GENERAL STATEMENT OF PURPOSE:

This exposure control plan is a teaching tool designed to educate personnel about infection control measures to minimize transmission of bloodborne diseases from patients to employees.

POLICY:

This exposure control plan shall be an integral part of the infection control program and reviewed at least annually. This plan applies to all employees potentially exposed to blood and other potentially infectious materials as part of their work assignment. The goal is to limit occupational exposure to blood and other potentially infectious materials by providing a safe and healthful work environment, thereby minimizing the risk of infection to employees, patients, and visitors in accordance with OSHA, Occupational Exposure to Bloodborne Pathogens. Refer to Attachment A and B for the list of employees potentially exposed and suggested precautions.

SCOPE:

This policy applies to all members of the North Shore – LIJ Health System work force, but not limited to employees, medical staff, volunteers, students, physician office staff, and other persons performing work for or at North Shore – LIJ Health System.

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PLAN/PROCEDURE/GUIDELINES:
GENERAL:
Occupational Safety and Health Administration, Bloodborne Pathogens Standard, codified as 29 CFR 1910.1030, pertains to employees in facilities who could be "reasonably anticipated" to come in contact with blood or other potentially infectious material. Employees face a significant health risk because they may contact bloodborne pathogens as the result of occupational exposure to blood and other potentially (OPIM) infectious materials. The purpose of the standard is to reduce occupational exposure to Hepatitis B virus (HBV), Human Immunodeficiency Virus (HIV) and other pathogens that can be transmitted to employees in their workplace. This Exposure Control Plan outlines the facilities efforts to decrease the occupational risk of acquiring a bloodborne disease. The best approach to accomplish this is to avoid accidental exposure or unprotected contact with these materials in your workplace. This is done with training and the correct use of protective equipment such as gloves, outerwear, eye, mouth, and nose protection. When these precautions are used, work with hazardous materials can be safely achieved.

This exposure control plan identifies tasks and procedures as well as job classification where occupational exposure to blood occurs without regard to protective clothing and equipment. All employees potentially at risk shall meet specific training requirements that are job/task specific. This exposure plan can be obtained upon his/her request within 15 days. The plan can be obtained from the Safety Officer, Epidemiology/Infection Control Practitioner, or the Department Head who shall keep this plan accessible to all staff. The Chairman of the Infection Control Committee and the Safety Committee will review it at least annually. Updates, changes, and revisions shall be made, presented and approved by the Infection Control Committee, Safety Committee, and Performance Improvement Coordinating Group and then submitted to the Medical Board.

A) HOSPITAL'S INFECTION CONTROL PROGRAM:
Since it is possible to become infected through a single exposure, opportunities for exposure must be prevented to the greatest degree possible. This goal can be achieved by developing an infection-control program that identifies tasks that may result in exposure and prescribes precautions that can be taken to minimize exposure risks. The program utilizes research and experience to prevent and control infections. The Infection Control Committee discusses, makes decision and establishes policies for infection control. The committee's primary function is to be the hospital's advocate for prevention of infections. The chairman of the committee is a physician who has specialized training in hospital epidemiology. The responsibility for carrying out decisions and policies is placed upon the various clinical and supportive services. The Manager, Epidemiology/Infection Control, who has received a certificate from the Certification Board of Infection Control, is responsible for surveillance and evaluation of control efforts. Refer to the Infection Control Manual for various protocols that interrupt disease transmission and prevention.

B) TRAINING:
Training shall be given to all employees who, as the result of performing their job duties, could be "reasonably anticipated" to come in contact with blood and other potentially infectious materials. The Epidemiology/Infection Control staff at general orientation shall give an initial training session monthly or via an electronic session that gives an opportunity
for questions and answers. Additional training specialized according to responsibilities or prior to performing a new exposure prone task/procedure shall be given during area orientation sessions. After the initial training session all employees shall receive yearly training by the designated area/department trainer or the Epidemiology/Infection Control staff in-person or via an electronic session that give an for questions and answers. The training shall emphasize prevention. The minimal training program elements are:

- A general discussion of bloodborne diseases, emphasizing epidemiology, symptoms of each disease, modes of transmission.
- An explanation of the appropriate methods for recognizing tasks and other activities that involve exposure to blood or other potentially infectious materials.
- An explanation of the use, limitations, and methods that will prevent or reduce exposure including: engineering controls, work practices, and personal protective equipment.
- Use of Standard Precautions to comply with provisions for worker protection.
- Explanation of work practices, engineering controls, and protective garments to minimize/eliminate risk.
- An explanation of the reasons for selecting personal protective equipment.
- An explanation of the proper use, location, handling, decontamination, and disposal of personal protective equipment.
- Handling procedures for sharps, specimens, laundry, and regulated medical waste.
- Information on the Hepatitis B vaccine, including information on its efficacy, safety, method of administration, benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials.
- An explanation of the procedures to follow up if an exposure incident occurs. Include the method of reporting the incident and the medical follow up to be made available.
- Explain the hazardous communication labels and signs that are in place on containers and around workstations.
- An explanation of the Exposure Control Plan and how to obtain a copy of the written plan. The plan includes a copy of the regulation.
- Provide an opportunity for interactive questions and answers with the person conducting the training session.
- Human Resources shall maintain records of all educational training.

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**C) EPIDEMIOLOGY, SYMPTOMS, MODES OF TRANSMISSION OF BLOODBORNE DISEASES**

While Human immunodeficiency virus and hepatitis virus are specifically identified in this Exposure Control Plan, the terms bloodborne pathogen or bloodborne disease includes any pathogenic microorganism that is present in human blood or OPIM that can infect and cause disease in persons who are exposed to blood containing the pathogen.

