Stony Brook University

Environmental Health & Safety
Policy and Procedure

Subject: Blood Borne Pathogens Exposure Control Plan	**Published:** 12/30/16
EH&S Program: Occupational Safety	**Next Review:** 12/30/19
Scope: University Wide	**Original:** 1997

Printed copies are for reference only. Please refer to the electronic copy for the latest version.

Policy:

The purpose of this policy is to protect University students, faculty and staff from the health hazards associated with occupational exposure to pathogenic organisms present in human blood and other potentially infectious materials. Additionally, comply with the Occupational Safety and Health Administration (OSHA) and Public Employee Safety & Health Administration (PESH) standards that apply to this standard. The policy will ensure Universal Precautions, Engineering and Work Practicfe Controls, Personal Protective Equipment, Housekeeping, and Sound Infection Control procedures are applied in all University areas where exposure to bloodborne pathogens is possible.

Definitions:

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

Bloodborne Pathogens (BBP): Pathogenic microorganisms that are present in blood (as defined above) and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), and human immunodeficiency virus (HIV).

Dilute Bleach: A 1:10 mixture of household bleach and water.

Decontamination: Use of physical or chemical means to remove, inactivate, or destroy pathogens on a surface so that it is no longer capable of transmitting infectious material and the surface is rendered safe for handling without precautions necessary for infectious materials.

Engineering Controls: Controls (e.g., sharps disposal containers, self-sheathing needles, needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace.

HBV: Hepatitis B Virus.

HCV: Hepatitis C Virus.

HIV: Human Immunodeficiency Virus.

Needleless Systems: A device that does not use needles for: (A) the collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established; (B) the administration of medication or fluids; or (C) any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

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.

Other Potentially Infectious Materials (OPIM): The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids. Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and Human cell, tissue or organ cultures; and blood, organs, and tissues from experimental animals infected with HIV or HBV. Non-human primate blood and other fluids from them as described above.

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 blouse) not intended to function as protection against a hazard is not considered to be personal protective equipment.

Regulated Medical Waste (RMW): Any waste which is generated in the diagnosis, treatment or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, when listed by the Department of Environmental Conservation (see Section 27-1502 of the Environmental Conservation Law), provided, however, that RMW shall not include any hazardous waste identified or listed by the Department of Environmental Conservation, or any household waste as defined by the Department of Environmental Conservation including the following: Human Blood and Blood Products, Animal Waste, Infectious Agents and cultures and stocks of such agents, Human Pathological Wastes, and Sharps.

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

Work Practice Controls: Controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles).

Procedures:

A. Implementation Schedule Methodology:

1. Departments are responsible for implementation of this plan. Supervisors and Principal Investigators must ensure compliance with this Exposure Control Plan within their areas of responsibility. Specific areas to be addressed are: the application of universal precautions, appropriate engineering controls, work practice controls, and housekeeping; personal protective equipment; the hepatitis B vaccination; exposure incident reporting and post-exposure evaluation.

B. Universal Precautions

1. Universal precautions will be observed throughout the University when required to prevent contact with blood or OPIM. All blood or OPIM and materials contaminated with blood or OPIM must be treated as if they are infectious, and any individuals coming into direct contact with blood or OPIM must take the necessary precautions to protect themselves regardless of the perceived status of the source individual.

C. Engineering and Work Practice Control

1. Engineering and work practice controls are the preferred means to eliminate or minimize exposure to occupational hazards such as BBP in the workplace. Where possible occupational exposure remains after institution of these controls, personal protective equipment shall be utilized. The following engineering controls will be utilized as appropriate at various facilities or areas within the University.
   a. Disposable Sharps
   b. Fume Hoods
   c. Mechanical equipment washers
   d. Mechanical pipetting
   e. Needleless Systems
   f. Puncture Resistant sharps disposal containers
   g. Self-sheathing needles
   h. Sharps with engineered sharps injury protection
   i. Splash Guards
   j. Tongs or other manipulative aids

2. All engineering controls shall be maintained by the department/user according to manufacturer's instructions on a regular basis to ensure that they are in good working condition and provide the intended protection to the worker. All department and division heads have the responsibility to review the effectiveness of the individual controls used in their areas as well as their proper maintenance. The performance of the review may be

delegated to an authorized individual, such as the supervisor or manager for a specific work group or lab, however, the department/division head remains responsible to ensure that this is accomplished.

