EVMS
Eastern Virginia Medical School

Infection Control, Bloodborne Pathogen Exposure, and Tuberculosis Surveillance Plans

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I. Fundamental Principles of Infection Prevention

Standard Precautions
Standard Precautions represent the minimum infection prevention measures that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where healthcare is delivered. These evidence-based practices are designed to both protect healthcare personnel and prevent the spread of infections among patients. Standard Precautions replaces earlier guidance relating to Universal Precautions and Body Substance Isolation. Standard Precautions include: 1) hand hygiene, 2) use of personal protective equipment (e.g., gloves, gowns, facemasks), depending on the anticipated exposure, 3) respiratory hygiene and cough etiquette, 4) safe injection practices, and 5) safe handling of potentially contaminated equipment or surfaces in the patient environment.

Transmission-Based Precautions
Transmission-Based Precautions are intended to supplement Standard Precautions in patients with known or suspected colonization or infection of highly transmissible or epidemiologically important pathogens. These additional precautions are used when the route of transmission is not completely interrupted using Standard Precautions. The three categories of Transmission-Based Precautions include: 1) Contact Precautions, 2) Droplet Precautions, and 3) Airborne Precautions. For diseases that have multiple routes of transmission, a combination of Transmission-Based Precautions may be used. Whether used singly or in combination, they are always used in addition to Standard Precautions.

The risk of infection transmission and the ability to implement elements of Transmission-Based Precautions may differ between outpatient and inpatient settings (e.g., facility design characteristics). However, because patients with infections are routinely encountered in outpatient settings, ambulatory care facilities need to develop specific strategies to control the spread of transmissible diseases pertinent to their setting. This includes developing and implementing systems for early detection and management of potentially infectious patients at initial points of entry to the facility.

For detailed information on Standard and Transmission-Based Precautions, and summary guidance for outpatient settings, refer to the following documents:

CDC Guide to Infection Prevention in Outpatient Settings (available at: http://www.cdc.gov/HAI/settings/outpatient/outpatient-care-guidelines.html)

CDC 2007 Guideline for Isolation Precautions
(available at: http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf)

CDC Guide for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (available at: https://www.cdc.gov/infectioncontrol/guidelines/isolation/updates.html)

II. Education and Training

Ongoing education and training of facility staff are required to maintain competency and ensure that infection prevention policies and procedures are understood and followed. A list of names of designated personnel and their specific roles and tasks and contact information is provided in Appendix A.

Education and Training

- All facility staff, including contract personnel (e.g., laboratory personnel from an outside agency) are educated and trained by designated personnel regarding:
  - Proper selection and use of PPE
  - Job or task-specific infection prevention practices
  - Personnel providing training have demonstrated and maintained competency related to the specific

jobs or tasks for which they are providing instruction
    - Training is provided at orientation, repeated at least annually and anytime polices or procedures are updated, and is documented as per facility policy

Competency Evaluations

- Competency of facility staff is documented initially and repeatedly, as appropriate for a specific job or task
- Documentation varies by job and site and is the responsibility of the department if not mandated by OSHA or another regulatory agency
- Regular audits with feedback to facility staff concerning adherence to infection prevention practices (e.g., hand hygiene, environmental cleaning) are performed by designated personnel. Generally, this responsibility is that of the clinical staff.

III. Surveillance and Reporting

Routine performance of surveillance activities is important to case-finding, outbreak detection, and improvement of healthcare practices. This includes the surveillance of infections associated with the care provided by the facility (defined as healthcare-associated infections [HAI]) and process measures related to infection prevention practices (e.g., hand hygiene).

HAI Surveillance

- Standard definitions are developed for specific HAIs under surveillance (e.g., methicillin resistant staph aureus [MRSA], *C. difficile*, tuberculosis conversions in healthcare personnel (HCP), or other post-treatment or post-surgical infections)
- Designated personnel collect, manage, and analyze relevant data
- Surveillance reports are prepared and distributed periodically to appropriate personnel for any necessary follow-up actions (e.g., high incidence of certain HAIs may prompt auditing of specific procedures or a thorough infection control assessment)

Disease Reporting

- Facility staff adhere to local, state and federal requirements for reportable diseases and outbreak reporting [see Addendum E)

IV. Standard Precautions

A. Hand Hygiene

Hand hygiene procedures include the use of alcohol-based hand rubs (containing 60-95% alcohol) and handwashing with soap and water. *Alcohol-based hand rub is the preferred method for decontaminating hands, except when hands are visibly soiled* (e.g., dirt, blood, body fluids) or *after caring for patients with known or suspected infectious diarrhea* (e.g., norovirus, *Clostridium difficile, cryptosporidium*), in which case soap and water should be used. Hand hygiene stations should be strategically placed to ensure easy access.

Sample Procedures for Performing Hand Hygiene

Using Alcohol-based Hand Rub (follow manufacturer's directions):

- Dispense the recommended volume of product
- Apply product to the palm of one hand
- Rub hands together, covering all surfaces of hands and fingers until they are dry (no rinsing is required)

Handwashing with Soap and Water:

- Wet hands first with water (avoid using hot water)
- Apply soap to hands
- Rub hands vigorously for at least 15-20 seconds, covering all surfaces of hands and fingers
- Rinse hands with water and dry thoroughly with paper towel

- Use paper towel to turn off water faucet

Indications for Hand Hygiene

Always perform hand hygiene in the following situations:

- Before touching a patient, even if gloves will be worn
- Before exiting the patient's care area after touching the patient or the patient's immediate environment
- After contact with blood, body fluids or excretions, or wound dressings
- Prior to performing an aseptic task (e.g., preparing an injection)
- If hands will be moving from a contaminated-body site to a clean-body site during care
- After glove removal

Hand washing facilities or antiseptic hand cleanser must be readily accessible to all employees who have the potential for exposure. Supervisors and clinical managers are responsible for ensuring these are available in areas where potential exposures to blood borne pathogens may occur.

CDC Guideline for Hand Hygiene in Health-Care Settings
(available at: http://wwwdev.cdc.gov/mmwr/PDF/rr/rr5116.pdf)

WHO Guidelines on Hand Hygiene in Healthcare 2009
(available at: http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf)

B. Personal Protective Equipment

Personal Protective Equipment (PPE) use involves specialized clothing or equipment worn by facility staff for protection against infectious materials, including respiratory and other potential disease-causing agents, not just blood borne pathogens. The selection of PPE is based on the nature of the patient interaction and potential for exposure to blood, body fluids or infectious agents. A review of available PPE should be performed periodically (e.g., annually) due to new product developments and improvements. The employer shall provide, clean, launder, repair, replace or dispose of PPE as indicated at no cost to the employee. Please note that this section does not address issues related to PPE for the preparation and handling of antineoplastic and hazardous drugs. The recommended PPE for those procedures should be determined in accordance with OSHA and NIOSH.

Use of PPE

Gloves

Wear gloves when there is potential contact with blood (e.g., during phlebotomy), body fluids, mucous membranes, nonintact skin or contaminated equipment.

- Wear gloves that fit appropriately (select gloves according to hand size)
- Do not wear the same pair of gloves for the care of more than one patient
- Do not wash gloves for the purpose of reuse
- Perform hand hygiene before and immediately after removing gloves
- Hypoallergenic gloves, glove liners, powderless gloves or similar alternatives should be available those allergic to normally provided gloves

Gowns

Wear a gown to protect skin and clothing during procedures or activities where contact with blood or body fluids is anticipated.

- If the gown or garment is penetrated by blood or other potentially infectious materials, the garment should be removed as soon as possible
- Do not wear the same gown for the care of more than one patient
- Remove gown and perform hand hygiene before leaving the patient's environment (e.g., exam room)

Facemasks (Procedure or Surgical Masks)

Wear a facemask:

- When there is potential contact with respiratory secretions and sprays of blood or body fluids (as defined in Standard Precautions and/or Droplet Precautions)
- May be used in combination with goggles or face shield to protect mouth, nose and eyes
- When placing a catheter or injecting material into the spinal canal or subdural space (to protect patients from exposure to infectious agents carried in the mouth or nose of healthcare personnel)

Goggles, Face Shields

Wear eye protection for potential splash or spray of blood, respiratory secretions, or other body fluids.

- Personal eyeglasses and contact lenses are not considered adequate eye protection
- May use goggles with facemasks, or face shield alone, to protect the mouth, nose and eyes

Stethoscopes

Disposable devices, including stethoscopes should be used when available

- Medical group would need to work with medical directors to have isolation stethoscopes

Respirators

Wear N95 or higher respirators for potential exposure to infectious agents transmitted via the airborne route (e.g., tuberculosis).

- All healthcare personnel that use N95 or higher respirator must be fit tested annually and according to OSHA requirements
- Healthcare personnel should only use respirators that they were fitted for

Surgical caps or hoods and/or shoe covers shall be worn in instances when gross contamination can be anticipated (e.g., autopsies, orthopedic surgery).

Recommendations for Donning PPE

- Always perform hand hygiene before donning PPE
- If wearing a gown, don the gown first and fasten in back accordingly
- If wearing a facemask or respirator:
    - Secure ties or elastic band at the back of the head and/or neck
    - Fit flexible band to nose bridge
    - Fit snug to face and below chin

If wearing goggles or face shield, put it on face and adjust to fit

Recommendations for Removing PPE

- Remove PPE before leaving the exam room or patient environment (except respirators which should be removed after exiting the room)
- Removal of gloves:
- Grasp outside of glove with opposite gloved hand; peel off
- Hold removed glove in glove hand
- Slide ungloved fingers under the remaining glove at the wrist; peel off and discard
- Removal of gowns:
    - Remove in such a way to prevent contamination of clothing or skin
    - Turn contaminated outside surface toward the inside
    - Roll or fold into a bundle and discard
- Removal of facemask or respirator
    - Avoid touching the front of the mask or respirator
    - Grasp the bottom and the ties/elastic to remove and discard
- Removal of goggles or face shield
    - Avoid touching the front of the goggles or face shield
    - Remove by handling the head band or ear pieces and discard

- Always perform hand hygiene immediately after removing PPE
- All PPE should be placed in an appropriately designated container for storage, washing, decontamination or disposal

CDC 2007 Guideline for Isolation Precautions
(available at: http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf)

CDC's tools for personal protective equipment
(available at: http://www.cdc.gov/HAI/prevent/ppe.html)

C. Respiratory Hygiene and Cough Etiquette

To prevent the transmission of respiratory infections in the facility, the following infection prevention measures are implemented for all potentially infected persons at the point of entry and continuing throughout the duration of the visit. This applies to any person (e.g., patients and accompanying family members, caregivers, and visitors) with signs and symptoms of respiratory illness, including cough, congestion, rhinorrhea, or increased production of respiratory secretions. Additional precautions can be found in the section on **Transmission-Based Precautions** below.