- **HIV** - HIV, the virus that causes acquired immunodeficiency syndrome (AIDS), attacks and destroys the immune system (CD4 helper cells), leaving the individual unable to fight off many disease-producing organisms. In the early stages of HIV, there are no symptoms. As the disease progresses, the individual may develop recurrent fevers, diarrhea, weight loss, swollen lymph glands and yeast infections. When an individual
develops such diseases as Pneumocystis pneumonia, oropharyngeal candidiasis, Kaposi Sarcoma, etc., the diagnosis of AIDS is made.

- HIV is transmitted through sexual contact, exposure to infected blood or blood components and vertically (prenatal from mother to neonate). Infectious materials include semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and body fluid visibly contaminated with blood and all body fluids in situations where it is difficult or impossible to differentiate between body fluids. They also include any unfixed tissue or organ other than intact skin from a human (living or dead) and human HIV/HBV containing culture medium or other solutions, as well as blood, organs or other tissues from experimental animals infected with HIV/HBV. Although HIV has been isolated in the above fluids, the modes of transmission in the healthcare setting are: puncture exposure, injury by a needle or other sharp object; mucous membrane exposure, exposure of mouth, nose, or conjunctiva; and open wound exposure, contamination of open incisions, abrasions, or lacerations by infectious fluids.

- **Hepatitis:** There are multiple strains of hepatitis. Hepatitis B, C and D are bloodborne pathogens and Hepatitis B and C have been associated with transmission in healthcare. **Hepatitis B:** the HBV causes Hepatitis B infection which multiples in the liver and causes hepatic dysfunction. HBsAg is found on the surface of the virus, it can be detected in serum 30-60 days after exposure to HBV. Another antigen, hepatitis Be antigen (HBeAg), may be detected in samples of persons with acute or chronic HBV infection. The presence of HBeAg correlates with high infectivity. The incubation period of hepatitis B is long (45-160 days; average - 75), and the onset of acute disease is generally insidious. Clinical symptoms and signs include anorexia, malaise, nausea, vomiting, abdominal pain, jaundice, skin rashes, arthralgias, and arthritis. The case-fatality rate for reported cases is approximately 1.4%. A variable proportion of individuals infected with HBV will become chronically infected with the virus. The HBV carrier is central to the epidemiology of HBV transmission. The risk of developing chronic infection is age-dependent with infants having a 90% chance of developing chronic infection when infected at birth. Carriers and persons with acute infections have the highest concentrations of HBV in blood and serous fluids. A lower concentration is present in other body fluids, such as saliva and semen. Transmission occurs via percutaneous or permucosal routes, and infectious blood or body fluids can be introduced at birth, through sexual contact, or by contaminated needles. Infection can also occur in settings of continuous close personal contact (such as in households or among children in institutions for the developmentally disabled), presumably via unapparent or unnoticed contact of infectious secretions with skin lesions or mucosal surfaces. Transmission of infection by transfusion of blood or blood products is rare because of routine screening of blood for BsAg and because of current donor selection procedures. Transmission of HBV from infected health-care workers to patients is uncommon but has been documented during types of invasive procedures. HBsAg-positive health-care workers need not be restricted from patient contact unless they have been epidemiological associated with HBV transmission. Rather, they are educated about the potential mechanisms of HBV transmission. **Hepatitis C:** Like HBV, hepatitis C virus (HCV) poses an occupational risk to the HCW. Hepatitis C is the agent responsible for most cases (up to 40%) of parenterally transmitted
non-A, non-B hepatitis. HCV has epidemiologic characteristics similar to those of HBV although the symptoms are usually milder and most children are asymptomatic. At present, there is no vaccine available to prevent HCV infection. Antiviral drugs, i.e. interferon and ribavirin, have been approved for treatment of chronic HCV.

### Summary of Hepatitis A-E

<table>
<thead>
<tr>
<th>Type</th>
<th>Mode of Transmission</th>
<th>Vaccine</th>
<th>Recommendations in addition to Standard Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Parenteral/Sexual Vertical</td>
<td>Yes</td>
<td>-pre-exposure immunization&lt;br&gt;-post-exposure prophylaxis (vaccine &amp;/or Hepatitis B immune globulin (HBIG))</td>
</tr>
<tr>
<td>C</td>
<td>Parenteral/Sexual Vertical</td>
<td>No</td>
<td>-baseline/follow-up testing&lt;br&gt;-no post-exposure</td>
</tr>
<tr>
<td>D</td>
<td>Concurrent infection with Hepatitis B</td>
<td>HBV vaccine</td>
<td>-same as HBV</td>
</tr>
<tr>
<td>E</td>
<td>Fecal-Oral</td>
<td>No</td>
<td>-improve sanitation&lt;br&gt;-Ig for travelers may not protect</td>
</tr>
</tbody>
</table>

- **OTHERS** - Pathogenic microorganisms can also cause disease such as Malaria, Syphilis, Babesiasis, Brucellosis, Leptospirosis, arboviral infection, relapsing fever, Creutzfeld-Jakob, and viral hemorrhagic.

### D) METHODS OF REDUCING EXPOSURE

An exposure is defined as percutaneous or mucous membrane exposure to blood or body fluids of any patient, including needle or other sharp stick or cut, blood splash on an open cut or wound, or splash to mouth or eyes. Employees incur risk of infection and illness each time they are exposed to blood or other potentially infectious materials. Therefore, interrupting the modes of transmission reduces and may eliminate employee exposure incidents to bloodborne pathogens. A means of decreasing exposures is to determine exposure prone activities and staff that perform those tasks/procedures. When individuals at risk and procedures are identified, preventative measures can be taken. Preventing exposure incidence requires education of the select group to the following exposure reducing methods:

1. Standard Precautions, which considers all patients potentially infectious with a bloodborne pathogen and stresses adherence to particular infection control precautions;
2. Use of engineering controls in certain work situations;
3. Use of work practices and altering the task to decrease risk of exposure;
4. Use of select personal protective equipment to prevent skin/mucous membrane contamination;
5. Procedures for cleaning and caring for equipment;
6. Purpose of laundry practices;
7. Immunization of staff with the hepatitis B vaccine;
8. Post exposure evaluation plan/follow-up program.