3. Readily accessible hand washing facilities are required for those employees who may incur exposure to blood or other potentially infectious materials. Where immediate access to hand washing facilities is not feasible, as in field emergency medical care, the individual department is to provide either an antiseptic cleanser in conjunction with a clean cloth/paper towels or antiseptic towelettes. If these alternatives are used, then the hands are to be washed with soap and running water as soon as feasible.

4. After removal of personal protective gloves, employees shall wash hands immediately or as soon as feasible with soap and water.

5. Contaminated needles and other contaminated sharps shall not be bent, sheared or purposely broken. Recapping of contaminated sharps is prohibited. Disposable sharps are to be placed in puncture-resistant containers which are provided expressly for this purpose. These containers shall be located strategically in all areas where sharps are or may be used. Containers are retrieved on a regular basis by Department of Environmental Health and Safety employees or licensed contractor employees for disposal. Where containers may be filled prior to the regularly scheduled inspection and pick-up, employees shall contact the Department of Environmental Health and Safety (2-6410) for removal.

6. In addition to engineering controls, such as sharps containers, OSHA mandates the use of needleless and engineered sharps injury protection (ESIP) systems to further isolate or remove the bloodborne pathogens hazards where ever possible. Departments shall use these systems whenever feasible.

D. Work Area Restrictions

1. In work areas where there is a reasonable likelihood of exposure to blood or other potentially infectious materials, employees shall not eat, drink, apply cosmetics or lip balm, smoke, or handle contact lenses. Food and beverages shall not to be kept in refrigerators, freezers, shelves, cabinets, or on counter tops or bench tops where blood or other potentially infectious materials are present.

2. Mouth pipetting or suctioning of blood or other potentially infectious materials is strictly prohibited.

3. All procedures shall be conducted in a manner which will minimize splashing, spraying, splattering, and generation of droplets of blood or other potentially infectious materials. Methods which will be employed at this facility to accomplish this goal include, but are not restricted to: covers on centrifuges, splash guards and use of biosafety cabinets.

E. Specimens

1. Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during the collection, handling, processing, storage, and transport of the specimens.

2. The container(s) used for this purpose shall be labeled or color coded (see Section X) in accordance with requirements of the OSHA standard (Appendix B). Department/division heads should note that the standard provides for an exemption for specimens from the labeling/color coding requirement of the standard provided that universal precautions are utilized in the handling of all specimens and the containers are recognizable as containing biohazardous specimens. This exemption applies only while the specimens remain in the facility. Any leaking or punctured primary container must be placed within a secondary container which will contain the leak and is puncture resistant.

F. Contaminated Equipment

1. Equipment which has become contaminated with blood or other potentially infectious materials shall be examined prior to servicing or shipping and shall be decontaminated as necessary unless the decontamination of the equipment is not feasible. Equipment that cannot be appropriately decontaminated must be disposed of in accordance with New York State and Local waste disposal regulations.

G. Personal Protective Equipment

1. All personal protective equipment used at this facility shall be provided without cost to employees. Personal protective equipment will be chosen based on the anticipated exposure to blood or other potentially infectious materials. The protective equipment shall be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach the wearer's clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

2. A list of some of the personal protective equipment which are available for use at the University:
   a. Impervious Rubber Gloves

b. Lab Coats (disposable and washable)
c. Face Shields
d. Clinic jackets
e. Protective eyewear (appropriate for the hazards of the operation being performed)
f. Surgical Gowns
g. Shoe covers
h. Utility Gloves
i. Examination Gloves
j. Coveralls (Waste Handling staff)
k. Surgical Hoods

3. All required personal protective equipment shall be provided by the University department at no cost to employees. All repairs and replacements shall be made by the University department at no cost to employees.
4. All garments which are penetrated by blood shall be removed immediately or as soon as feasible. Prior to leaving the work area, all personal protective equipment shall be placed at the appropriate areas designated by each department/division head.
5. Appropriate protective clothing, such as lab coats, gowns, aprons, clinic jackets, or similar outer garments, shall be used. Such protective clothing shall be used in any application where a worker's clothing may otherwise have the potential for contamination by blood or other potentially infectious body fluids. This includes most patient care applications other than interviewing or counseling, most lab procedures involving such materials, and cleaning or decontaminating areas which have the potential for exposure.
6. Gloves shall be worn where it is reasonably anticipated that hand contact with blood, other potentially infectious materials, non-intact skin, and mucous membranes can occur. Gloves will be available from individual department supervision, who may order these directly or via Central Stores.
7. Disposable gloves used at University facilities are not to be washed or decontaminated for re-use and are to be replaced as soon as practical when they become contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.
8. Masks in combination with eye protection devices, such as goggles or safety glasses with solid side shields, or chin length face shields, shall be worn whenever splashes, spray, splatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can reasonably be avoided with such protection.