Identifying Persons with Potential Respiratory Infection
Facility staff remain alert for any persons arriving with symptoms of a respiratory infection

- Signs are posted at the reception area instructing patients and accompanying persons to:
  - Self-report symptoms of a respiratory infection during registration
  - Practice respiratory hygiene and cough etiquette (technique described below) and wear facemask as needed

Availability of Supplies
The following supplies are provided in the reception area and other common waiting areas:

- Facemasks, tissues, and no-touch waste receptacles for disposing of used tissues
- Dispensers of alcohol-based hand rub

Respiratory Hygiene and Cough Etiquette
All persons with signs and symptoms of a respiratory infection (including facility staff) are instructed to:

- Cover the mouth and nose with a tissue when coughing or sneezing;
- Dispose of the used tissue in the nearest waste receptacle
- If you don't have a tissue, cough or sneeze into your elbow, not your hands
- Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials
- Wear a face mask

Masking and Separation of Persons with Respiratory Symptoms
If patient calls ahead:

- Have patients with symptoms of a respiratory infection come at a time when the facility is less crowded or through a separate entrance, if available
- If the purpose of the visit is non-urgent, patients are encouraged to reschedule the appointment until symptoms have resolved
- Upon entry to the facility, patients are to be instructed to don a facemask (e.g., procedure or surgical mask)
- Alert registration staff ahead of time to place the patient in an exam room with a closed door upon arrival

If identified after arrival:

- Provide facemasks to all persons (including persons accompanying patients) who are coughing and have symptoms of a respiratory infection
- Place the coughing patient in an exam room with a closed door as soon as possible (if suspicious for airborne transmission, refer to **Airborne Precautions** in Section V.D.); if an exam room is not available, the patient should sit as far from other patients as possible in the waiting room
- Accompanying persons who have symptoms of a respiratory infection should not enter patient-care areas and are encouraged to wait outside the facility

Healthcare Personnel Responsibilities

- Healthcare personnel observe **Droplet Precautions** (refer to Section V.C.), in addition to Standard Precautions, when examining and caring for patients with signs and symptoms of a respiratory infection (if suspicious for an infectious agent spread by airborne route, refer to **Airborne Precautions** in Section V.D.)
- These precautions are maintained until it is determined that the cause of the symptoms is not an infectious agent that requires Droplet or Airborne Precautions
- All healthcare personnel are aware of facility sick leave policies, including staff who are not directly employed by the facility but provide essential daily services
- Healthcare personnel with a respiratory infection should avoid direct patient contact; if this is not possible, then a facemask should be worn while providing patient care and frequent hand hygiene should be reinforced
- Healthcare personnel are up-to-date with all CDC/ACIP recommended vaccinations, including annual influenza vaccine (https://www.cdc.gov/vaccines/acip/index.html)

Staff Communication

- Designated personnel regularly review information on local respiratory virus activity provided by the health department and CDC to determine if the facility will need to implement enhanced screening for respiratory symptoms as outlined above.

During Periods of Increased Community Respiratory Virus Activity (e.g., Influenza Season, COVID 19)

In addition to the aforementioned infection prevention measures, the following enhanced screening measures are implemented:

- When scheduling and/or confirming appointments:
  - Pre-screen all patients and schedule those with respiratory symptoms to come when the facility might be less crowded, if possible
  - Instruct patients with respiratory symptoms to don a facemask upon entry to the facility

If the purpose of the visit is non-urgent, patients with symptoms of respiratory infection are encouraged to schedule an appointment after symptoms have resolved, significantly improved, or patient was deemed to be non-contagious

- Encourage family members, caregivers, and visitors with symptoms of respiratory infection to not accompany patients during their visits to the facility
- If possible, prepare in advance for the registration staff a daily list of patients with respiratory symptoms who are scheduled for a visit
- Upon entry to the facility and during visit:
  - At the time of patient registration, facility staff identify pre-screened patients (from the list) and screen all other patients and accompanying persons for symptoms of respiratory infection
  - Patients identified with respiratory symptoms are placed in an exam room as soon as possible; if an exam room is not available, provide patients with a facemask and place in a separate area as far as possible from other patients while awaiting care
- If patient volume is anticipated to be higher than usual with prolonged wait time at registration:
  - A separate triage station is established whenever possible to identify pre-screened patients (from the list) and to screen all other patients and accompanying persons immediately upon their arrival and *prior to registration*
  - Patients identified with respiratory symptoms are registered in a separate area, if possible, and placed immediately in an exam room; if an exam room is not available, patients are provided a facemask and laced in a separate area as far as possible from other patients while awaiting care
- If possible, encourage family members, caregivers, and visitors with symptoms of respiratory infection to not enter the facility

CDC 2007 Guideline for Isolation Precautions (available at: http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf)

CDC recommendations for preventing the spread of influenza in healthcare settings (available at: http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm)

CDC's Flu Activity & Surveillance (available at: www.cdc.gov/flu/weekly/fluactivitysurv.htm)

D. Injection Safety

Injection safety refers to the proper use and handling of supplies for administering injections and infusions (e.g., syringes, needles, finger stick devices, intravenous tubing, medication vials, and parenteral solutions). These practices are intended to prevent transmission of infectious diseases between one patient and another, or between a patient and health care personnel during preparation and administration of parenteral medications. To the extent possible, medication preparation should take place in pharmacy settings and dedicated medication rooms. All staff personnel who use or handle parenteral medications and related supplies should be aware of labeling and storage requirements and pharmacy standards. Additional recommendations for safe injection practices, including the appropriate use of single-dose (or single-use) and multi-dose vials and the proper technique for accessing intravascular devices, can be found in the infection control document section E, below.

General Safe Injection Practices

- Use aseptic technique when preparing and administering infusions or other parenteral medications (e.g., antiemetics, diphenhydramine, dexamethasone)
- Whenever possible, use commercially manufactured or pharmacy-prepared prefilled syringes (e.g., saline and heparin)
- Whenever possible, use safer sharps/safety needles.
- Avoid prefilling and storing batch-prepared syringes except in accordance with pharmacy standards
- Avoid unwrapping syringes prior to the time of use
- Never administer medications from the same syringe to multiple patients, even if the needle is changed or the injection is administered through an intervening length of intravenous tubing
- Do not reuse a syringe to enter a medication vial or solution
- Do not administer medications from single-dose or single-use vials, ampoules, or bags or bottles of intravenous solution to more than one patient (e.g., do not use a bag of saline as a common source supply for multiple patients)
- Cleanse the access diaphragms of medication vials with 70% alcohol and allow the alcohol to dry before inserting a device into the vial
- Dedicate multi-dose vials to a single patient whenever possible. If multi-dose vials must be used for more than one patient, they are restricted to a dedicated medication preparation area and should not enter the immediate patient treatment area (e.g., exam room, chemotherapy suite)
- Dispose of used syringes and needles at the point of use in a sharps container that is closable, puncture-resistant, and leak-proof
- Do not use fluid infusion or administration sets (e.g., intravenous tubing) for more than one patient
- Use single-use, disposable finger stick devices (e.g., lancets) to obtain samples for checking a patient's blood glucose, PT/INR, etc. and dispose of them after each use; do not use a lancet holder or penlet device for this purpose
- Adhere to federal and state requirements for protection of healthcare personnel from exposure to bloodborne pathogens

Spinal Injection Procedures

- Use aseptic technique and follow safe injection practices (e.g., dedicate single-dose vials to single-patient use)
- At a minimum, wear a facemask (e.g., procedure or surgical masks) and sterile gloves when injecting material or inserting a catheter into the epidural or subdural space (e.g., administration of intrathecal chemotherapy)
- For other spinal procedures (e.g., diagnostic and therapeutic lumbar punctures) or handling of devices to access the cerebrospinal fluid (e.g., Ommaya reservoir)
- Facemask can be considered as an additional precaution

Phlebotomy Procedures

- Phlebotomy procedures are performed in a dedicated area, if possible
- If the procedure has to be done elsewhere (e.g., exam room), do not bring common trays of supplies for phlebotomy or intravenous device access to the patient's immediate treatment area. Bring only the necessary supplies to the patient side
- Hand hygiene stations (e.g., alcohol-based hand rub dispensers) are readily accessible to the phlebotomist
- Use aseptic technique to perform the phlebotomy procedure
- Do not reuse vacutainer holders
- Sharps containers are strategically placed near the phlebotomist to ensure easy access and safe disposal of used supplies
- Minimize environmental contamination by performing the following:
  - Label tubes before blood is drawn
  - Avoid placing tubes on patient charts or other items or surfaces that cannot be properly cleaned
  - Do not process or store blood specimens near medications or medication preparation area

Operating room needlestick safety recommendations

Surgical personnel should follow the evidence-based guidelines of CDC and the American College of Surgeons for practices intended to reduce the incidence of needlestick injuries, including double-gloving, blunt suture needles, and hands-free neutral zones for sharps in the operating room.

Bull Am Coll Surg. 2016 Oct;101(10):53-5.

CDC2007Guideline for Isolation Precautions (available at: http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf)

CDC Clinical Reminder: Spinal Injection Procedures Performed without a Facemasks Pose Risk for Bacterial Meningitis (available at: http://www.cdc.gov/injectionsafety/PDF/Clinical_Reminder_Spinal-Infection_Meningitis.pdf)

E. Medication Storage and Handling

The measures outlined in this section pertain to the general storage and handling of parenteral medications outside of the pharmacy setting. The appropriate storage and handling (e.g., reconstituting, mixing, diluting, compounding) of antineoplastic drugs and other sterile medications that typically require preparation in pharmacy settings should be determined in accordance with established official and enforceable standards for these activities (e.g., ensuring appropriate environmental and engineering controls such as biological safety cabinets and laminar airflow hoods, and proper use of aseptic technique), including those of the United States Pharmacopeia and the Food and Drug Administration. These functions are performed by personnel who have the appropriate qualifications and training as determined in accordance with the state pharmacy board. Consultation with the state pharmacy board and oncology pharmacy specialists is recommended. In general, parenteral medication storage, handling, and administration should adhere to injection safety measures as outlined in the section on **Injection Safety** above. Parenteral medications include single-dose and multi-dose vials, ampoules, bags or bottles of intravenous fluids.