- **HANDWASHING** - Handwashing is primarily the mechanical removal of dirt and the reduction of microorganisms by sudsing, friction, and rinsing with running water. It is frequently called the single most important measure to reduce the risks of
transmitting microorganisms from one person to another or from one site to another on the same patient. These guidelines are intended to reduce carriage of pathogens on the hands. Antimicrobial handwashes are available to employees as well as the alcohol based hand gel. Refer to the Hand Hygiene Protocol.

☐ **STANDARD PRECAUTIONS** - Standard Precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals. Standard Precautions apply to:

- Blood
- non-intact skin
- mucous membranes
- All body fluids, secretions and excretions, except sweat, whether or not they contain visible blood

**NOTE:** Standard precautions shall be used when caring for all patients, especially in settings where the risk of blood exposure is increased. All staff potentially at risk of blood and/or body fluid exposure shall observe the following.

<table>
<thead>
<tr>
<th>Basic principles for PPE selection:</th>
<th>Gloves</th>
<th>Gown</th>
<th>mask</th>
<th>goggles</th>
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<tbody>
<tr>
<td>Examining mouth, genitalia, rectum</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Blood drawing</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact with non-intact skin</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct contact with excreta</td>
<td>X</td>
<td>XX</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Endoscopy/bronchoscopy</td>
<td>X</td>
<td>XX</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Surgical procedures in the operating room</td>
<td>X</td>
<td>* XX</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Minor surgery with minimal bleeding</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Handling soiled instruments</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaning soiled instruments</td>
<td>X</td>
<td>XX</td>
<td>XX</td>
<td>XX</td>
</tr>
</tbody>
</table>

X - Always
XX - Only when soiling is likely
* - Exception by procedure, i.e. microsurgery

☐ **ENGINEERING CONTROLS**

Engineering design plays an important role in the management of biohazards. The goal for engineering controls is the prevention of healthcare worker exposure to infection or injury by controlling worker exposure to the infectious or biohazardous agent. This is done by the following methods:

- The use of primary containment devices is the preferred method for the control of biohazards.
- Splash guards
- Leak proof, puncture-resistant containers for used needles and other contaminated sharp items.
- Racks near each patient room to hold personal protective equipment or at a known designated area for personal protective equipment.
- Needle safety devices, i.e. safety butterfly, retractable lancet, IV connecting sets without needles, a device that covers a needle after use, and plastic capillary tubes.
- Active and passive safety devices are introduced based on the facility’s needle stick injuries.
- Non-managerial employee input is solicited by a Sharps Safety questionnaire to those employees that have direct patient care. The questions asked: Can you indicate any work practice controls and/or engineering controls (i.e. sharps safety devices,
instruments, equipment) that could further reduce your exposure to blood and/or body fluid, needle sticks and other sharps injuries? The same question appears and is asked on weekly Hazardous Surveillance Rounds and the individual unit/department Environmental Self-Audit. All responses are correlated and analyzed for engineering and work practice improvements.

The following items are standardized products for use in the hospitals within the North Shore - LIJ Health System. Other devices may be considered at a later date based on needle stick and other sharp related injuries data. The devices will be prioritized based on risk factors for needle stick. Introduction of a new product will follow the protocol outlined by the Products Standardization Committee. Refer to Attachment C for the list of safety devices.

**WORK PRACTICE CONTROLS:**

Work practice controls are alterations in the manner in which a task is performed in an effort to reduce the likelihood of a worker's exposure to blood or OPIM. Examples:

- Accessible handwashing facilities; if not accessible, antiseptic toilettes or a hand sanitizer
- Adherence to the Hand Hygiene Protocol.
- Coding Regulated Medical Waste.
- Decontaminating equipment before reuse.
- Labeling contaminated equipment before servicing.
- Placing all specimens in a well constructed container when transporting a specimen; a secondary container or protective package shall be used if outer container is soiled.
- Always take care to minimize the formation of droplets, splatters, slashes, aerosols and spills of blood or body fluids.
- All expirations or body parts shall be placed in a fluid resistant body bag prior to transport.
- Replacing examination gloves when visibly soiled, torn, or punctured, or when their integrity is compromised.
- No recapping, re-sheathing, bending, or clipping needles.
- Disposable syringes and needles (including self-sheathing needle products), scalpel blades, and other sharp items are placed in puncture-resistant containers for disposal; the containers shall be located as close as practical to the use area. On psychiatric or pediatric units, containers should be locked if one is used by a healthcare worker is brought to the site and removed by the employee upon leaving.
- Sharp containers must be placed at a height, which allows employees to see if the container needs to be replaced.
- Observe Standard Precautions, treating all blood and certain body fluids as if infectious.
- Adherence to the Regulated Medical Waste Protocol.
- Contaminated reusable equipment and instruments shall be disinfected and sterilized between each patient/resident use.
- Use mouthpieces, resuscitation bags, or other ventilation devices for resuscitation.
- Never pipette by mouth. Always use pipetting aids.
- Employees with exudative lesions or weeping dermatitis shall refrain from all direct patient care and from handling equipment until the condition resolves.
A nurse shall be involved in the evaluation of products to assess procedural safety features and compare the item(s) to what is presently being used in the hospital.

All PPEs are removed immediately or as soon as possible when soiled and upon leaving the work area, placed in an appropriately designed area or container for washing, decontamination, or disposal.

Using a protective covering i.e., plastic wrap, aluminum foil, or imperviously backed absorbent paper, to protect items or surfaces from contamination.

Eating and drinking, plus storage of food shall be in areas separate from contaminated areas.

Pneumatic tube transport shall have proper packaging of specimens.