H. Work Practices

1. Utility gloves shall be decontaminated for re-use provided that the integrity of the glove is not compromised. Utility gloves will be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.
2. Double gloving is recommended where the potential for breakage is great

or where heavier gauge gloves are not available. Examples include personnel such as ambulance, police or safety personnel operating in a pre-hospital emergency medical treatment setting.

I. Housekeeping

1. University facilities shall be cleaned and decontaminated by university employees or contractors and are charged with ensuring that the worksite is in a clean and sanitary condition. The cleaning schedule and method of decontamination is based upon the location within the facility, the type of surface to be cleaned, the type of soil present and the tasks or procedures being performed in the area. Cleaning shall be done routinely. All contaminated work surfaces are decontaminated after completion of procedures and immediately, or as soon as feasible in the case of a spill or other release of blood or other potentially infectious materials.

2. Cleaning shall be performed with disinfectants which are registered with the Environmental Protection Agency as being tuberculocidal, bactericidal, virucidal and fungicidal, such as Unicide-128, TBQ, or a 10% solution of household bleach. Disinfectants must be used in accordance with manufacturer's instructions.

3. Where spills of blood or other potentially infectious materials may occur, decontamination shall be performed with an approved disinfectant that is effective for bloodborne pathogens. Spills are the responsibility of the user, but gross spills shall be referred to University Hazardous Materials Response Team by calling the **University Police Dispatcher at 333 from any university phone or 631-632-3333.**

4. Only Regulated Medical Waste Containers shall be used to collect BBP and OPIM. All bins, pails, cans, and similar receptacles that may unintentionally become contaminated with blood or OPIM shall be inspected and decontaminated on a regularly scheduled basis and shall be cleaned and decontaminated immediately or as soon as feasible when visible contamination is observed.

5. General waste receptacles are normally checked and emptied at least once per day. Liners are removed and replaced with a fresh liner. Employees performing cleaning functions of this type shall wear protective gloves.

6. Mechanical aids, such as forceps, tongs, or brooms and dustpans shall be used for handling broken glassware. The broken glass shall be placed in an impenetrable cardboard container for subsequent disposal and is labeled as containing broken glass. If the glass is potentially contaminated with blood or other potentially infectious materials, the broken glass is placed in a sharps container or other impenetrable container and removed as Regulated Medical Waste by appropriately trained personnel.

J. Regulated Medical Waste Disposal

1. All RMW generated at this University shall be handled, packaged, collected, transported, treated, and disposed of in such a manner as to protect health and safety.
   a. Reference Policy EHS 8-1 Hazardous Waste Management

2. All Regulated Medical Waste must be discarded, at the point of generation, as soon as feasible into sharps containers or red biohazard bags placed in approved biohazard boxes. Sharps containers must be located in all areas where work involving sharps is performed. Pathogens or OPIM Non sharp items should be placed in bio hazard red bags.

3. For questions regarding Regulated Medical Waste, please contact the Department of Environmental Health and Safety at 631-632-6410.

K. Hepatitis B Vaccine

1. Hepatitis B vaccination is provided at no cost to all Stony Brook University employees who are determined to be at risk of occupational exposure. Employees who have occupational exposure to bloodborne pathogens and other potentially infectious materials are offered hepatitis B vaccination after they have received the required training. The complete hepatitis B vaccination series, antibody testing to demonstrate immunity, or that the vaccine is contraindicated for medical reasons are determined in consultation with the Stony Brook University Medical Center for Occupational Medicine who keeps all related records.

2. Department/division heads have the responsibility to ensure that the vaccine is offered to their occupationally exposed employees through Occupational Medicine. All invoices shall be routed by the medical provider to the employee's department for payment.

L. Post-Exposure Evaluation and Follow-Up

1. Following an exposure to blood or other potentially infectious material, the exposed employee shall thoroughly wash the exposed skin well with soap and water and/or flush mucous membranes with copious amounts of water, for example, in eyewash.

2. Employees are required to immediately report their exposure to their supervisor. Immediate medical treatment is secured through:
   a. Center for Occupational and Environmental Medicine, Stony Brook Medical Park, 444-6250 during regular business hours (8:30 AM - 4:00 PM) or Stony Brook University Medical Center Emergency Department (24 hours). *The most effective treatments should be started within 2 hours of exposure and all treatment should be*

initiated within 24 hours of exposure.