Single-dose vials (or single-use vials) are intended for use in a single patient for a single case/procedure/injection. Single-dose or single-use vials are labeled as such by the manufacturer and typically lack an antimicrobial preservative. Multi-dose vials contain more than one dose of medication. They are labeled as such by the manufacturer and typically contain an antimicrobial preservative to help prevent the growth of bacteria. However, this preservative has no effect on viruses and does not fully protect against contamination when safe injection practices are not followed.

Medication Storage

- Store all medications (e.g., injectable hormonal agents) in accordance with manufacturer's instructions (e.g., shelf-life, temperature)

- Use of freezers/refrigerators
    - Store medications that require refrigeration in a dedicated, labeled refrigerator that meets requirements for such storage (e.g., thermostat control, separate exterior door for refrigerator and freezer compartments)
    - Designated personnel maintain temperature log (monitor temperature at least twice daily for vaccine storage) and ensure alternative storage method is in place in the event of power or refrigerator failure; alarms are recommended on medication cold storage units
- Multi-dose vials are stored in the Medication Room and not in the immediate patient treatment area (e.g., exam room, chemotherapy suite)

Medication Preparation

- Draw up medications in the Medication Room or in a designated clean area that is free of any items potentially contaminated with blood or body fluids (e.g., used equipment such as syringes, needles, IV tubing, blood collection tubes, and needle holders)

Note Multi-vials should not be accessed in the immediate patient treatment area (e.g., exam room, chemotherapy suite); if a multi-dose vial enters the immediate patient-care area, it should be dedicated to that patient and discarded after use

- *Note:* Bags or bottles of intravenous solution (e.g., bag of saline) should not be used for more than one patient
- Use an aseptic technique to access parenteral medications:
    - Perform hand hygiene before handling the medication
    - Disinfect the rubber septum with alcohol and allow the alcohol to dry prior to piercing
    - Always use a new sterile syringe and sterile needle to draw up the medication; be careful to avoid contact with the non-sterile environment during the process
    - Never leave a needle inserted into the septum of a medication vial for multiple draws
    - Ensure that any device inserted into the septum are used in accordance with manufacturer's instructions and they do not compromise the integrity of the remaining vial contents
    - Minimize multiple entries into bags of fluid to add medications; if more than one entry is required, always use a new sterile syringe and sterile needle and access the bag using aseptic technique

When to Discard Medications

- Medications should always be discarded according to the manufacture's expiration date (even if not opened) and whenever sterility is compromised or questionable
- Medications must be discarded through EH&S and not in medical waste or the general trash
- For single-dose vials that have been opened or accessed (e.g., needle-puncture), the vial should be discarded according to the time the manufacturer specifies for the opened vial or at the end of the case/procedure for which it is being used, whichever comes first. It should *not* be stored for future use.
- For multidose vials that have been opened or accessed (e.g., needle-punctured), the vials should be dated and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial

CDC 2007 Guideline for Isolation Precautions (available at: http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf)

CDC FAQs Regarding Safe Practices for Medical Injections (available at: http://www.cdc.gov/injectionsafety/providers/provider_faqs.html)

CDC Vaccine Storage and Handling Toolkit (available at: http://www2a.cdc.gov/vaccines/ed/shtoolkit/)

F. Cleaning and Disinfection of Devices and Environmental Surfaces

The procedures outlined in this section pertain to the cleaning and disinfection of noncritical patient-care devices (e.g., blood pressure cuff) and environmental surfaces in patient-care areas (e.g., exam rooms) and certain common-use areas (e.g., bathrooms). Standard procedures and recommended practices for cleaning and disinfecting

compounding areas (e.g., pharmacy settings) and the handling, transporting, and disposing of antineoplastic agents should be determined in accordance with local, state, and federal authorities, including state board of pharmacy, USP, FDA, and DEA.

Designated Personnel

- Responsibilities for cleaning and disinfection of environmental surfaces and medical equipment are assigned to specific personnel (as indicated in Addendum A)
- If Environmental Services are only available after-hours (e.g., contractors from outside agency), then designated facility staff are assigned specific responsibilities for cleaning and disinfection during clinic hours
- All assigned personnel are trained in the appropriate cleaning/disinfection procedures and the proper use of PPE and cleaning products and documentation of this training should be on file

Supplies and Cleaning Products

- Designated personnel regularly restock necessary supplies (e.g., gloves, gowns, facemasks) and replenish dispensers of alcohol-based hand rub and soap throughout the facility
- Follow manufacturer's instructions for cleaning surfaces and noncritical devices; ensure that the cleaning product used is compatible with the surface/device being cleaned
- Use EPA-registered disinfectant with appropriate germicidal claim for the infective agent of concern (may vary depending on situation) and follow the manufacturer's safety precautions and instructions (e.g., amount, dilution, safe use, storage and disposal) for cleaning/disinfection
- Products and supplies are reviewed periodically (e.g., annually) due to product developments and improvements and to ensure that the materials used are consistent with existing guidelines and meet the needs of the staff
- If reusable mops and cleaning cloths are used, these are cleaned after use and allowed to dry before reuse
- Consult Environmental Health & Safety (EHS) if needed for other effective products or additional means of disinfection of clinical and work areas. For instance, EVMS EHS has available the SteraMist system, utilizing ionized hydrogen peroxide, which is proven effective disinfection against bacteria, viruses, and including spore forming organisms commonly encountered in health care. This system is capable of widespread treatment to afford efficient decontamination of patient rooms or other spaces.

Frequency of Cleaning

Patient-care areas, medication preparation areas (outside pharmacy/compounding areas), and bathrooms are cleaned *at least daily*, with the following exceptions:

- Promptly clean and decontaminate any location with spills of blood and other potentially infectious materials (refer to section on **Cleaning Spills of Blood and Body Substances** below)
- Clean medication preparation areas when visibly soiled; if medication preparation takes place in the patient treatment area (outside a designated medication room), clean this area after each patient encounter:
- Ensure the medication preparation area is free of any items contaminated with blood or body fluids (e.g., used equipment such as syringes, needles, IV tubing, blood collection tubes, and needle holders)
- Disinfect bathrooms after use by a patient with known or suspected infectious diarrhea and before use by another person (see section on **Cleaning Bathrooms** below)
- Disinfect environmental surfaces and noncritical patient-care devices when visibly soiled
- Disinfect environmental surfaces and noncritical patient-care devices in between patient use if:
    - There was direct contact to non-intact skin or mucous membrane or potential contamination with body fluids (e.g., blood, secretions)
    - The patient-care device involves a blood glucose meter or other point of care testing device (e.g., PT/INR readers) that utilizes blood samples; to prevent bloodborne pathogen transmission, these devices must be cleaned and disinfected after each use in accordance with manufacturer's instructions

Cleaning Patient-Care Areas

General cleaning and disinfection measures that apply to any patient-care area:

- Ensure that workers wear appropriate PPE to preclude exposure to infectious agents or chemicals through the respiratory system, skin, or mucous membranes of the eyes, nose, or mouth. PPE can include gloves,

gowns, masks, and eye protection. The exact type of PPE depends on the infectious or chemical agent and the anticipated duration of exposure.

- In general, perform cleaning *before* disinfection unless a one-step detergent disinfectant is used
- Wet-dust horizontal surfaces by moistening a cloth with a small amount of an EPA-registered disinfectant
- Avoid dusting methods that disperse dust (e.g., feather-dusting)
- Concentrate on cleaning high-touch surfaces (areas frequently touched by patients and facility staff) and those in close proximity to the patient, as outlined below for specific rooms or areas Follow manufacturer's instructions for cleaning and maintaining noncritical medical device/equipment
- Clean walls, blinds, and window curtains when they are visibly dusty or soiled

Cleaning and disinfection measures for specific patient-care areas:

Exam Rooms

- Change the paper covering the exam table and pillows between patient use
- Place any used linens (e.g., exam gowns, sheets) in a designated container located in each exam room after each patient use; refer to the handling and laundering of soiled linens
- Clean any medication preparation area after each patient encounter and ensure contaminated items (as described above) are not placed in or near the area
- Focus cleaning on high-touch surfaces (at least daily), e.g., exam bed, bedrails, blood pressure cuff, stethoscope, wall-mounted ophthalmoscope and otoscope (per manufacturer's instructions), chair and bedside stool, and door knob
- Personal stethoscopes should be cleaned with alcohol after each use unless the diaphragm is visibly soiled

Decontaminate high-touch surfaces using an EPA-registered disinfectant with specific claim labels for the infective agent of concern

- If patient has suspected infectious diarrhea and the infective agent is unknown, clean high-touch surfaces using a sodium hypochlorite (bleach)-based product (e.g., 1:10 dilution prepared fresh), or other EPA approved disinfectant for the type of surface

Triage Stations and/or Locations for Performing Vital Signs (if not done in exam rooms)

- Focus cleaning on high-touch surfaces (at least daily): patient chair, blood pressure cuff, pulse oximetry sensors (follow manufacturer's instructions), thermometers (if disposable oral temperature probes are used, they should be discarded after each use)

Phlebotomy Stations

- Focus cleaning on high-touch surfaces (at least daily): patient chair and arm rest, procedure table
- Promptly clean and disinfect surfaces contaminated by blood using an EPA-registered disinfectant with specific label claims for bloodborne pathogens (e.g., HIV, HBV, HCV); refer to instructions below for cleaning spills of blood

Cleaning Bathrooms

- Ensure that workers wear appropriate PPE to preclude exposure to infectious agents or chemicals through the respiratory system, skin, or mucous membranes of the eyes, nose, or mouth. PPE can include gloves, gowns, masks, and eye protection. The exact type of PPE depends on the infectious or chemical agent and the anticipated duration of exposure.
- Clean toilet, the area around the toilet, the sink, the faucet handles, and door knobs at least daily, and walls if visibly soiled
- If used by a patient with known or suspected infectious diarrhea, clean the bathroom before it is used again, focusing on the toilet and the area around the toilet:
    - Use an EPA-registered disinfectant with specific claim labels for the infective agent
    - If infective agent is unknown, use a bleach-based disinfectant (e.g., 1:10 dilution prepared fresh)
    - Ensure that workers wear appropriate PPE to preclude exposure to infectious agents or chemicals through
    - the respiratory system, skin, or mucous membranes of the eyes, nose, or mouth. PPE can include gloves

Cleaning Medication Rooms (excluding pharmacy settings or locations where sterile compounding is performed;

for these locations, refer to the state pharmacy board and USP recommendations) gowns, masks, and eye protection. The exact type of PPE depends on the infectious or chemical agent and the anticipated duration of exposure.