Employees who open biohazard carriers must wear gloves when removing specimens from the tube system carrier to protect them from possible contamination with leakage. These employees shall be trained in decontamination of the carrier tube system. All precautions for manual transport of specimens also apply to automated transport of specimens (containerization and logging/labeling).

In emergency situations an individual should be designated for managing the used needles.

During invasive procedures, the passing of a sharp object from one individual to another should be done using a neutral zone and announcing the object presence/location.

Use a vacutainer for blood draws.

If any accident occurs, (i.e. puncture, cut, contact with skin, mucous membrane, splash, etc.), wash affected area with large volumes of water. Report immediately to your supervisor and to ED for immediate medical evaluation.

Always hold specimens away from eyes and face. If specimen splatters on face, in eyes, or on exposed skin, wash the area thoroughly or flush eyes immediately and notify Supervisor.

**PPEs:**

- **PPE** - Engineering and work practice controls shall be used to eliminate and minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment at no cost to the employee, shall also be used. A PPE is a specialized clothing or equipment used by workers to protect them from direct exposure to blood or other potentially infectious material. PPE shall be available in appropriate size and accessible locations and must be used properly. The following listed PPEs are selected based on the task performed and the degree of exposure.

- **TYPES:**
  - **MASKS, EYE PROTECTION, AND FACE SHIELDS** - Shall be worn if there is the possibility of exposure whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated. Items such as goggles or glasses with side shield, or chin face shields shall be worn if there is reasonably anticipated exposure of eyes, nose, or mouth. Prescription glasses shall be used as protective eyewear as long as they are equipped with side shields that are permanently affixed. If protective eyewear is chosen over the use of a face shield, the eyewear must be worn in combination with a mask to protect the nose and mouth.
EXEMPTION: During microsurgery, when it is not reasonably anticipated that there would be any splattering, a surgeon would not be required to wear eye protection while observing surgery through the microscope.

- **GLOVES** - Single use gloves shall be worn if you or the patient/resident has broken skin, for all invasive procedures, internal examinations, whenever you handle risky fluids or tissue, whenever handling soiled materials and equipment, cleaning up spills of blood or potentially infectious materials. For non-patient care activities utility gloves may be used and decontaminated for reuse if the integrity of the glove is not compromised.

- **GOWNS, APRONS, AND OTHER PROTECTIVE BODY CLOTHING** - Appropriate protective clothing such as, but not limited to gowns, laboratory coats, or other garments are indicated when contamination of clothing is likely. The type depends on the task and degree of exposure anticipated (fluid-proof/fluid-resistant).

- **SURGICAL CAPS, HOODS, and SHOE COVERS** - When gross contamination of the head or feet can be reasonably anticipated, surgical caps or hoods and shoe covers are required.

□ PROPER USE, REMOVAL, HANDLING, DECONTAMINATION, AND DISPOSAL OF PPE:

- The mechanism for repairing, replacing, reprocessing protective barriers and clothing. If the employee's own personal clothing or employee-owned uniform becomes contaminated during the course of work, the employee shall remove the soiled clothing item, place in a plastic bag and bring to the Laundry Department or area that manages soiled linen. The garment shall be cleaned by the facility’s laundry or sent for cleaning and returned to the employee. Laundry shall wash the item and supply the employee with a replacement item that is stored in the area for employee use post exposure.

- Avoid spilling, splashing or open aerosolization of human blood or body fluids. Wear gloves, and protective garments when handling human materials. Use additional safeguards (face and eye protection) when required.

- Always wear goggles and mask or a face shield whenever you are apt to be splattered by blood or body fluids.

- A laboratory coat intended to serve as the protective clothing must be removed prior to leaving the work area. In some situations it would not be practical to remove the protective clothing unless it becomes contaminated. For example, if a phlebotomist’s lab coat is serving as protective clothing, it would not need to be removed unless it becomes contaminated.

- Always remove laboratory coats and other protective equipment immediately before leaving the work area and place in an appropriate designated area or container for storage, washing, decontamination, or disposal.

- Disposable gloves shall be changed when they become contaminated, torn, or punctured, and hands must be washed after gloves are removed. If an employee is allergic to the latex, vinyl gloves will be available.

- Employees are not required to change PPE when traveling from one area to another providing the connecting hallway is also considered a work area.

- Limited exemption from PPE is based on situations in which use of PPE would prevent the proper delivery of healthcare or public safety services, or would pose an increased
hazard to the personal safety of the worker, e.g. patient sudden hemorrhage, putting the patients’ life in jeopardy. An employee’s decision not to use PPE is to be made on a case-by-case basis and must have been prompted by legitimate or extenuating circumstances.

- Wear gloves when handling patients and/or specimens. If gloves are worn for prolonged periods, change gloves occasionally to prevent moisture accumulation on skin or hands. Always wash hands before and after wearing gloves.
- Place dirty gloves in appropriate disposal container and wash hands after removing gloves. Remove gloved carefully; avoid creating aerosols with fluids accumulated.
- Remove and discard contaminated gloves before handling telephones, doorknobs, etc.
- Change gloves if there is visible contamination with blood or body fluids, or if physical damage occurs. Discard in appropriate biohazard container.

