine my hepatitis B, C and HIV state of infection.

Signature of consenting source individual

Date

File in exposed employee's confidential medical record file.

Exposure Control Plan

NORTH DAKOTA STATE UNIVERSITY EMPLOYEE POST-EXPOSURE EVALUATION & FOLLOW-UP CONSENT / DECLINATION FORM

(This or equivalent information is mandatory)

I, _____, an employee of NDSU, have been offered a post-exposure confidential medical evaluation and follow up due to the exposure incident involving blood or other potentially infectious materials, which occurred on _____ (date).

I have been informed that this evaluation and follow up will be:

- At no cost to me, the employee
- Offered at a reasonable time and place
- Provided under the supervision of a licensed physician, or by or under the supervision of another licensed healthcare professional
- Provided in accordance with recommendations of the U.S. Public Health Service
- Provided with all laboratory tests conducted by an accredited laboratory at no cost to me, the employee

Please initial the following:

_____ I have been informed that I will be notified of the source individual's HIV, HCV, and HBV status, and by law, must keep that information confidential.

_____ I will be provided post exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service.

_____ I will receive counseling and evaluation of reported illnesses.

_____ Copy of the evaluating healthcare professional's written opinion will be provided to me within 15 days of its receipt by this office.

_____ Results of all **blood testing will remain confidential** and will not be released to my employer.

_____ I consent to baseline blood testing, but not HIV testing, the blood is held for 90 days and tested if I, the employee, elect within that time.

COMPLETE ONE CHOICE BELOW

I, _____, **consent** to having post exposure evaluation and follow up as offered by my employer, North Dakota State University, as stated above.

Signature of exposed employee

Date

I, _____, **refuse to consent** to having post exposure evaluation and follow up as offered by my employer, North Dakota State University, as stated above.

Signature of exposed employee

Date

File completed form in employee's confidential medical record file.

Exposure Control Plan

NORTH DAKOTA STATE UNIVERSITY

Request for Treatment

Written Opinion for Employee Exposed to

Blood or Other Potentially Infectious Materials (Page 1 of 2)

(This or equivalent information is mandatory. Print this two-page form front and back.)

Licensed Healthcare Professional:

_____, an employee of North Dakota State University has suffered an injury that could potentially subject this employee to bloodborne pathogens. We have included all pertinent information required according to the OSHA standard, 1910.1030.

You will be provided:

- A copy of the OSHA standard 29 CFR 1910.1030 (unless previously provided)
- An exposure incident report which includes:
 - Documentation of how the exposure occurred and route of entry

Please ensure the exposed individual:

- Is seen immediately
- Incurs no costs related to this incident (the department at NDSU will pay for services provided)
- Receives results of source's testing (employee must be informed of confidentiality laws concerning the source)
- Receives blood testing for HBV, HCV and HIV if consent is given
- Receives any medically indicated post-exposure prophylaxis as currently recommended by CDC/Public Health Service
- Receives counseling and evaluation of reported illnesses

Please be sure the source individual:

- Incurs no costs related to this incident (the NDSU department will pay for services provided)
- Receives blood testing for HBV, HCV and HIV if consent is given

Please send only the following information concerning our exposed employee in writing to this facility within 15 days of completed evaluation:

- If hepatitis B vaccination was indicated and given
- That employee has been informed of the results of the evaluation
- That employee has been informed of need for further evaluation or treatment as a result of this incident

Please complete and return this or equivalent documentation to our office.

Please contact: _____ in our department regarding charges for this service or if further information is required. Thank you.

Signature of Employer Representative

Date

Department

Exposure Control Plan

Written Opinion for Post-Bloodborne Pathogen Exposure (Page 2 of 2)

(This or equivalent information is mandatory. Print this two-page form front and back.)

Please return this completed evaluation form within 15 days to:

Facility Name: North Dakota State University
Facility Address: University Police and Safety Office – Dept. 3300,
P O Box 6050, Fargo, ND 58108
Facility Phone: 701-231-6740
To the Attention of: Claims Management/Specialist

Today's Date: _____ Date of Evaluation: _____

Employee: _____

Employee's Supervisor: _____

Department: _____

Healthcare Professional Providing Service: _____

- 1) Hepatitis B vaccination was indicated and given ☐
- 2) Employee has been informed of the results of the evaluation ☐
- 3) Employee has been informed of need for further evaluation or treatment
as a result of this incident ☐
- 4) Hepatitis B vaccination was given on this date: _____

Signature of Healthcare Professional Providing Service

Date

Referring Facility Name: _____

Provide copy to exposed employee, and filed in the employee's medical record file.