- Clean the countertops and surfaces where medication preparation occurs daily and sooner if visibly soiled
- Ensure contaminated items (as described above) are not placed in or near the medication preparation area
- Refrigerators for storing medications are cleaned at defined intervals and when soiled, in accordance with manufacturer's instructions

Cleaning Spills of Blood and Body Substances

- Wear protective gloves and use appropriate PPE (e.g., use forceps to pick up any sharps and discard in sharps container)
- If the spill contains large amounts of blood or body fluids (e.g., >10 mL), clean the visible matter with disposable absorbent material and discard in appropriate containers for biohazardous waste
- Decontaminate the area using an EPA-registered disinfectant with specific label claims for bloodborne pathogens (e.g., HIV, HBV, HCV) or a freshly diluted bleach-based product (preferably EPA-registered), in accordance with manufacturer's instructions, and allow the surface to dry
- If a bleach-based product is used:
    - Use a 1:10 dilution to decontaminate nonporous surfaces
    - If the spill involves large amounts of blood or body fluids, use a 1:10 dilution for first application of germicide *before cleaning*, then followed by cleaning and subsequent decontamination with 1:100 dilution application

Handling and Laundering Soiled Linens

- Handle all contaminated linens with minimum agitation to avoid contamination of air, surfaces, and persons
- Do not sort or rinse soiled linens in patient-care areas
- Use leak-resistant containment for linens contaminated with blood or body substances; ensure that there is not leakage during transport
- If laundry chutes are used, ensure that laundry bags are closed before tossing the filled bag into the chute; do not place loose items in the laundry chute
- In the laundry area, appropriate PPE (e.g., gloves) are worn by laundry personnel while sorting soiled linen, and hand hygiene supplies are available for their use
- If laundry equipment is available on premise, use and maintain the equipment according to manufacturer's instructions
- If hot-water laundry cycles are used, wash with detergent in water ≥160°F (≥71°C) for ≥25 minutes
- If low-temperature (<160°F [<70°C]) laundry cycles are used, wash with proper concentrations of laundry chemicals that are suitable for low-temperature washing
- If commercial laundry facilities are used, ensure that their laundering process is in accordance with current recommendations
- Additional detailed instructions on handling laundry are in Addendum D

Waste Disposal

- Puncture-resistant, leak-proof sharps containers are located in every patient-care area (e.g., exam room, chemotherapy suite, phlebotomy station)
- For phlebotomy stations, a sharps container is within a short distance of each phlebotomist's workspace
- All sharps are disposed of in the designated sharps container; do not bend, recap, or break used syringe needles before discarding them into the container
- Filled sharps containers must be locked, closed, and are disposed of in accordance with state regulated medical waste rules
- Regular trash and regulated medical waste (e.g., biohazardous material) are disposed of in their designated containers; chemicals and pharmaceuticals (including antineoplastics) should not be put in the regulated medical waste
- All trash and waste containers are emptied at least daily by designated personnel gowns, masks, and eye protection. The exact type of PPE depends on the infectious or chemical agent and the anticipated duration of exposure.

- Handle, transport, and dispose regulated waste in accordance with state and local regulations; contact EH&S for pickup of chemicals and pharma waste

CDC Guidelines for Environmental Infection Control in Health-Care Facilities (available at: http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_HCF_03.pdf)

CDC Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008 (available at: http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf)

CDC Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings (available at: http://www.cdc.gov/hicpac/pdf/norovirus/Norovirus-Guideline-2011.pdf)

CDC Infection Prevention during Blood Glucose Monitoring and Insulin Administration (available at: http://www.cdc.gov/injectionsafety/blood-glucose-monitoring.html)
APIC Infection Prevention Manual for Ambulatory Care, 2009

V. Transmission-Based Precautions

In addition to consistent use of Standard Precautions, additional precautions may be warranted in certain situations.

A. Identifying Potentially Infectious Patients

Facility staff should remain alert for any patient arriving with symptoms of an active infection (e.g., diarrhea, rash, respiratory symptoms, draining wounds or skin lesions)

- If patient calls ahead:
  - Have patients with symptoms of active infection come at a time when the facility is less crowded, if possible
  - Alert registration staff ahead of time to place the patient in a private exam room upon arrival if available and follow the procedures pertinent to the route of transmission as specified below
  - If the purpose of the visit is non-urgent, patients are encouraged to reschedule the appointment until symptoms resolve

B. Contact Precautions

Apply to patients with any of the following conditions and/or disease:

- Presence of stool incontinence (may include patients with norovirus, rotavirus, or *Clostridium difficile*), draining wounds, uncontrolled secretions, pressure ulcers, or presence of ostomy tubes and/or bags draining body fluids
- Presence of generalized rash or exanthems
- Prioritize placement of patients in an exam room if they have stool incontinence, draining wounds and/or skin lesions that cannot be covered, or uncontrolled secretions
- Perform hand hygiene before touching patient and prior to wearing gloves

PPE use:

- Wear gloves when touching the patient and the patient's immediate environment or belongings
- Wear a gown if substantial contact with the patient or their environment is anticipated
- Perform hand hygiene after removal of PPE; *note:* use soap and water when hands are visibly soiled (e.g., blood, body fluids) or after caring for patients with known or suspected infectious diarrhea (e.g., *Clostridium difficile*, norovirus)
- Clean/disinfect the exam room accordingly (refer to section on **Cleaning and Disinfection** above)

- Instruct patients with known or suspected infectious diarrhea to use a separate bathroom, if available; clean/disinfect the bathroom before it can be used again (consult previous section for **Bathroom** cleaning/disinfection)

C. Droplet Precautions

Apply to patients known or suspected to be infected with a pathogen that can be transmitted by droplet route; these include, but are not limited to:

- Respiratory viruses (e.g., influenza, parainfluenza virus, adenovirus, respiratory syncytial virus, human metapneumovirus, COVID 19)
- *Bordetella pertussis*
- For first 24 hours of therapy: *Neisseria meningitides*, group A streptococcus
- Place the patient in an exam room with a closed door as soon as possible (prioritize patients who have excessive cough and sputum production); if an exam room is not available, the patient is provided a facemask and placed in a separate area as far from other patients as possible while awaiting care.
- PPE use:
    - Wear a facemask, such as a procedure or surgical mask, for close contact with the patient; the facemask should be donned upon entering the exam room
    - If substantial spraying of respiratory fluids is anticipated, gloves and gown as well as goggles (or face shield in place of goggles) should be worn
    - Perform hand hygiene before and after touching the patient and after contact with respiratory secretions and contaminated objects/materials; *note:* use soap and water when hands are visibly soiled (e.g., blood, body fluids)
    - Instruct patient to wear a facemask when exiting the exam room, avoid coming into close contact with other patients, and practice respiratory hygiene and cough etiquette
    - Clean and disinfect the exam room accordingly (refer to earlier section on **Cleaning and Disinfection**)

D. Airborne Precautions

Apply to patients known or suspected to be infected with a pathogen that can be transmitted by airborne route; these include, but are not limited to:

- Tuberculosis
- Measles
- Chickenpox (until lesions are crusted over)
- Localized (in immunocompromised patient) or disseminated herpes zoster (until lesions are crusted over)
- Have patient enter through a separate entrance to the facility (e.g., dedicated isolation entrance), if available, to avoid the reception and registration area
- Place the patient immediately in an airborne infection isolation room (AIIR). At EVMS, two such rooms are available in Hofheimer Hall: one in room 112 and a second inside the Internal Medicine clinic in suite 445

If an AIIR is not readily available:

- Provide a facemask (e.g., procedure or surgical mask) to the patient and place the patient immediately in an exam room with a closed door
- Instruct the patient to keep the facemask on while in the room, and to change the mask if it becomes wet
- Initiate protocol to transfer patient to a healthcare facility that has the recommended infection-control capacity to properly manage the patient

PPE use:

- Wear a fit-tested N-95 or higher-level disposable respirator, if available, when caring for the patient; the respirator should be donned prior to room entry and removed after exiting room
- If substantial spraying of respiratory fluids is anticipated, gloves and gown as well as goggles or face shield should be worn

- Perform hand hygiene before and after touching the patient and after contact with respiratory secretions and/or body fluids and contaminated objects/materials; *note:* use soap and water when hands are visibly soiled (e.g., blood, body fluids)
- Instruct patient to wear a facemask when exiting the exam room, avoid coming into close contact with other patients, and practice respiratory hygiene and cough etiquette
- Once the patient leaves, the exam room should remain vacant for generally one hour before anyone enters; however, adequate wait time may vary depending on the ventilation rate of the room and should be determined accordingly*
- If staff must enter the room during the wait time, they are required to use respiratory protection

Additional detailed guidance for bloodborne pathogens, respiratory precautions and surveillance is contained in the EVMS bloodborne pathogens, respiratory protection, and tuberculosis assessment and surveillance plans following.

*Francis J. Curry National Tuberculosis Center, FAQ: "How long does it take to clear the air in an isolation or high-risk procedure room?" (available at: http://www.flpic.com/TB_air_exchange.pdf)

CDC 2007 Guideline for Isolation Precautions (available at: http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf)

CDC Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005 (available at: http://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf)

VI. Introduction to Bloodborne Pathogens Plan

The Occupational Safety and Health Administration's (OSHA) Bloodborne Pathogens standard (29 CFR 1910.1030) as amended pursuant to the Needlestick Safety and Prevention Act of 2000, prescribes safeguards to protect workers against the health hazards caused by bloodborne pathogens. Its requirements address items such as exposure control plans, standard precautions involved in infection control and prevention, engineering and work practice controls, personal protective equipment, housekeeping, laboratories, hepatitis B vaccination, post-exposure follow-up, hazard communication and training, and recordkeeping. The standard places requirements on employers whose workers can be reasonably anticipated to contact blood or other potentially infectious materials (OPIM), such as unfixed human tissues and certain body fluids. The OSHA Bloodborne Pathogens standard was issued to reduce the occupational transmission of infectious diseases caused by agents sometimes found in human blood and certain other potentially infectious materials. Although a variety of harmful microorganisms may be transmitted through contact with infected human blood, Hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV) have been responsible for infecting workers who were exposed to human blood and other body fluids containing these viruses. Routes of transmission include accidental sharps injuries and direct contact of mucous membranes or non-intact skin with contaminated blood or other materials in the course of work or clinical practice. Although HIV and Hepatitis C are rarely transmitted following occupational exposure incidents, the potentially lethal nature of HIV and Hepatitis C require that all possible measures be used to prevent exposure of workers and to mitigate subsequent risk once an exposure may have occurred. Since students in health care training, including medical students, physician assistants, surgical assistants and others involved in clinical "on the job" training are also potentially at-risk for these hazards, this exposure control plan also applies to them. In addition, 29 CFR 1910.1030 has a broad description of employees that might be potentially at-risk for blood borne pathogen exposure due to the nature of their work in the healthcare setting. EVMS has identified a specific list of such employees at our institution that is included in Addendum A of this document. These individuals, including employees already described above, hereafter in this document will be referred to as at-risk persons.