**HOUSEKEEPING PRACTICES:**

- The work site shall be maintained in a clean and sanitary condition.
- Each department shall determine and implement an appropriate written schedule for 1) cleaning based on the type of soil present and tasks/procedures being performed in the area; 2) discarding of contaminated sharps/needles; 3) handling regulated waste.
- All equipment and work surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.
- Initial clean up of contaminated areas with blood and OPIM shall be done. Then an approved hospital disinfectant that is an EPA-registered hospital approved EPA tuberculocidal solution or a solution that has a claim that it is effective against HBV and HIV. Labeling instructions regarding the amount of disinfectant and the length of time it must remain wet on the surface must be followed. Refer to the Blood Spill Protocol.
- Imperiously backed absorbent coverings shall be used to cover equipment and environmental surfaces. It shall be removed and replaced as soon as feasible following overt contamination or at the end of the work shift, if they may have become contaminated during the shift.
- All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood of becoming contaminated with blood or OPIM shall be decontaminated on a regularly scheduled basis or as soon as feasible upon visible contamination.
- Broken glassware that may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, i.e. brush and dustpan.
- Employees will not place their hands into containers whose contents include reusable sharps contaminated with blood or OPIM (e.g. employees must not reach into sinks with soapy water into which sharp instruments have been placed. An appropriate control would be a strainer basket to hold instruments with forceps to remove them.)
EQUIPMENT MANAGEMENT:
There are three distinct levels of patient care equipment, each of which requires a different level of cleaning/decontamination.

- **NON-CRITICAL EQUIPMENT** - are items that come in contact with intact skin. These are items such as stethoscopes and blood pressure cuffs. This level of equipment requires cleaning with a disinfectant. Refer to Sterilization Protocol.

- **SEMI-CRITICAL EQUIPMENT** - are objects that come in contact with mucous membranes or with skin that is not intact. This includes respiratory and anesthesia equipment, endoscopes, etc. This level of equipment requires high-level disinfection or sterilization. Refer to High-Level Disinfection.

- **CRITICAL EQUIPMENT** - are items that enter sterile tissue or the vascular system. This includes surgical instruments, needles, urinary catheters, etc. This level of equipment requires sterilization. Refer to Disinfection of Patient Care Equipment Protocol.

LAUNDRY PRACTICES:
Laundry practices also assist in preventing transmission. Laundry that is contaminated shall be bagged at the location where it was used and shall not be sorted or rinsed in patient areas.

- All linen is considered to be potentially infectious, shall be handled as little as possible, and be handled with gloves and any other appropriate PPE in order to prevent or reduce contact exposure to blood and OPIM.

- The linen shall be placed and transported in bags that prevent seepage.

- Staff involved with the reprocessing of laundry shall wear gloves, gown, and mask when handling soiled linen.

- Laundry areas must have sharps containers easily accessible because of possible incidence of needles being mixed with laundry.

- If blood or OPIM penetrate a garment, the garment will be removed immediately or as soon as feasible. Clothing items will be laundered by the facility.

HEPATITIS B VACCINE:
Classification of exposure by job category identified by OSHA is as follows:

**Category I:** All personnel and directly supervised outside contractors who are routinely involved in the collection, packaging, transportation, treatment, processing, analysis or disposal of biohazardous materials.

**Category II:** All personnel and directly supervised outside contractors who are occasionally involved (one to three times per month on average) with any of the activities listed above.

**Category III:** All personnel and directly supervised outside contractors who never handle biohazardous materials or work outside the designated biohazardous area.

**NOTE:** The facility offers all employees the vaccine. EHS can provide a copy of the hepatitis B declination form.
POST-EXPOSURE REPORTING AND FOLLOW-UP:

An exposure incident is defined as a specific eye, mouth, or other mucous membrane, nonintact skin, or parenteral contact with blood or other potentially infectious material. Also included is Samaritan assistance, voluntarily performed to an injured co-worker or member of the public.

- Immediately wash exposed skin area with soap and water. If eyes are exposed, immediately flush with water. For mouth or other mucous membrane exposures, rinse with large amounts of water. The application of caustic agents (bleach) or the injection of antisepsics or disinfectants into the wound is not recommended.
- The employee shall report the incident to the Department Director or his/her designee. An Employee Occurrence Report will be completed and forwarded to the appropriate personnel.
- Information about the source person should be obtained: name, medical record number, physician’s name, location, and diagnosis.
- The employee must go the Employee Health Service EHS or the Emergency Department (ED) as soon as possible after the incident. EHS shall follow-up with the employee. Follow-up is confidential; documentation includes circumstance of exposure, identifies and tests the sources if feasible, and testing the exposed employee’s blood if he/she consents, post-exposure prophylaxis, counseling and evaluation of reported illnesses.
- The employer shall document the route of exposure, where exposure occurred, the brand of device involved in the exposure (safety or non-safety device), HBV and HIV status of source patient, history of antiretroviral therapy, viral load, if known, and the circumstances under which the exposure occurred.
- Source patient evaluation shall be done. Blood for HBV, HCV, and HIV shall be sent to the laboratory for testing. Testing shall only be performed with the source patient’s permission. The patient’s physician or designee shall attempt to obtain consent to collect and test the source's blood to determine the presence of HIV, HBV, and HCV.
- The employer shall collect a blood sample from the exposed worker and as soon as possible after the exposure incident for determination of HIV, HBV, and HCV status (hepatitis C RNA for known hepatitis C source with follow-up at 2 weeks, 6 weeks and 6 months). Employees with positive results will be referred to a liver specialist). If the employee consents to baseline blood collection, but does not give consent at the time for HIV serological testing, the sample shall be preserved for at least 90 days. If within 90 days of the exposure incident the employee elects to have baseline sample tested, such testing shall be done as soon as feasible. The employer shall offer repeat HIV testing to exposed employees six weeks post-exposure and follow-up of 12 weeks and 6 months after exposure. The follow-up shall include counseling, medical evaluation of any acute febrile illness that occurs within 12 weeks.
- Post-exposure prophylaxis will be in accordance with the most recent recommendations by the Centers for Disease Control and Prevention.
- Information provided to the healthcare worker post-exposure are: 1) a copy of the standard; 2) description of incident, routes and circumstances of the exposure 3) results of blood testing 4) relevant medical records, including vaccination status 5) Written opinion within 15 days of completion of the original evaluation 6) The written
opinion is limited to very specific information regarding the employee’s hepatitis B vaccine status, including education for vaccine and whether such vaccine was initiated.