3. Supervisors shall complete an Incident Report Form with complete information on the exposure and forward it to Human Resources Services – Time and Attendance.

4. All employees who incur an exposure incident shall be offered post-exposure evaluation and follow-up in accordance with the OSHA standard. Post-exposure evaluation and follow-up will be provided by the Occupational Medicine. All information is kept confidential.

M. Communication of Hazards to Employees

1. Warning labels, that include the word "BIOHAZARD", and the universal biohazard symbol, shall be affixed to doors, leading to areas where work is conducted with blood and other potentially infectious materials, and to containers of regulated waste, refrigerators, freezers, incubators, etc. used for storage or transport of blood or other potentially infectious material.

N. Training

1. Training for all employees shall be conducted prior to initial assignment to tasks where occupational exposure may occur. It is the responsibility of supervisors to ensure that staff receives this training either through EH&S (2-6410) or other qualified training provider. Training for employees will include at least the following:
   a. The Occupational Safety and Health Administration (OSHA) standard for Bloodborne Pathogens and how to get access to a copy of the standard
   b. Epidemiology and symptomatology of bloodborne diseases
   c. Modes of transmission of bloodborne pathogens
   d. The University's Exposure Control Plan, including key points of the plan, lines of responsibility, means by which the plan is implemented, etc.
   e. Procedures which might cause exposure to blood or other potentially infectious materials at this facility
   f. Control methods which will be used at the facility to control exposure to blood or other potentially infectious materials
   g. Personal protective equipment available at this facility and how it may be obtained, used and decontaminated
   h. Post-Exposure evaluation and follow-up

i. Signs and labels used at the University
j. The University's Hepatitis B vaccine program
k. Training is provided by qualified safety training professionals within the Department of Environmental Health and Safety or other qualified personnel or vendor.
l. All employees covered under this plan will receive annual refresher training through EH&S or other qualified training provider.
m. The outline for the training material is located in the offices of the Department of Environmental Health and Safety, as are all of the training materials.

O. Solicitation of Non-Management Employees:

1. Departments shall solicit input from non-managerial employees who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the Exposure Control Plan.

P. Recordkeeping

1. All records required by the OSHA standard shall be maintained in accordance with the standard.
2. The Department of Environmental Health and Safety has established a Sharps Injury Log. This log will be maintained for the recordkeeping of injuries from contaminated sharps. The information in the Sharps Injury Log will be recorded and maintained in such a manner as to protect the confidentiality of the injured employee.
3. Vaccination, treatment and other medical records shall be maintained by the Center for Occupational Medicine.

Q. Responsibilities:

1. Department of Environmental Health and Safety (EH&S):
   a. Assist in ensuring that this policy is effectively carried out.
   b. Provide program oversight, regular review, and update of this policy.
   c. Provide training to those employees who may potentially be exposed to bloodborne pathogens.
   d. Investigate and track potential BBP exposure incidents.

R. Departments:

1. Implementation and compliance with this policy within their department.
2. Ensure that all job titles with occupational exposure to bloodborne pathogens for employees within the department are included in Section I of this document and notifying EH&S of any required additions of job titles.
3. Ensure that staff receives training prior to assignment to jobs with occupational exposure and annually thereafter.
4. Provide adequate and appropriate engineering controls and personal

protective equipment for all employees that may come into contact with Blood or OPIM.

5. Ensure that department staff complies with all provisions of this policy.
6. Provide for HBV vaccination, medical surveillance, and other requirements for department employees that have potential exposure to bloodborne pathogens.

S. Department of Occupational Medicine:

1. Provide post exposure evaluations, treatment, and follow-ups during normal business hours.
2. Maintain any records related to vaccinations, declinations, occupational exposures and post-exposure patient care.
3. Provide a written statement from the health care provider acknowledging that follow-up care is being provided to the Department for recordkeeping purposes.