Exposure Control Plan

NORTH DAKOTA STATE UNIVERSITY

BLOODBORNE PATHOGEN TRAINING DOCUMENTATION FORM

(This form is mandatory. If additional space is needed for sign-in, attached to or duplicate this page.)

Trainer and qualifications:

Title and Summary of Session: **“Bloodborne Pathogens”**

- Explanation of the contents of the bloodborne pathogen standard
- General explanation of epidemiology and symptoms of bloodborne disease
- Explanation of the modes of transmission of bloodborne pathogens
- Explanation of Exposure Control Plan, and how employees may obtain a copy
- Explanation of how to recognize tasks and other activities that may involve exposure to blood or OPIM
- Explanation of the use and limitations of methods that will prevent or reduce exposure including engineering and work practice controls and PPE
- Information on the types, uses, location, removal, handling, decontamination and disposal of PPE
- Explanation of the basis for selection of PPE
- Information on the efficacy, safety, and method of administration of the hepatitis B vaccine, the benefits of being vaccinated and that the vaccine is free to employees. Students pay for their own vaccine.
- Information on the proper actions to take and person to contact in an emergency involving blood or OPIM
- Explanation of the procedure to follow if an exposure occurs including method of reporting and medical follow up available
- Explanation of the labeling and color-coding used
- Opportunity for interactive questions and answers with the trainer
- Explanation of record keeping procedures including access, recording of injuries and illnesses, training records, medical records, and location of records as well as the person in charge of record keeping
- Explanation of this facility’s enforcement and discipline policies and procedures

Persons Attending Bloodborne Pathogen Training Session

Printed Name	Job Classification	Signature	Date of Training

File signed form, place in training file and maintain for 3 years.

Exposure Control Plan

NDSU Exposure Control/Bloodborne Pathogen Quiz

Name: (print) _____ EmpID: _____

Department: _____ Date: _____

Do Not Use Acronyms

Please complete and sign

- | | | |
|------|-------|---|
| True | False | 1. Management, Supervisors and Employees are all responsible for safety in the workplace? |
| True | False | 2. Personal Protective Equipment must be worn when required for the job? |
| True | False | 3. Annual Baseline Safety Training is a mandatory requirement for all NDSU employees? |
| True | False | 4. You must report every exposure, injury and near miss immediately (or within 24 hours) to your supervisor and the University Police and Safety Office (UP&SO) |
| True | False | 5. In the event of a fire, Pull the Alarm, Evacuate the building and call 911? |
| True | False | 6. HIV and HBV are the only bloodborne threats you face? |
| True | False | 7. Mucous membranes are a potential route of entry into the body for bloodborne pathogens? |
| True | False | 8. Universal/Standard precaution means treating all blood and body fluids as potentially infectious? |
| True | False | 9. Every time you remove your gloves, you must wash your hands with soap and running water as soon as possible or use a hand sanitizer? |
| True | False | 10. You are allowed to eat, drink and smoke in an area where you are likely to be exposed to blood or body fluids. |
| True | False | 11. Choose your protective equipment according to the task you are going to perform. |
| True | False | 12. Avoid picking up broken glass with your hands. Use tongs or a brush and dust pan. |
| True | False | 13. You should bend all needles before putting them into the sharps container |
| True | False | 14. If you don't see blood in bodily fluids, they are safe. |
| True | False | 15. Wear the appropriate footwear for the work you are doing. Do not wear sandals or open-toe shoes. |
| True | False | 16. Discard contaminated sharps immediately after use in an appropriate, puncture-resistant container. |
| True | False | 17. You can be exposed to bloodborne pathogens if a contaminated sharp punctures your skin. |
| True | False | 18. Dispose of blood and other regulated waste in appropriate labeled, closable, leak proof containers. |

Signature: _____ Date: _____

**Campus Mail: UP&SO, ANPC Building, NDSU Campus U. S. Mail (off-campus departments) to:
NDSU UP&SO – Dept. 3300, P O Box 6050, Fargo, ND 58108**