- Employee records from the ED shall be maintained until the EHS picks up the completed form. There should be documentation in sufficient detail about the incident and documentation about use of engineering controls, PPE that was used, device, work practices followed at the time of the incident, etc.

- EHS on a monthly basis shall compile data. The injuries shall be categorized by type of exposure. The information shall be presented to the Safety Committee and Infection Control Committee. The EHS in coordination with the members of the Safety and The Infection Control Committee shall evaluate the injuries to identify trends and make recommendations.

- New York State Laws shall be followed regarding disclosing results of the source individual’s testing to the exposed employee. The employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

- Refer to the EHS Policy/Procedure for details on post exposure follow-up.

E) RECORDKEEPING:

The employer shall maintain a record for each employee covered by this standard as well as of each employee with an occupational exposure.

- The occupational exposure record shall include:
  - Name and social security number
  - Employee's duties as they relate to the exposure incident.
  - Date and time of exposure.
  - Documentation of the route and circumstances of exposure. Include where, how and severity of exposure. For percutaneous exposure: depth of injury and whether fluid was injected; for skin/mucous membrane exposure: the estimated volume of material and the condition of the skin (chapped, abraded or intact).
  - Type and brand of device involved in the exposure incident and whether or not it was a safety device and when in the course of handling the device the exposure occurred.
  - An evaluation of the exposure incident.
  - Collection and test results of the individual’s blood if not already known.
  - Information/test results of source patient if applicable.
  - Employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations/vaccine response status and any medical record relative to the employee’s ability to receive vaccination.
  - A copy of all results of examinations, medical testing, and follow-up procedures.
  - The employer’s copy of the health care professional’s written opinion.
  - A copy of the information provided to the healthcare worker with details about counseling, post-exposure management, and follow-up.
  - The information will be kept confidential and is not disclosed or reported without the employee's written consent to any person within or outside the workplace. Disclosure is also permitted when required by the Bloodborne Pathogen Standard or other Federal, State, or Local agency. HIV testing shall be done on the patient when the employee consents to testing. EHS or Medical Records shall maintain all records for the duration of employment plus 30 years.
The training records maintained by the department head shall include the following:
- The dates of the training session
- The content or a summary of the training session
- The names and qualifications of persons conducting the training
- The names and job titles of all persons attending the sessions. All records shall be maintained for 3 years from the date on which the training occurred.

Availability:
- All records required to be maintained by this section shall be made available upon request for examination and copying to employees, to employee representatives, and regulatory agencies.
- Employee medical records shall be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, and to regulatory agencies.

Transfer of Records:
- The employer shall comply with the requirements involving transfer of records.

Reporting:
- EHS on a monthly basis will compile data. Needlestick injuries will be categorized and presented to the Infection Control Meeting and Safety Committee.

F) EXPLANATION OF THE SIGNS AND LABELS REQUIRED BY CODE:
Specific labeling is required to warn employees of potential hazards. The tag and symbol state that a specific hazardous condition exists and specialized handling is required. Posting is used as a means to prevent accidental injury or illness to employees who are occupationally exposed to biohazardous or potentially biohazardous conditions, equipment or operations which are out of the ordinary, unexpected or not readily apparent. The facility uses Standard Precautions, in its handling of specimens, laundry; thus labeling of infectious items is not needed.
- The orange or orange-red with the biohazard label in a contrasting color, shall be affixed to containers of regulated waste, refrigerators and freezers and other containers which are used to store or transport blood or other potentially infectious materials.
- The signs must be posted at the entrance to work areas where work with biohazardous materials is performed or where biohazardous materials are stored. These signs must bear the signal work "BIOHAZARD" or "BIOLOGICAL HAZARD", the universal "BIOHAZARD" symbol.
- The labels/tags shall be an integral part of the container and affixed as close as safely possible to their respective hazard by string, wire, or adhesive to prevent their loss or removal.
- Biological hazard warnings tags or labels must be used to identify containers of infectious materials, infectious materials, infectious waste, refrigerators, incubators and/or freezers where biohazards are stored, infectious waste containers, equipment which may be contaminated through normal use of biohazards, lab animals (cages) which are potentially infectious.
- Red containers/receptacles will be used to substitute for labels on containers use to dispose of regulated medical waste.
- Containers of homologous/autologous and directed blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or
other clinical use are exempt from labeling requirements. Autologous only units must have a biohazard sign attached.

- Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from labeling requirements.
- The following lists the types of equipment and places where biohazard warning labels should be affixed:
  - At entrances to areas where biohazards are used
  - At entrances to where biohazards are stored
  - On refrigerators or freezers where biohazards are stored
  - To containers of infectious waste
  - To the outside of packages in which biohazards are shipped
  - On the equipment which may be potentially contaminated with biohazardous materials (e.g., centrifuges, incubators, biosafety cabinets, homogenizers, vortexes, etc.)
  - To any item which may be potentially contaminated or infectious (e.g., animal contained biohazards, telephones, keyboards or typewriters used in areas which are potentially contaminated)

### LABELING REQUIREMENTS

<table>
<thead>
<tr>
<th>Item</th>
<th>No Label required</th>
<th>Biohazard label</th>
<th>Red Color Coded Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulated waste container</td>
<td></td>
<td>X</td>
<td>or X</td>
</tr>
<tr>
<td>Reusable contaminated sharps</td>
<td></td>
<td>X</td>
<td>or X</td>
</tr>
<tr>
<td>Refrigerator/freezer holding blood or OPIM</td>
<td></td>
<td>X</td>
<td>or X</td>
</tr>
<tr>
<td>Blood/blood products released for clinical use</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specimen containers of blood or OPIM</td>
<td>X</td>
<td>or X</td>
<td>or X</td>
</tr>
<tr>
<td>Specimens shipped from the primary facility to another facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual containers of blood or OPIM placed in a labeled container during storage, transport, shipment or disposal</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contaminated equipment needing service or shipping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laundry sent to another facility that does not use universal precautions</td>
<td>X</td>
<td>or X</td>
<td></td>
</tr>
<tr>
<td>Contaminated laundry</td>
<td>X</td>
<td>or X</td>
<td>or X</td>
</tr>
</tbody>
</table>