Purpose

The Bloodborne Pathogen Exposure Control Plan has been established by Eastern Virginia Medical School (EVMS) in order to minimize and prevent, when possible, the exposure of our at-risk persons to disease-causing microorganisms transmitted through human blood, body fluids and OPIM, in compliance with Occupational Safety and Health

Administration (OSHA) Standard 29 CFR 1910.1030, Occupational Exposure to Bloodborne Pathogens and the Needlestick Safety and Prevention Act of 2000.
(https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030)

Policy
To reduce to the extent possible, the risk of occupational or educational exposure to bloodborne pathogens and other potentially infectious materials (OPIM) by following procedures outlined in the EVMS Bloodborne Pathogen Exposure Control Plan. The procedures are mandatory school wide and throughout the Medical Group for all at-risk persons and students designated in Addendum A.

Procedure
The Bloodborne Pathogen Exposure Control Plan defines the required actions needed to implement the procedures necessary in the use of personal protective equipment (PPE), engineering controls, training, documentation, reporting, and surveillance in the administration of the program. Copies of the plan are available for review by any at -risk persons in the following locations:

- Occupational Health – Andrews Hall
- Human Resources -- Smith Rogers Hall
- Environmental Health & Safety -- Lewis Hall
- EVMS Intranet (https://myportal.evms.edu under Departments/Occupational Health page)

An employee may obtain a copy of the plan within 15 days of his or her employment by contacting any of the offices above.

Responsibility
Occupational Health has the overall responsibility for the implementation and the enforcement of the program. Occupational Health is responsible for the periodic review and updates to the Exposure Control Plan, to occur annually at minimum and whenever indicated by changes in regulation by OSHA, recommendations of the Centers for Disease Control and Prevention (CDC) or other relevant authorities (e.g., the Healthcare Infection Control Practices Advisory Committee (HICPAC)). Updates may also be necessary to reflect new or modified tasks and procedures which affect occupational exposure or new or revised employee positions with occupational exposure.

The Executive Director of Occupational Health is designated as the Bloodborne Pathogen Exposure Control Officer. The Executive Director of Occupational Health and the Medical Director of Occupational Health will ensure that all required procedures are being documented and followed by performing periodic reviews as determined by the Executive Director of Occupational Health.

The Executive Director of Human Resources will determine, with consultation from Occupational Health, what job titles have a potential for exposure to blood and body fluids and will ensure that the job description for the position describes the hazard. The Associate Dean of Student Affairs for EVMS will employ a similar process for students at-risk of exposure with consultation from Occupational Health.

Departmental Chairpersons and Supervisors are responsible for exposure control in their respective areas. They will enforce all portions of the plan; ensure training is provided to new at-risk persons and/or when a job classification change is made. They will also provide personal protective equipment with cleaning and replacement services at no cost to the employee or student.

At-risk persons have the responsibility for complying with all aspects of the program and to advise their supervisor of any problem areas, tasks being performed requiring updated procedures, and the immediate reporting of any exposure. This responsibility includes the wearing of personal protective equipment and utilizing effective engineering controls or appropriate safety devices.

Components Of The Bloodborne Pathogen Exposure Control Plan
Basic components of the Bloodborne Pathogen Exposure Control Plan are:

- Exposure Determination
- Methods of Compliance
- Hepatitis B Vaccination
- Procedures for Evaluation, Treatment and Follow-up of Exposure Incidents
- At-Risk Person Training and Compliance
- Recordkeeping and Documentation Procedures

A. Exposure Determination

All job categories in which it is reasonable to anticipate that at-risk persons might have skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials (OPIM) listed below are included in this exposure control plan. Exposure determination is made without regard to the use of personal protective equipment (i.e., at-risk persons are considered to be exposed even if they wear personal protective equipment.)

Substances of concern included in exposures are:

Blood: human blood, human blood components (plasma, red blood cells, white blood cells, platelets), and products made from human blood.

Other Potentially Infectious Materials (OPIM)

Body Fluids	**Other Materials**
semen	any unfixed tissue or organ from a human (living or dead)
vaginal secretions	
cerebrospinal fluid	
pleural fluid	
pericardial fluid	HIV, HBV, or HCV containing cell, tissue cultures and organ cultures
peritoneal fluid	
synovial fluid	
amniotic fluid	
any body fluid visibly contaminated with blood	
saliva in dental procedures	
all body fluids in situations where it is difficult or impossible to differentiate between body fluids	

Urine, sweat or tears without **blood** contamination **are generally NOT considered OPIM.**

Contact of blood or OPIM to intact skin is not consistent with an at-risk exposure, but spills on non-intact skin, such as cut, abraded, or chapped skin should be considered an exposure.

All blood or OPIM (as described in this section) shall be handled as if it is contaminated by a bloodborne pathogen. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

B. Methods of Compliance

See Section IV, Standard Precautions, Hand Hygiene; Personal Protective Equipment; and Injection Safety of the Infection Control Plan above, which apply to this Plan.

General Hygiene Measures
Eating, drinking, use of tobacco products, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of exposure to blood or other potentially infectious materials.

Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets, or on countertops or bench tops where blood or OPIM are handled.

Safe Laboratory Practices
Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.

At-risk persons shall use practices to minimize splashing, spraying, spattering, and generation of aerosolized droplets during procedures involving blood or OPIM. Such practices include, but are not limited to:

- eye protection/surgical mask or full-face shield or Plexiglas barrier shields will be used in procedures involving potential for splashing, spraying etc., (see section below on PPE)
- use of engineering controls such as biosafety cabinets
- wait 10 minutes after a centrifuge has stopped *before* opening the lid in order to allow any generated aerosols/droplets to settle.

Engineering Controls
Engineering and Work Practice Controls shall be used to eliminate or minimize employee exposure. Where potential occupational exposure remains after institution of these controls, personal protective equipment shall be used. The following engineering controls will be utilized:

1) Sharps containers (puncture-resistant, Color-coded or labeled with biohazard warning label, leak-proof on the sides and bottom and closable).
2) Biological safety cabinets
3) Bench top shields (splash guards)
4) Mechanical pipetting devices
5) Specimen containers (leak-proof, puncture resistant transported in secondary container when necessary)
6) Eyewash stations
7) Safety showers
8) Spill trays
9) Plastic back absorbent paper
10) Hand washing facilities

The above controls will be maintained or replaced on a regular schedule. The schedule for reviewing the effectiveness of the controls is as follows:

- It is the responsibility of the Clinical Supervisor, Lab Supervisor, or Principal Investigator to inspect prior to use and periodically thereafter or to replace as needed items 1-10 (except for [2] which should occur annually);
- EVMS Environmental Health & Safety is responsible for monitoring and ensuring testing and inspection has occurred.

EVMS is committed to reducing or minimizing blood and body fluid exposures via the implementation of safer medical devices and proper work practices. Many new products have been developed and are designated “safer medical devices”. Such products include: self-sheathing syringes and phlebotomy devices, retractable needles, and needleless IV systems. Each clinical practice or research lab will use safer medical devices when available for purchase. Staff will be trained on the use of safer medical devices prior to their implementation by a department designee or product representative. All such training should be documented and records maintained.

Sharps Management
Contaminated needles and other contaminated sharps shall not be bent or recapped. Shearing or breaking of contaminated needles is prohibited.

Sharps containers must be closable, puncture resistant, properly labeled or color coded, leak proof on sides and bottom, and maintained upright throughout use. Containers are to be easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or found. Contaminated disposable sharps shall be discarded, as soon as possible after use, in the disposable sharps containers. Contaminated broken glass is also to be placed in disposable sharps containers. As soon as possible after use, reusable contaminated sharps are to be placed in the designated container until properly processed.

Overfilling of sharps containers creates a hazard when needles protrude from openings. When the containers are two-thirds full, they must be promptly disposed of and replaced. It is the responsibility of the Physician or Principal Investigator or their designee to dispose of or replace full containers. To dispose of full sharps containers, the lid must be closed and locked; the closed container can then be disposed of in the medical waste.

Precautions in Handling Specimens
Specimens of blood or OPIM shall be placed in a container which prevents leakage during collection, handling, processing, transport, storage, or shipping. The container must be closed before being stored, transported, or shipped.

Plastic (appropriately sized) zipper style bag, either red or labeled with the **biohazard symbol** will be used.

Containers must be labeled/color coded if they go out of the facility (labeling must also be used in house if all specimens are not handled using standard precautions.)

If outside contamination of the primary container occurs, or if the specimen could puncture the primary container, the primary container shall be placed within a secondary container (which will be large and heavy enough to contain the primary bag) which prevents leakage, and/or resists puncture during handling, processing, storage, transport, or shipping. At EVMS, the policy is to "triple package" relevant specimens according to EHS guidance.

Management of Contaminated Equipment
It is the responsibility of the Physician, Principal Investigator or designee to assess equipment for contamination, and decontaminate if possible, before servicing or shipping. Equipment which has not been fully decontaminated must have labels attached with information about which parts remain contaminated.

See previous section, Cleaning and Disinfection of Devices and Environmental Surfaces, Infection Control Plan ICP.

Communication of Hazards to At-risk Persons
At-risk persons will be informed of hazards through a system of color coding and/or labeling, as well as a training program which is discussed in Section VI of this written plan.

Warning labels containing the **biohazard symbol** (see at right) shall be affixed to containers of regulated medical waste, refrigerators and freezers containing blood or other potentially infectious material and other containers used to store, transport or ship blood or OPIM. Contaminated equipment shall also be labeled with a **biohazard sign.** Information about any portion of the equipment that remains contaminated shall be added to the label.

Labels shall be fluorescent orange or orange red with lettering or symbols in a contrasting color. The label is either to be an integral part of the container or affixed as close as feasible to the container by a method which prevents loss or unintentional removal of the label. The label shall have: the **biohazard symbol** and the text **BIOHAZARD**.

Red bags or **red containers** may be substituted for the warning label.

The labels/color coding described here are not required in the following instances:

- When containers of blood, blood components, or blood products are labeled as to their contents and have been released for transfusion or other clinical use;
- When individual containers of blood or other potentially infectious materials placed in labeled containers during storage, transport, shipment or disposal;
- When biological waste has been decontaminated (note, EVMS sends "regulated medical waste" out to contractors for this purpose – it is not done on site within the institution).

