PROCEDURE: MICROBIOLOGY SAFETY GUIDELINES

For complete details refer to Policy stat: Pathology Laboratory Safety Manual- RIH
MSDS MANUAL IS ON THE LIFESPAN INTRANET, RESEARCH ADMIN>SAFETY>MSDS

I. PERSONAL PROTECTION

A. It is mandatory that all laboratory personnel wear gloves and disposable lab coats/gowns when processing all specimens, performing tests on these samples, during instrument maintenance, troubleshooting and cleaning, when disposing of biohazardous waste, and cleaning of spills.
B. Protective eyewear is available, and its use strongly recommended when performing procedures with a risk of splatter.
C. Protective clothing i.e., gloves, disposable lab coats/gowns, are not to be worn outside the laboratory and once removed, hands should be washed.
    1. Always wash hands before leaving the laboratory. There are separate hand-washing and testing sinks in the laboratory. There is also hand sanitizer dispensers at the entrance of each room. Remember, everything in the laboratory is considered contaminated, including fomites such as telephones, pens, chairs, etc.
    2. Lab personnel may not eat, drink, or apply cosmetics while in the laboratory.
    3. Never mouth pipette. Use automatic pipettes or controller bulbs.
    4. In the event of accidental exposures to infectious samples, hands or other exposed areas must be washed with soap and wash or antiseptic solution immediately.
    5. In case of eye exposure to infectious materials, and or chemical exposure immediately flush eyes at the emergency eye wash station located at the sink area with copious amounts of water for 15 minutes.
        i. Note: eye wash stations are located at planting, and the rear of the main room near the wound bench (APC1136), micro west (APC1150), AFB room (APC1152), and virology (APC1155).
    6. Within the first hour of the accidental exposure, report the exposure to the laboratory manager and EMPOLYEE HEALTH SERVICES (EHS) for evaluation and follow-up.
    7. Sniffing plates is prohibited.

II. SPECIMEN HANDLING

A. The Body substance Precautions system is consistent with recommendation from the center for Disease Control and the American Hospital Association that point out the need to consider ALL blood and body fluids as potentially infectious, regardless of the patient's diagnosis. In order to follow these recommendations, the need to use barriers must focus on the care providers' INTERACTION with the patient at the time, rather than on the DIAGNOSIS of the patient which is the cornerstone of the traditional isolation system.
B. Because the status of all patients' blood cannot be known for these or other infectious disease, treat ALL blood and body substances as potentially infectious rather than to focus precautions only on the patient's diagnosis with infectious disease.
C. Personal protective equipment (PPE) is considered appropriate when blood, other body fluids or potentially infectious materials pass through to the employee's skin, mucous membranes, or clothing under normal conditions of use and for the duration of use.
D. The type of protective equipment appropriate for a given task depends on the degree of exposure you anticipate.

Mask gloves, eye protection, gown and face shield	Hazard Protection
Gown, gloves, apron and other protective body clothing	Generation of splashes, spray, spatter or droplets of infectious material
Gloves, gown, surgical cap or hood and shoe covers or boots.	Potential clothing or skin exposure
	Encountering large amounts of blood during autopsy.

E. Disposable PPE is used once and is removed if it gets grossly contaminated or once the task is completed. Ex. Surgical examination gloves shall be replaced when visibly soiled, torn, and punctured or when their integrity is compromised. Do not attempt to wash or disinfect and rinse disposable PPE since the cleaning process could affect the integrity of the articles and lessen its protective qualities.
F. Reusable PPE is inspected periodically and repaired and replaced as needed to maintain its effectiveness. Ex. Utility gloves may be decontaminated and re-used unless they are cracked, peeling, torn, punctured, or no longer provide barrier protection. The hospital will repair or replace required personal protective equipment as needed to maintain its effectiveness.