### G) REGULATED MEDICAL WASTE:

Disposal of all infectious waste shall be in accordance with Federal, State, and local regulations. Regulated medical waste containers must bear a required label or color-coding in order to protect employees. Refer to the Regulated Medical Waste Protocol in this manual.
H) COMPLIANCE MONITORING:
The Safety Officer and/or Manager, Epidemiology/Infection Control shall also do compliance monitoring on walking rounds. The monitoring shall identify a need to modify a procedure, allocate supplies or equipment, or provide additional education and training. When monitoring reveals repeated failures to follow recommended practices after additional supplies, education and/or training, and counseling has been proven disciplinary action may be necessary.

REGULATORY REQUIREMENTS/SOURCES:
1. Joint Commission Surveillance, Prevention and Control of Infections
2. New York State Department of Health Healthcare Associated Infection Reporting

APPLICABLE SITES:
Cohen Children’s Hospital
Forest Hills Hospital
Franklin Hospital
Glen Cove Hospital
Huntington Hospital
Lenox Hill Hospital
Long Island Jewish Hospital
Manhattan Eye, Ear, and Throat Hospital
North Shore University Hospital
The Orzac Center for Extended Care & Rehabilitation
Plainview Hospital
Southside Hospital
Staten Island University Hospital
Stern Family Center for Extended Care & Rehabilitation
Syosset Hospital
Zucker Hillside Hospital
POTENTIAL EXPOSURE ACCORDING TO JOB CLASSIFICATION
(Personnel in the following Department)

- Admitting
- Anesthesiology
- Laboratory
- BioMedical Engineering
- Blood Bank
- Sterile Processing
- Cardiology
- Child Life
- Clerical staff that has contact with specimens
- Dental
- Delivery Room
- Dialysis
- Dietary staff who have patient contact
- EKG technicians
- EEG technicians
- EMG technicians
- Case Managers
- Echocardiogram technicians
- Endoscopy
- Engineering
- Environmental Service
- Eye bank
- Fertility Laboratory
- Health Education
- Histology
- Home Care who have direct patient contact (nurses, aids, therapists)
- Human Milk Bank
- Laboratory
- Laundry who have contact with soiled linen
- Lithotripsy
- Midwives
- Morgue
- Nuclear Medicine
- Nurses and those within the nursing department
- Occupational Therapy
- Operating room technicians
- Ophthalmology
- Paramedics
- Pathology
- Perfusion technician
- Physicians
- Phlebotomist
- Physical Therapy
- Psychologist
- Psychology
- Podiatrist
- Physicians, Physician Assistant
- Pulmonary Medicine
- Radiology
- Receptionists who handle specimens
- Research
- Respiratory Therapy
- Speech Pathologist/Therapist
- Security
- Social Workers
- Surgeons and related staff
- Transporters
- Ultrasound Staff
- Urology

EMPLOYEES WITH NO EXPOSURE TO BLOOD OR BODY FLUID

- Cashier personnel
- Administrative personnel
- Audio-Visual personnel
- Community/Patient Relations personnel
- Chaplin
- Construction Personnel
- Finance personnel
- Information Services personnel
- Library personnel
- Mailroom personnel
- Medical Records personnel
- Human Resource
- Pharmacy
- Purchasing
- Non-clinical quality
- Volunteers
## TASK AND PRECAUTIONS (PPEs)

<table>
<thead>
<tr>
<th>TASK</th>
<th>PPE(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autopsy</td>
<td>gloves, gown, mask, goggles or gloves</td>
</tr>
<tr>
<td>Bronchoscopy</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>Device insertion &amp; removal, i.e. central line, etc.</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td><strong>Cannulation and decannulation:</strong></td>
<td></td>
</tr>
<tr>
<td>a catheter or sheath from an artery/vein</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td><strong>Contact with:</strong></td>
<td></td>
</tr>
<tr>
<td>blood and other potentially infectious material</td>
<td>gloves</td>
</tr>
<tr>
<td>contaminated equipment</td>
<td>gloves</td>
</tr>
<tr>
<td>mucous membranes</td>
<td>gloves</td>
</tr>
<tr>
<td>non-intact skin</td>
<td>gloves</td>
</tr>
<tr>
<td>regulated medical waste</td>
<td>gloves</td>
</tr>
<tr>
<td>specimens prior to being placed in a bag</td>
<td>gloves</td>
</tr>
<tr>
<td>soiled linen</td>
<td>gloves</td>
</tr>
<tr>
<td><strong>Decontamination of:</strong></td>
<td></td>
</tr>
<tr>
<td>blood spills</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>equipment</td>
<td>gloves(task specific gown, mask &amp; goggles)</td>
</tr>
<tr>
<td>patient room</td>
<td>gloves</td>
</tr>
<tr>
<td>scopes</td>
<td>gloves, gown, mask, goggles or gloves</td>
</tr>
<tr>
<td>Dental/denture care/oral care - bedside</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>Dialysis</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>Finger stick</td>
<td>gloves</td>
</tr>
<tr>
<td>Intravenous placement</td>
<td>gloves</td>
</tr>
<tr>
<td>Phlebotomy procedures</td>
<td>gloves</td>
</tr>
<tr>
<td><strong>Procedure:</strong></td>
<td></td>
</tr>
<tr>
<td>amniocentesis</td>
<td>gloves</td>
</tr>
<tr>
<td>angiograms/angioplasty</td>
<td>gloves</td>
</tr>
<tr>
<td>arthrogram, hysterogram</td>
<td>gloves</td>
</tr>
<tr>
<td>artificial insemination</td>
<td>gloves</td>
</tr>
<tr>
<td>circumcisions</td>
<td>gloves</td>
</tr>
<tr>
<td>colostomy/ileostomy care</td>
<td>gloves</td>
</tr>
<tr>
<td>enema/harris flush</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>endoscopy, sigmoidoscopy flexible and rigid</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>intubation</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>irrigation of urethral catheter, minor wound, etc.</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>myelogram/venogram</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>Percutaneous drainage, i.e. abscess</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>suctioning/tracheostomy care</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td>surgical procedures</td>
<td>Refer to Peri-Operative protocol</td>
</tr>
<tr>
<td>suturing</td>
<td>gloves</td>
</tr>
<tr>
<td>post mortem care</td>
<td>gloves, other PPEs as indicated</td>
</tr>
<tr>
<td><strong>Specimen collection and handling</strong></td>
<td>gloves, other PPEs as indicated</td>
</tr>
</tbody>
</table>