C. Hepatitis B Vaccination

General Statement

All employees who have been identified as having potential exposure to blood, blood products, or OPIM (see section on Exposure Determination) will be offered the hepatitis B vaccination series at no cost to them unless already completed prior to employment and verification of immunity by laboratory evidence of hepatitis B surface antibody (anti-HBs) following vaccination is established. In addition, these employees will be offered post-exposure evaluation and follow-up at no cost should they experience an exposure incident on the job.

All medical evaluations and procedures, including the hepatitis B vaccination series, whether prophylactic or post-exposure, will be made available to the employee at a reasonable time and place. This medical care will be performed by or under the supervision of a licensed physician, physician's assistant, or nurse practitioner. Medical care and the vaccination series will be according to the most current recommendations of the CDC and Advisory Committee on Immunizations Practices (ACIP). Access to the bloodborne pathogens standard will be provided to the healthcare professional responsible for the employee's hepatitis B vaccination.

All tests will be conducted by an accredited laboratory at no cost to the employee as directed by Occupational Health.

Hepatitis B Vaccination

The most commonly used FDA approved Hepatitis B vaccine is initially given in a series of three injections. The second injection is given one month from the first injection. The final dose is given six months from the initial dose. Recently, a two-dose adjuvant HepB-CpG vaccine has also been FDA approved and is available for use. The second dose for this vaccine is given four weeks after the first. For all available immunizations protecting against HBV, a hepatitis B surface antibody (anti-HBs) test is recommended 4-8 weeks following the final dose in the immunization series to confirm immunity has been established in health care workers at-risk for blood borne pathogen exposure. Immunizations for prevention of HBV disease provided for at-risk persons will be based on review and recommendations by Occupational Health. Currently this is the available three dose vaccine.

The vaccination series will be recommended to employees (including students involved in at-risk health care) after they have received information regarding the hepatitis B vaccine during the pre-placement or pre-matriculation health assessment and within 10 working days of initial assignment to a job category with potential for exposure. The vaccination series will not be given to at-risk persons who have immunity demonstrated through antibody testing; or to any employee for whom the vaccine is medically contraindicated (such as hypersensitivity to yeast or any other vaccine component). Due to the increased prevalence and endemicity of HBV in certain regions, pre-vaccination serologic testing is indicated for all persons born in geographic regions with HBsAg prevalence of ≥2% (e.g., much of Eastern Europe, Asia, Africa, the Middle East, and the Pacific Islands). These persons are more likely to be carriers of HBV already due to vertical transmission, and thus may not be candidates for vaccination.

Employees who do not demonstrate immunity by detection of appropriate levels of Hepatitis B surface antibody (anti-HBs) ≥10 mIU/mL when tested more than a month after immunizations will be given a booster HBV vaccination, followed in another one to two months by retesting. If the second anti-HBs test is also non-immune the employee should complete two more injections on the recommended schedule (for a total of six injections) as recommended by ACIP followed again by testing for immunity one to two months after completion of the second series of shots.

If the employee still does not show evidence of immunity, a Hepatitis B surface antigen (HBsAg) should be drawn to see if the employee is already a carrier of Hepatitis B. If the hepatitis B surface antigen is positive, the employee should be referred to the primary health care provider or infectious disease specialist for further evaluation and treatment if indicated.

If the person does not develop demonstrable antibody after a second three dose series (total of six shots of HBV vaccine) and is not HBsAg antigen positive, they should be considered a "non-responder" to the vaccine. If these employees are later exposed to a patient with HBV, they will need HBV immune globulin (HBIG) and other post-exposure treatment as recommended by CDC.

Any eligible employee with potential exposure who chooses not to take Hepatitis B vaccination will be counseled regarding potential risks and benefits and required to sign a declination statement in accordance with OSHA regulations. Other at-risk persons should follow similar procedures and recommendations in this section, depending on their educational or volunteer status and the responsible party for their healthcare.
(See Addendums B and C).

D. Procedures for Evaluation, Treatment and Follow-Up of Exposure Incidents

An exposure incident is a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or OPIM that results from the performance of an employee's duties or during the course of a health care student's education.

Persons who experience a BBP exposure must immediately report the exposure by completing the Redcap EVMS BBP Exposure Survey located on EVMS Exposure Website or https://nala.evms.edu/redcapsurveys/?s=FL9ETCW4XE and follow disposition at end of survey.

- For urgent needs during business hours: Employees contact Occupational Health (757)446-5870; Students contact Student Health (757)446-5700
- For urgent needs during evenings, nights, weekends, and holidays: Employees/Students: contact Exposure Pager (757)554-1192.

If the infectivity status of the source patient is unknown, the patient's blood will be tested as soon as possible. The cost of the testing will be covered by EVMS Occupational Health, or in some cases by memorandum of understanding and training agreements with other institutions by the host organization. Authority for this testing is through the Code of Virginia § 32.1-45.1 (or similar laws in other states) which recognize "deemed consent" and allow testing for HIV, Hepatitis B and C and release of results to exposed persons at-risk. If the source patient is unavailable or otherwise cannot return for testing, an exposure risk determination will be made to the best extent possible from existing medical records or other circumstances surrounding the exposure.

The exposed at-risk person will be informed of the results of the source patient's testing.

If the source patient tests positive for HBV, HCV, or HIV, the exposed at-risk person's blood shall be collected as soon as possible as recommended by Occupational Health and relevant guidelines. If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.

The exposed individual will be offered post exposure prophylaxis (PEP), when medically indicated, as recommended by the CDC or other competent expertise. Currently this occurs if the patient is known to be HIV positive or found to be so by serologic testing subsequent to the exposure, or if the patient is high risk for HIV by medical history and not available for testing. PEP should begin as soon as possible after the exposure, but ideally within 72 hours. The current regimen involves a combination of two antiretroviral drugs taken for a 28-day period (see references for details). The exposed individual will be offered counseling and medical evaluation of any reported illnesses.

As noted above, anti-HBsAb negative at-risk persons or "non-responders" are candidates for HBIG to reduce their chance of HBV infection. If on follow up exposed candidates become infected with HBV, they will be referred for evaluation and treatment, as would at-risk persons exposed to HCV who later become infected. Evidence-based treatments are available for both these conditions.

Surveillance of exposed at-risk persons for subsequent infection by serial serologic testing is based on current guidelines for the type and nature of exposure to a blood borne pathogen.

The following information will be provided and made available to any appropriate healthcare professional evaluating an exposed individual after an exposure if needed (such as a referral for treatment for HCV if the exposed person subsequently becomes infected):

- 29 CFR, the 1910.1030 bloodborne pathogens standard;
- a description of the exposed at-risk person's duties as they relate to the exposure incident;
- the documentation of the route(s) of exposure and circumstances under which exposure occurred;
- results of the source individual's blood testing, if available;
- all medical records relevant to the appropriate treatment of the individual including vaccination status.

EVMS shall obtain and provide the exposed person with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation. The written opinion will be limited to the following:

- Informing the individual of the results of the evaluation;
- Telling the person about any medical conditions resulting from exposure to blood or OPIM which require further evaluation or treatment.

NOTE: All Other Findings or Diagnosis Shall Remain Confidential and Shall Not Be Included in the Written Report.

E. At-Risk Person Training and Compliance

At-risk persons will be trained during work hours regarding bloodborne pathogens at the time of initial assignment to tasks where exposure may occur and annually thereafter. General initial training is provided through Human Resources on Blackboard at http://evms.blackboard.com: HR Clinical New Employee Training/Bloodborne Pathogen and department specific training is the responsibility of the employee's supervisor. On-line refresher training will be completed annually and is also available on-line at http://evms.blackboard.com. At-risk persons are expected to update Bloodborne Pathogen training annually. Live training for groups of at-risk persons can be arranged by contacting Occupational Health. Additional training will be provided by the at-risk person's supervisor whenever there are changes in tasks or procedures which affect an at-risk person's occupational exposure; this training will be limited to the new exposure situation.

The following content will be included in the training program:

- explanation of the bloodborne pathogens standard;
- general explanation of the epidemiology, modes of transmission and symptoms of bloodborne diseases;
- explanation of this exposure control plan and how it will be implemented;
- procedures which may expose at-risk persons to blood or OPIM
- control methods that will be used at EVMS to prevent or reduce the risk of exposure to blood or other potentially infectious materials;
- explanation of the basis for selection of PPE;
- information on the hepatitis B vaccination program including the benefits and safety of vaccination;
- information on procedures to use in an emergency involving blood or OPIM;
- the procedure to follow if an exposure incident occurs;
- explanation of post-exposure evaluation and follow-up procedures; and
- an explanation of warning labels and/or color coding.

Employees are required to complete BBP training within 15 work days of hire. In addition, all employees hired prior to November 1 of each year will be retrained concurrent with Institutional Compliance Annual Employee and Annual Resident/Fellow training, as applicable.

Non-Compliance
Employees who do not comply with training requirements within 30 days of the deadline established for such training will be considered non-compliant. Consequences for non-compliance include notification of supervisor, notification of Department Chair, and if such non-compliance is not remedied, notification of Human Resources or the Academic Dean with a request for disciplinary action to betaken.

At-risk persons will be notified of required training via email. If the individual has not completed the required training after thirty (30) days, that person will be considered non-compliant.

>30 days non-compliant	Second reminder sent via email to individual and copied to the person's supervisor
>45 days non-compliant	Notice sent to department Chairman with a copy sent to the individual and supervisor
>60 days non-compliant	Notice sent to Health Services Director of Compliance, Director of Human Resources or Academic Dean with a copy sent to the individual, supervisor and Chair

F. Record Keeping and Documentation Procedures

Procedures are in place for maintaining both medical and training records. If EVMS should cease business, and there is no successor employer to receive and retain the records for the prescribed period, then the Director of the National Institute for Occupational Safety and Health (NIOSH) will be notified at least three months prior to the disposal of records. The records will be transmitted to NIOSH, if required by the Director, within the three-month period.

Medical Recordkeeping
A medical record will be maintained for all at-risk persons with an exposure incident. The record shall be maintained for the duration of employment or training plus 30 years in accordance with 29 CFR 1910.1020. Medical records shall be maintained by Occupational Health.

The record shall include the following:

- name and social security number of at-riskpersons;
- a copy of the employee's hepatitis B vaccination status with dates of hepatitis B vaccinations, anti HBs antibody titer and any medical records relative to the employee's ability to receive vaccination
- a copy of examination results, medical testing, and any follow up procedures;
- a copy ofthe healthcare professional's written opinion; and
- a copy of the information provided to the healthcare professional who evaluates the employee for suitability to receive hepatitis B vaccination prophylactically and/or after an exposure incident.