III. EQUIPMENT/WORK SURFACES

A. Maintain materials and equipment in a clean and orderly condition. Cover all microscopes and maintain stage and lenses free of oil when not in use.
B. Observe proper incinerator practices with regard to loops and culture tubes. Make sure wire loops and needles are cool before entering cultures or clinical material.
C. Wash down all benches with disinfectant at the end of the day and record on sheet at bench. If the bench is closed, it will be noted on the sheet.
    1. For Micro Benches and hoods, use Lophene, concentrate diluted to 1:256. Let sit wet for 10 minutes
    2. For Molecular Benches and hoods, use 10% bleach followed by DI H_2O and/or 70% alcohol
D. Non-disposable equipment must be disinfected with an appropriate disinfectant after contact with an infectious material.
E. If a tube breaks in the centrifuge, stop the centrifuge. Refer to Spill Containment protocol in Pathology Laboratory Safety Manual- RIH

IV. DISPOSAL OF INFECTIOUS WASTE

A. Infectious waste must be rendered harmless or contained appropriately by the microbiology laboratory for safe disposals.
B. Materials:
    1. Hospital supply – red bag
    2. Rubbish containers to support plastic bag
    3. Sharps containers - large and small containers available from ESD

V. PROCEDURE

A. All specimen containers processed at the planting bench (specimen containers) are to be discarded after the initial culture process, directly into a barrels doubled-lined with orange autoclave bags and red biohazard bags. All specimens are to be processed with gloves and both the specimen and the gloves, if bloody, are to be discarded into the biohazard barrel.
B. Plated material, plastic tubes, and patient specimen bags are also discarded into double-lined biohazard barrels.
C. Sharps, such as needles, syringes, scalpel, blades, scissors, broken tubes, rigid pipets, sticks, soft plastic disposables, etc. are disposed of in sharps containers.
D. Sharps, such as culture tubes, are disposed of into sharps containers lined with a large red autoclave bag.
E. Note: positive AFB tubes are sterilized first by pouring disinfectant into the tubes, tighten the caps and place in the sharps container lined with the red autoclave bag.
    1. Under no circumstances are biohazard bags to be filled beyond the ¾ capacity.
    2. When filled, bags are tied off, covers are placed in transport container in the corridor for removal by Environmental Services.
    3. Sharps containers are collected by a vendor for proper disposal.
    4. Sharps containers should not have uncontained liquids.

5. Regulated medical waste disposal is divided into the following three categories:

Clear/White Bags	Red Bags	Sharps Containers
• Disposable: Medical gloves Gowns Face masks Other protective apparel • Gauze • Chem wipes • LIS labels • Non-recyclable paper products • Alcohol whips • Empty urine collection containers • Paper towels • Plastic bag (no biohazard label)	• Plastic tubes containing blood/blood products • All patient specimens non-glass containers) • Grossly bloody waste • Any Creutzfeldt-Jakob Disease (CJD) contaminated waste • Biohazard labeled plastic bags (specimen bags)	• Pipette tips • Broken glass • Glass object • Scalpel blades • Glass slides/coverslips • Lancets • Needle/syringes • Razor blades • Disposal of sharp instruments • Wooden applicator sticks (RIH only)

VI. UV RADIATION

A. Radiation has no odor or taste to alert you to exposure, so preventing radioactive material from entering the body or protecting external radiation is the best way to limit exposures. In the lab, PPE and good personal hygiene will give you the best protection. UV light used in microbiology to sterilize biological safety hoods, may cause corneal or skin burns from direct or deflected light. To prevent exposure, it is prohibited to work in the bio-safety hoods when the UV light is on. UV light is also used in fluorescent microscopy. Microscope must be in proper working order for use in testing. Do not remove shields that are in place in the microscope.

VII. CREUTZFELDT-JAKOB DISEASE

A. If there is a suspected case of CJD, the processing area must be cleaned with 1N NaOH and allowed to set for 1 hour before washing thoroughly with soap. Instrumentation should follow the same procedure.
B. For more details, refer to CJD section in **Pathology Laboratory Safety Manual- RIH**

VIII. LABELLING OF CHEMICALS AND REAGENTS

A. Generally, purchased chemical/reagents only need a received date and an opened date recorded on the bottle.
B. Aliquoted reagents or reagents made in-house require the following:
    1. Contents and quantity
    2. Concentration or titer (if appropriate)
    3. Date of preparation
    4. Expiration date (if there is no recommendation regarding expiration, one year is an acceptable period of time.)
    5. Open date
    6. Storage requirements
C. Note: “Aliquoted Reagents with Labeling Requirements

IX. REVISIONS

A. 02/12/2020- Removal of Appendix AP25 and edit of pathway to Safety Manual on Intranet
B. 02/19/2026 – Updated referral link to departmental safety procedure