T. Determination of Exposure:

1. Each department at Stony Brook University shall determine if there are certain work tasks or job classifications that can result in occupational exposure to bloodborne pathogens. This exposure determination must be made without regard to the use of personal protective equipment (PPE).
2. Categories of exposure include:
   a. Job related tasks or procedures that have the potential to involve contact or mucous membrane exposure with blood or other potentially infectious materials, or the potential for spills or splashes. This can include research, teaching, and clinical activities that involve the use of human blood or other potentially infectious materials.
3. Job Classifications that include employees who have routine occupational exposure
   a. Advanced Emergency Medical Technician
   b. Ambulance Attendant
   c. Athletic Trainers
   d. Campus Public Safety Officer (University Police Officer/Detective/Supervisor)
   e. Childcare Center Caregivers/Directors
   f. Clinical Assistant Professor
   g. Clinical Associate Professor
   h. Clinical Nurse Specialist
   i. Dental Assistant
   j. Dentist
   k. Emergency Medical Technician
   l. Fire Marshal (Campus Safety Specialist)
   m. Hazardous Materials Response Team
   n. Nurse Practitioner
   o. Physician
   p. Physician Assistant
   q. Registered Nurse

r. Teaching and Research Nurse II

4. Tasks that do not normally involve planned exposure to human blood, or other potentially infectious materials, but potential exposure may result from unplanned tasks, and be a condition of employment.
5. Some Job Classifications that include employees who may have occupational exposure.

- Associate Professor
- Assistant Professor
- Campus Bus Driver
- Certified Social Worker
- Cleaner
- Co-Supervisor Medical Photography
- Custodians
- Fellow
- General Mechanic
- Graduate Student (where compensated)
- Hospital Attendant Housekeeper
- Instructional Support Associate
- Instructional Support Specialist
- Janitor
- Lab Technician
- Licensed Practical Nurse
- Mail Room Employees
- Maintenance Assistant
- Maintenance Supervisor
- Plumber
- Plumber/Steamfitter
- Post Doctoral Research Associate
- Principal Investigator
- Professor
- Research Assistant
- Research Assistant Professor
- Research Associate
- Research Fellow
- Research Lab Worker
- Research Project Assistant
- Research Nurse
- Research Support Assistant
- Research Support Specialist
- Research Technician
- Senior Lab Technician
- Senior Research Support Specialist
- Study Nurse
- Visiting Researcher

U. Solicitation of Non- Management Employees:

1. Departments shall solicit input from non-managerial employees who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the Exposure Control Plan.

V. Recordkeeping:

1. All records required by the OSHA standard shall be maintained in accordance with the standard.
2. The Department of Environmental Health and Safety has established a Sharps Injury Log. This log will be maintained for the recordkeeping of injuries from contaminated sharps. The information in the Sharps Injury Log will be recorded and maintained in such a manner as to protect the confidentiality of the injured employee.

3. Vaccination, treatment and other medical records shall be maintained by the Center for Occupational Medicine.

Forms:

A. Sample Exposure Determination Forms and Instructions
B. Sample Occupational Exposure Survey Forms and Instructions
C. Declination Statement for Hepatitis B Vaccine

Policy Cross Reference: NA

Relevant Standards/Codes/Rules/Regulations/Statutes:

A. 29 CFR 1910.1030 *Occupational Exposure to Bloodborne Pathogens*

References and Resources: NA

Stony Brook University

Department of Environmental Health and Safety

Instructions:

1. Employee provides this form to the medical provider.
2. Medical provider completes form.
3. Employee returns form to own department.
4. Department sends copy to EH&S.

TO: ***ENVIRONMENTAL HEALTH AND SAFETY***

RE: ***CONFIRMATION OF HEPATITIS A AND/OR HEPATITIS B VACCINATION***

Name: _____Title: _____SSN: _____

Department: _____TEL: _____

Reason for Vaccination:

- ❑ Occupational exposure
- ❑ Other _____

LICENSED HEALTHCARE PROVIDER

The above named employee has successfully completed (please check all that apply):

- ❑ Hepatitis A Vaccination Series (2 Shots)
- ❑ Hepatitis B Titer
- ❑ Hepatitis B Vaccination Series (3 Shots)
- ❑ Hepatitis B Booster

COMMENTS:

_____
_____
_____
_____
_____
_____
_____
_____

Examining Physician's Name (Print): _____Date: _____

Signature: _____Department: _____

TO: *ENVIRONMENTAL HEALTH AND SAFETY*

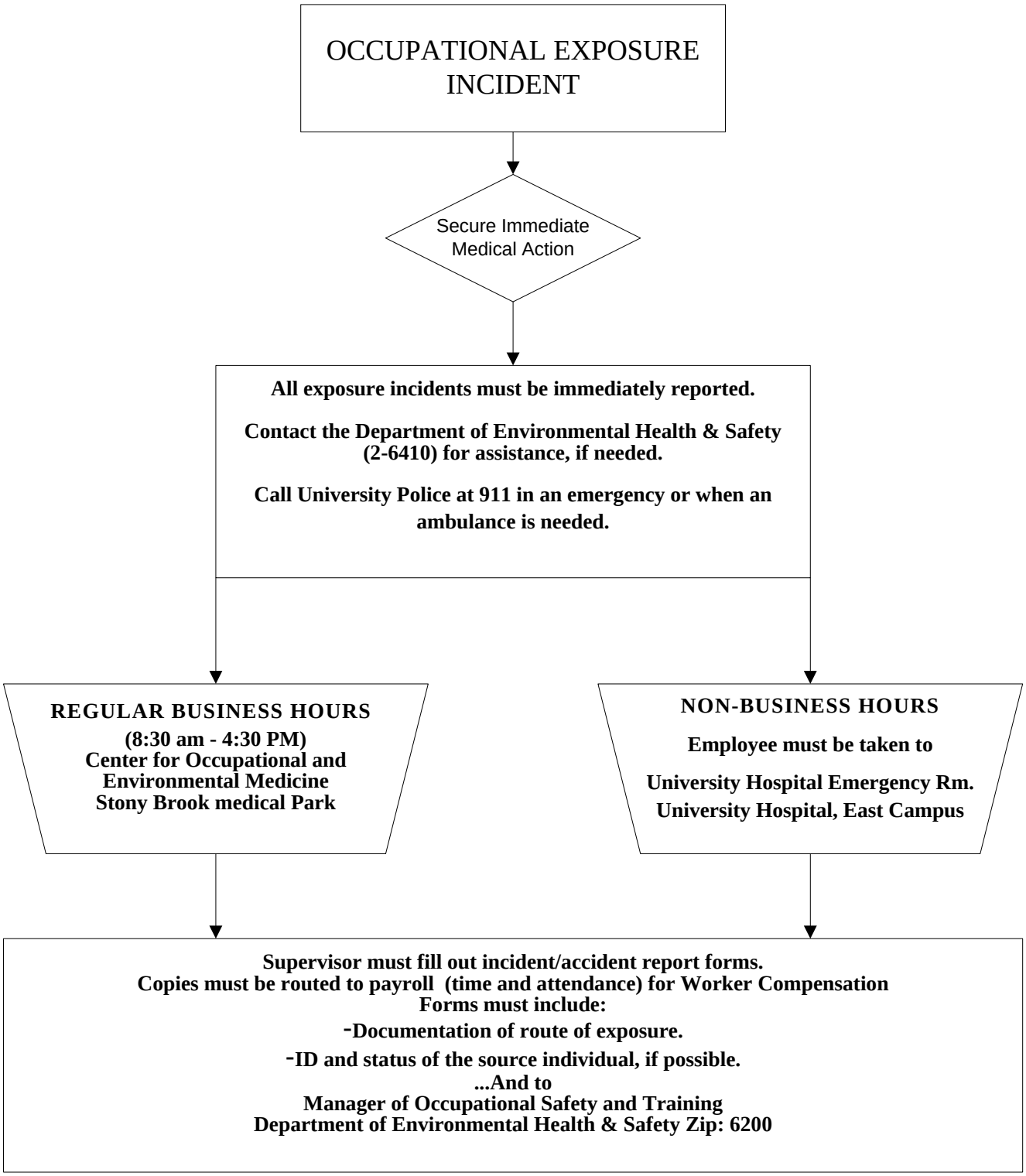
RE: *HEPATITIS B DECLINATION FORM*

Name: _____Title: _____ Empl. No: _____

Department: _____TEL: _____

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. 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 I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Signature: _____ Date:_____


OCCUPATIONAL EXPOSURE INCIDENT
Secure Immediate Medical Action
All exposure incidents must be immediately reported.
Contact the Department of Environmental Health & Safety (2-6410) for assistance, if needed.
Call University Police at 911 in an emergency or when an ambulance is needed.
REGULAR BUSINESS HOURS
(8:30 am - 4:30 PM)
Center for Occupational and Environmental Medicine
Stony Brook medical Park
NON-BUSINESS HOURS
Employee must be taken to
University Hospital Emergency Rm.
University Hospital, East Campus
Supervisor must fill out incident/accident report forms.
Copies must be routed to payroll (time and attendance) for Worker Compensation
Forms must include:
-Documentation of route of exposure.
-ID and status of the source individual, if possible.
...And to
Manager of Occupational Safety and Training
Department of Environmental Health & Safety Zip: 6200

Request for Hepatitis B Vaccine
NON-EXPOSURE