Sharps Injury Log
Occupational Health maintains a sharps injury log utilizing the Occupational Health database for the purpose of documenting and recording of percutaneous injuries from contaminated sharps, along with other pertinent details

relating to relevant exposures. The information in the sharps injury log is confidential and meets HIPAA requirements of the injured employee. The sharps injury log contains 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 theincident occurred.

A summary of logged events will be shared annually with the Environmental Health & Safety department in order to review incidents for trends and recommend possible interventions to prevent further injuries in consultation with the Occupational Health staff. Availability of safer devices or innovations to facilitate reductions in injuries will be incorporated into the recommendations including suggestions made by employees. Results of the periodic annual review and any recommendations will be documented in the minutes of the Academic Occupational Health and Safety Committee.

Confidentiality of Medical Records
At-risk persons medical records will be kept confidential. The contents will not be disclosed or reported to any person within or outside the workplace without the individual's expressed written consent, except as required by law or regulation. Employee medical records required under 1910.1030 shall be provided upon request for examination and copying to the subject employee and to the Commissioner of the Virginia Department of Labor and Industry in accordance with 29 CFR 1910.1020. For more information regarding the confidentiality of medical records, refer to Occupational Health Policy 9.0 Confidentiality of Occupational Health Medical Records.

Training records
Training records shall be maintained for 3 years from the date on which the training occurred. Records of employee training will be retained by the Office of Compliance. The following information shall be included:

- Date of trainingsessions,
- Contents or a summary of the training sessions,
- Names and qualifications of trainer(s),
- Names and job titles of all personstrained

Training records shall be provided upon request for examination and copying to at-risk persons, to employee representatives, and to the Commissioner of the Virginia Department of Labor and Industry in accordance with 20 CFR 1910.20

References

Occupational Safety and Health Standards, **Standard Number:** 1910.1030, Bloodborne pathogens, available at: https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030

CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Post exposure Management, *MMWR Recomm Rep*. 2013;62 (RR-10)

CDC Recommendations of the Advisory Committee on Immunization Practices for Use of a Hepatitis B Vaccine with a Novel Adjuvant, *MMWR* 2018;67 (15)

Kuhar DT, Henderson DK, Struble KA, et al. Updated US Public Health Service Guidelines for the Management of Occupational Exposures to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis" in Infection Control and Hospital Epidemiology on August 6, 2013 (ICHE 2013; 34(9):875-892) Available at: https://stacks.cdc.gov/view/cdc/20711

XIII. Tuberculosis Surveillance for Healthcare Personnel

Plan

Faculty, residents in training, staff, and students and others involved in health care activities (hereafter known as health care personnel [HCP]) will comply with recommendations from the Centers for Disease Control and Prevention (CDC) for medical surveillance related to the prevention of transmission of tuberculosis in health care facilities.

PROCEDURE

Preplacement tuberculosis screening *without* previously documented tuberculosis (TB) disease or latent tuberculosis infection (LTBI)

All new HCP who are applying for employment, educational rotations, or other clinical activity with EVMS will be required to have CDC recommended tuberculosis surveillance performed at the pre-placement health assessment. A single baseline Food and Drug Administration (FDA) approved interferon gamma release assay (IGRA) test (e.g., Quantiferon Gold-in-tube [QFT-GIT] or T-Spot TB) will be performed and the person will complete a baseline Tuberculosis Screening and Surveillance Questionnaire and preplacement baseline individual TB Risk Assessment.

Individuals with a positive TB Screening and Surveillance Questionnaire or who are determined to be at higher risk for TB by the TB Risk Assessment will be referred for further evaluation by their primary health care provider and results provided to EVMS Occupational Health staff before being cleared for employment or participation in health care activities.

Prospective or current HCP *with* a history of previous positive tuberculosis testing (due to prior TB disease, latent tuberculosis infection [LTBI], or BCG vaccination)

HCP who have documentation of a previously positive test result for *M. tuberculosis* infection and who are applying for employment, educational rotations, or other clinical activity with EVMS should provide records of previous testing and evaluation. If the individual has a history of Bacille Calmette-Guérin (BCG) vaccination and previously only had a TST (tuberculin skin test) done, they must get an FDA approved IGRA test (such as Quantiferon Gold-in-tube [QFT-GIT] or T- Spot) to rule out a false positive result due to BCG.

All others should have documentation of a previous baseline chest x-ray from the time of diagnosis and records of completed treatment for either Latent Tuberculosis Infection (LTBI) or TB disease. If a chest x-ray is not available or not previously done, it may be requested by the medical director of occupational health before any clinical activity.

If prior chest x-ray documentation is provided and did not reveal active disease, then the individual should complete Tuberculosis Screening and Surveillance Questionnaire at the onset of clinical activity and annually thereafter.

If the HCP has not been previously treated for LTBI, they must be advised of the risk and benefits of treatment and encouraged to get an evaluation for treatment to prevent progression to active TB. HCP must provide documentation from the referral health care provider regarding appropriate counseling for risks and benefits of recommended treatment and the plan of care, or else the individual's declination or contraindication(s) for treatment.

Serial follow-up chest radiographs are not recommended for HCP with documentation of a previously positive test result for M tuberculosis infection and adequate treatment for LTBI or TB disease, unless the individual later becomes symptomatic. They are also not recommended for asymptomatic HCP with negative test results for *M. tuberculosis* infection.

Tuberculosis test positive HCP who subsequently develop pulmonary symptoms of tuberculosis (which include but are not limited to: chronic cough, night sweats, hemoptysis, and unexplained weight loss), should report this as soon as possible to Occupational Health for evaluation. The medical director will determine if a repeat chest radiograph to rule out active tuberculosis and further referral is indicated.

C. Serial screening and selective surveillance of at-risk HCP

Serial screening (routine annual surveillance) for TB in health care settings in the United States is not generally indicated or recommended by the CDC. Certain higher risk clinicians, such as HCP in infectious disease clinics or pulmonologists seeing 3 or more TB patients annually, may be designated by the medical director of occupational health for annual screening, consistent with expert recommendations. Annual IGRA tests will be performed for these HCP. If ongoing transmission of TB is identified in any clinical setting of the medical group, enhanced surveillance may also be required for the HCP involved as determined by the medical director of occupational health.

Laboratory personnel handling animals (non-human primates, in particular macaques) are also required to complete periodic surveillance (usually every six months) as recommended by laboratory accreditation infection control standards.

D. Initial positive tuberculosis screening tests or conversion on serial testing

Individuals found to be positive on TB testing at the time of their pre-placement health assessment will be referred to their primary health care provider for evaluation and possible treatment. Documentation of the results of this evaluation must be provided to EVMS Occupational Health staff before being cleared for employment or participation in health care activities.

HCP involved in serial screening and surveillance that later develop a newly positive IGRA test will require a second confirmatory test for diagnosis, as recommended by current guidelines. If the confirmatory test is also positive, the individual will be considered a TB conversion. TB conversion cases will complete a Tuberculosis Screening and Surveillance Questionnaire and be referred for a chest radiograph at Occupational Health expense if determined to be likely due to an occupational exposure and no other potential exposure source is found (e.g., foreign travel not related to work). Employees and students will be referred for further evaluation and treatment by EVMS Infectious Disease at Occupational Health cost. Conversions which are not clearly related to tuberculosis exposure at work, will be referred to their primary health care provider for further evaluation and treatment.

All TB conversions among EVMS HCP will be investigated for possible common exposure sources or potential clusters of cases by Occupational Health staff and reported to the Academic Occupational Health and Safety Committee and if needed local health department.

HCP must provide documentation from the evaluating and treating primary health care provider regarding appropriate counseling for risks and benefits of recommended treatment and plan of care, or else the individual's declination or contraindication(s) for treatment.

E. Tuberculosis Exposures

HCP who have an unprotected exposure to active tuberculosis will report to Occupational Health for post exposure management. The date, location, duration of exposure, and patient source name will be documented by Occupational Health.

HCP will receive a baseline IGRA as soon as possible following the exposure. Exposed individuals will be instructed to report for a follow up post exposure IGRA 8 to 10 weeks after the exposure date. Non-employees will be referred to the health department or their private health care provider for similar follow up. Any HCP with a subsequent positive IGRA test will be considered a TB conversion and managed according to section II, C, above.

HCP who have a documented history of LTBI will complete a Tuberculosis Screening and Surveillance Questionnaire at the time of the exposure and at 8 to 10 weeks post exposure.

Tuberculosis Education Compliance

All HCP will receive annual TB education, including information about TB exposure risks for HCP.

Employees and students who do not comply with the requirements may be subject to work or educational restrictions and appropriate disciplinary action.

References

Centers for Disease Control and Prevention. Updated Guidelines for Using Interferon Gamma Release Assays to Detect Mycobacterium tuberculosis Infection — United States, 2010. MMWR 2010;59 (No. RR-5):1-25. https://www.cdc.gov/mmwr/pdf/rr/rr5905.pdf

CDC. Treatment regimens for latent TB infection (LTBI). Atlanta, GA: US Department of Health and Human Services, CDC; 2017. https://www.cdc.gov/tb/topic/treatment/ltbi.htm (https://www.cdc.gov/tb/topic/treatment/ltbi.htm)

Lewinsohn DM, Leonard MK, LoBue PA, et al. Official American Thoracic Society/Infectious Diseases Society of America/Centers for Disease Control and Prevention clinical practice guidelines: diagnosis of tuberculosis in adults and children. Clin Infect Dis 2017;64:111–5. CrossRef (http://dx.doi.org/10.1093/cid/ciw778) PubMed (http://www.ncbi.nlm.nih.gov/pubmed/28052967)

ADDENDUM A

All at-risk persons in job categories listed below are included in the plan:

Advanced Practitioner
Anatomy and Pathology Intern
Anatomy Laboratory Supervisor
Art Therapist
Assistant EVMSMG Quality Officer
Assistant Professor
Associate Director, Environmental Health & Safety
Associate Professor
Audiologist
Audiology Tech
Cadaver Lab Assistant
Care Coordinator
Care Manager I
Care Manager II
Chairman
Clinical Research Associate I
Clinical Research Associate I
Clinical Research Associate II
Clinical Research Nurse
Contemporary Human Anatomy Lab Coordinator
Coordinator Clinical Research (non-RN)
Coordinator Clinical Research (RN)
Coordinator Cochlear Implants
Diabetes Educator
Dietitian
Director Audiology
Director of Environmental Health and Safety
Director, Nursing Services
Director, Surgical Education
Donor Egg Patient Coordinator
Embryologist I
Embryologist II
Emergency Management and Fire Safety Specialist
Emergency Manager
Environmental Health & Safety Specialist
Environmental Health & Safety Technician
Executive Director, Employee Occupational Health
Family Medicine Scheduling Clerk
Fellow
Genetic Counselor
Genetic Counselor II
Histology Technician
Instructor
IVF Clinical Manager
Laboratory Assistant
Laboratory Coordinator
Laboratory Technician
LPN
LPN II
LPN II, Phototherapy
LPN Supervisor
Maintenance Carpenter
Maintenance Electrician
Maintenance Engineer
Maintenance Manager
Maintenance Plumber
Manager Clinical Research
Manager Lab Operations
Manager, Intramural Preclinical Research
Medical Assistant
Medical Assistant II
Medical Assistant, Lead
Medical Lab Technician
Medical Receptionist
Medical Scribe
Medical Technologist
Medical Technologist
Nurse Injector I
Nurse Manager
Nurse Practitioner
Nurse Practitioner II
Nurse Practitioner II, Combined
Nurse Practitioner II, Inpatient
Patient Counselor
Patient Navigator
Pelvic Floor Physical Therapist

Physician's Assistant
Physician's Assistant II
Police Investigator
Police Lieutenant
Police Officer I
Police Officer II
Police Sergeant
Polysomnographic Technologist
Polysomnographic Trainee
Professor
Psychological Tester
Psychology Intern
Public Safety Corporal
Public Safety Officer
Public Safety Sergeant
Pulmonary Function Technician
Registered Nurse
Registered Nurse II
Research Assistant I
Research Assistant II
Research Assistant-Intern
Research Associate I
Research Associate II
Research Nurse Coordinator
Resident
Safety Officer
Senior Standardized Patient Educator
Senior Telecommunicator
Standardized Patient
Standardized Patient Educator
Supervisor Embryology
Supervisor Operating Room
Surgical Technologist
Telecommunicator
Ultrasonographer I
Ultrasonographer II
Visiting Scientist

Student categories:
All Health Professions programs
All Doctor of Medicine programs
Visiting clinical students

ADDENDUM B

Eastern Virginia Medical School
Occupational Health
Employee Hepatitis B Declination Form

I understand that due to my possible occupational exposure to blood or other potentially infectious materials (OPIM), I may be at-risk of acquiring hepatitis B virus (HBV) infection. I have been given information on Center for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) recommendations and the opportunity to be immunized with hepatitis B vaccine, however, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, if I have not been previously vaccinated or have otherwise demonstrated immunity to this virus, I may be at-risk of acquiring hepatitis B, a serious disease. If exposure to Hepatitis B infected blood or body fluids later occurs, immune globulin combined with vaccination against Hepatitis B would be recommended at that time in order to help avoid infection. I have been informed that prior vaccination remains the best protection against infections of this sort.

I realize that in the future, if I continue to have occupational exposure to blood or OPIM, I may later wish to complete the hepatitis B vaccine series as recommended and then verify evidence of immunity. I understand I may receive the vaccination series at no charge to me.

Please complete the following:

(Print) Name_____

Social Security Number_____

Program_____

Signature_____Date_____

Please check one:

_____I decline vaccine at this time.
_____I decline because I have previously been vaccinated and have demonstrated immunity by a positive Hepatitis B surface antibody titer
_____I decline immunization because I am a known vaccine non-responder (I have gone through two series of Hepatitis B immunizations and still did not develop an adequate HBsAb titer)
_____I decline immunization because I am an HBV carrier (have a positive HBsAg antigen test)

(Note: you MUST provide official immunization documentation and verification of immune status by Hepatitis B surface antibody titer or HBsAg positive labs)

ADDENDUM C

Eastern Virginia Medical School
Occupational Health
Volunteers/Visiting Students/Vising Physicians Hepatitis B Declination Form

I understand that due to my possible occupational exposure to blood or other potentially infectious materials (OPIM), I may be at-risk of acquiring hepatitis B virus (HBV) infection. I have been given information on Center for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA) recommendations and the opportunity to be immunized with hepatitis B vaccine, however, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, if I have not been previously vaccinated or have otherwise demonstrated immunity to this virus, I may be at-risk of acquiring hepatitis B, a serious disease. If exposure to Hepatitis B infected blood or body fluids later occurs, immune globulin combined with vaccination against Hepatitis B would be recommended at that time in order to help avoid infection. I have been informed that prior vaccination remains the best protection against infections of this sort.

I realize that in the future, if I continue to have occupational exposure to blood or OPIM, I may later wish to complete the hepatitis B vaccine series as recommended and then verify evidence of immunity.

Please complete the following:

Print Name_____

Social Security Number_____

Program_____

Signature_____Date_____

Please check one:

_____I decline vaccine at this time.
_____I decline because I have previously been vaccinated and have demonstrated immunity by a positive Hepatitis B surface antibody titer
_____I decline immunization because I am a known vaccine non-responder (I have gone through two series of Hepatitis B immunizations and still did not develop an adequate HBsAb titer)
_____I decline immunization because I am an HBV carrier (have a positive HBsAg antigen test)

(Note: you MUST provide official immunization documentation and verification of immune status by Hepatitis B surface antibody titer or HBsAg positive labs)

ADDENDUM D

STANDARD OPERATING PROCEDURE
Subject: Procedures for Contaminated Laundry in Biological Safety Level 2 Facilities and Lower

Background

Although soiled laundry may harbor large numbers of pathogenic microorganisms, the risk of actual disease transmission from soiled laundry is negligible. In general, soiled laundry should be handled as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of persons handling the laundry. For Biological Safety Level 2 facilities, including clinical areas, decontamination of laundry prior to transport to a commercial laundry facility is not necessary. Commercial laundry facilities use water temperatures of at least 160°F and 50-150 ppm of chlorine bleach to remove significant quantities of microorganisms from grossly contaminated laundry.

This Standard Operating Procedure for blood or OPIM contaminated laundry is written in accordance with guidelines of the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), the Occupational Safety and Health Administration (OSHA), and the Biosafety in the Microbiological and Biomedical Laboratories, 5th edition (BMBL).

Definitions

Biological Safety Level 2 Facilities (BSL-2) -
BSL-2 facilities are suitable for work involving agents or materials that pose moderate hazards to personnel and the environment. Human cells, tissues, and body fluids are considered BSL-2 materials. Standard microbiological practices should be observed when handling BSL-2 materials, including utilizing proper PPE.

Laundry -
Any article made of cloth or cloth-like material, including but not limited to bed sheets, lab coats, street clothing, and scrubs.

OPIM -
Other Potentially Infectious Materials. This includes but is not limited to sputum, semen, cerebrospinal fluid, and any body fluid contaminated with blood.

PPE -
Personal Protective Equipment. Specialized clothing or equipment worn by at-risk persons for protection against health and safety hazards. Includes gloves, lab coats, aprons, goggles, and respirators.

Soiled -
In this document, refers to contamination of laundry by blood and/or OPIM.

Procedures

In the event laundry, whether in the laboratory or clinical setting, becomes soiled, the following procedures shall be followed:

1. DO NOT sort, rinse, or soak laundry in the location of use. At-risk persons are not to take contaminated laundry home for any reason.

2. While wearing appropriate PPE, remove the contaminated piece of laundry.

3. Place laundry in an appropriately labeled bag or container at the location where it was used. Bag or container must be leak-proof and labeled with the Biohazard symbol.
   Note: Commercial laundry bags from a contracted vendor are appropriately labeled and are coated in a liquid-resistant material to prevent leaks.

4. If laundry is wet and presents a reasonable likelihood of leakage to the exterior of a single container, it must be placed in a second container (or "double-bagged").

5. After all soiled laundry has been placed in the appropriate container(s), dispose of used PPE in the medical waste container.

6. All laundry shall be sent to a commercial laundry facility for decontamination and cleaning at no expense to the employee.

ADDENDUM E

VDH Reportable Disease List
https://www.cdc.gov/vaccines/acip/index.html

GLOSSARY OF TERMS

Biohazard Label — A label affixed to containers of regulated waste, refrigerator/freezers and other containers used to store, transport or ship blood and other containers used to store, transport or ship blood and other potentially infectious materials. The label must be fluorescent orange-red in color with the biohazard symbol and the word biohazard on the label.

Blood — Human blood, human blood components, and products made from human blood.

Bloodborne Pathogens — Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV), and Hepatitis C Virus (HCV).

Clinical Laboratory — A workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

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

Contaminated Laundry — Laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.

Contaminated Sharps — Contaminated objects that can penetrate the skin including, but not limited to needles, scalpels, broken glass, broken capillary tubes, and exposed ends of 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.

Employee — An individual employed in a healthcare, industrial or other facility or operation who may be exposed to bloodborne pathogens in the course of their assignments.

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

Exposure Control Plan — A written program developed and implemented by the employer which sets forth procedures, engineering controls, personal protective equipment, work practices and other methods that are capable of protecting at-risk persons from exposure

	to bloodborne pathogens, and meets the requirements defined by the OSHA Bloodborne Pathogens Standard.
Exposure Incident	A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral infectious materials that result from the performance of an employee's duties.
Handwashing Facilities	A facility providing an adequate supply of running potable water, soap and single use towels.
HBV	Hepatitis B Virus.
HCV	Hepatitis C Virus.
HIV	Human Immunodeficiency Virus.
Licensed Healthcare Professional	A person whose legally permitted scope of practice allows he or she to independently perform the activities required by section headed "Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up" of OSHA's Bloodborne Pathogens Standard.
Medical Consultation	A consultation which takes place between an employee and a licensed medical professional for the purpose of determining the employee's medical condition resulting from exposure to blood or other potentially infectious materials, as well as any further evaluation or treatment that is required.
NIOSH	National Institute for Occupational Safety and Health of the Public Health Service, of the U.S. Department of Health and Human Services; the Federal agency which assists OSHA in occupational safety and health investigations and research.
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.
OSHA	Occupational Safety and Health Administration of the U.S. Department of Labor; the Federal agency with safety and health regulatory and enforcement authorities for most U.S. industry and business.
Other Potentially Infectious Materials	(1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial 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;

(2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead);

(3) HIV-containing cell or tissue cultures, organ cultures, and HIV-or HBV-containing culture medium or other tissues from experimental animals infected with HIV or HBV.

Parenteral

Piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

Personal Protective Equipment

Clothing or equipment worn by an employee for protection against a hazard. Personal Protective equipment is removed when exiting from the exposed area. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Regulated Medical 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.