*NOTE: Not an all inclusive list, refer to department specific policies in Infection Control Manual for additional information pertaining to measures to interrupt disease transmission and minimize exposure.*
<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>PURPOSE OF DEVICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapter – Luer (BD Diagnostics Co)</td>
<td>For connection to butterfly needle &amp; holder; allows collection of multiple samples of blood.</td>
</tr>
<tr>
<td>Adapter – Prepierced Resealable Male Adapter Plug (LifeShield) No sharp.</td>
<td>Luer-locks to MicroClave for administration of medication in syringes with needles attached.</td>
</tr>
<tr>
<td>Arterial / Blood Gas Syringes (Portex Co.) 1cc, 3cc w/o Needle, 1cc w/Needle</td>
<td>To obtain Arterial Blood samples from IV Line &amp; from artery. Sheath encapsulates the needle.</td>
</tr>
<tr>
<td>Blood Transfer Device (BD Diagnostics Co.)</td>
<td>To transfer blood from syringe to test tube</td>
</tr>
<tr>
<td>Eclipse Vacutainer Needle (BD Diagnostic Co.)</td>
<td>Safety Sheath located on the needle for blood draws, is pushed forward to encapsulate the needle.</td>
</tr>
<tr>
<td>Lancet - Quikheel (BD Diagnostics Co.) to be replaced with Neat Nick (Natus)- 2 sizes- Preemie &amp; Full term</td>
<td>For heel sticks with NICU, Pediatrics, &amp; Nursery*. The needle retracts into the housing. (*Also other ambulatory sites.)</td>
</tr>
<tr>
<td>Lancets – Safety (Surgilance Co.) Gray, green, orange</td>
<td>For finger sticks on adults. The needle/ blade retracts into the housing.</td>
</tr>
<tr>
<td>Locking Blunt Cannula (ICU Medical Co.) No sharp.</td>
<td>To connect secondary IV tubing to main line port</td>
</tr>
<tr>
<td>Lovenox Prefilled Syringe (Lovenox) 30 mg &amp; 40 mg</td>
<td>Safety prefilled syringe with needle attached, to administer Lovenox (Heparin). Safer injection and removal from patient, push plunger and needle retracts into housing.</td>
</tr>
<tr>
<td>Luer-Lok Access Device (BD Diagnostics Co.)</td>
<td>To draw blood from central line into test tube</td>
</tr>
<tr>
<td>MicroClave Needleless connector (ICU Medical Co.) No sharp.</td>
<td>MicroClave used as end cap on all CVCs - does not allow entry by a needle, luer-locks directly to catheter, syringe, and/or IV tubing</td>
</tr>
<tr>
<td>MicroClave Needleless Connector with Extension Set (ICU Medical Co.) No sharp.</td>
<td>To create a PIV lock – MicroClave does not allow entry by a needle, luer-locks directly to catheter, syringe, &amp;/or IV tubing.</td>
</tr>
<tr>
<td>Prefilled Saline Syringe (BD Diagnostic Co.) 2 types – 1 is sterile on the outside and the other is not. No sharp.</td>
<td>To flush peripheral and central catheters – no needle required. Also available for sterile field use – outside of syringe is sterile.</td>
</tr>
<tr>
<td>Protected Scalpel (BD Diagnostics Co.) #10, #11, #15</td>
<td>Safety device slides over blade using one hand and locks in place</td>
</tr>
<tr>
<td>Safety Huber Needle (Bard Access) 19G, 20G, 22G</td>
<td>To access Mediport catheters – when removed the wings fold in and encapsulates the needle</td>
</tr>
<tr>
<td>Safety Micro EZ Introducers (Bards)</td>
<td>To insert PICC catheters using ultrasound.</td>
</tr>
<tr>
<td>Safety Needles “Edge” (Smiths Medical Co.) 20gx1.5, 22gx1.5, 18G, 20G, 22G, 25G</td>
<td>Safety needles to administer injections. After injection safety shield is pushed forward and encapsulates the needle.</td>
</tr>
<tr>
<td>Safety-Lok Butterfly Needle (BD Diagnostics Co.) 21G &amp; 23G</td>
<td>For blood draw on small or difficult access veins. Safety sheath is advanced forward to cover the needle after removal.</td>
</tr>
<tr>
<td>Sterile Cap (Hospira)</td>
<td>To cap IV tubing when disconnected from catheter hub</td>
</tr>
<tr>
<td>Vanish Point Insulin Syringe (Retractable Technology) or BD SafetyGlide insulin syringe</td>
<td>To administer insulin injections. After injection and before removal, plunger is pushed in again and needle retracts into the housing.</td>
</tr>
<tr>
<td>Vial Access Spike (ICU Medica Co.)</td>
<td>To access vials without a needle</td>
</tr>
</tbody>
</table>