

Laboratory Infection Control Policy

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LABORATORY INFECTION CONTROL GUIDELINES2

- 1. EMPLOYEE HEALTH 2
- 2. EDUCATION..... 2
- 3. ATTIRE 3
- 4. PROCEDURES FOR CONTACT WITH PATIENTS AND HANDLING PATIENT SPECIMENS 4
- 5. GENERAL PRACTICES.....5
- 6. CLEANING AND DISINFECTION OF EQUIPMENT..... 5
 - a. Clinical Pathology6
 - b. Surgical Pathology 7
 - c. Cytopathology8
 - d. Autopsy Pathology8
- 6. HOUSEKEEPING PROCEDURES 8
- 7. MAINTENANCE AND REPAIR SERVICES 8

Laboratory Infection Control Guidelines

Purpose:

These guidelines are to prevent and control infections in the Johns Hopkins Medical Laboratories.

1. Employee Health

Personnel who are exposed to a communicable disease to which they are susceptible (during work or away from work) must contact Occupational Health Services (OHS) after notifying HEIC. During business hours,

- Occupational Health Services can be reached at 410-955-6211, after hours, call operator at 410-955-500 for on-call pager.
- a. Location of Occupational Health Service (OHS), (X5-6211)
 - i. Phipps 351 Clinic between 8am – 4pm
 - ii. 98 N Broadway
- The exposures should be reported to a supervisor immediately and managed as outlined in the Interdisciplinary Clinical Practice Manual, Infection Control Management of Exposures of Patients and Personnel to Selected Communicable Diseases
- b. For exposure to Bloodborne Pathogens call x 5-STIX, (x5-7849).
- c. Personnel that have been exposed to a patient's blood or infectious body fluid should report the exposure to their supervisor and refer to specific procedures outlined in the Johns Hopkins Safety Manual, Health Safety Environment (HSE-500) and the *Johns Hopkins Laboratory Safety Manual* (Section V- Laboratory Accident Procedure).

2. Education

- a. Orientation-
 - i. All personnel are to receive an orientation to Infection Control upon employment.
- b. Resources
Resources for infection control education include the *Interdisciplinary Clinical Practice Manual* and the Department of Hospital Epidemiology and Infection Control (HEIC). Infection control education materials and consultation is available from HEIC (x5-8384). Occupational Safety and Health Standard (OSHA) 1910.1030, Bloodborne pathogens. www.osha.gov

Infection Control

Effective Date: 9/1/1998rev, 10/02, rev.5/2003, 11/2005

Revised: 12/2007

Laboratory Infection Control Policy

3 of 9

- c. Infection Control Updates
 - ii. All personnel are to participate in a Johns Hopkins annual update which will include infection control practices. Other updates may be scheduled at any time by request or as pertinent issues arise.
- 3. Attire**
- a. General Laboratory
Refer to the Laboratory Policy for Dress Code.
 - b. Personal Protective Equipment (**PPE**)
 - i. PPE is required by the Bloodborne Pathogens Standard if exposure to blood and [other potentially infectious materials \(OPIM\)](#) is anticipated and where occupational exposure remains, after the institution of engineering and work practice controls.
 - ii. PPE is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.
 - iii. Masks, Eye Protection, and Face Shields.
Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray, splatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated
 - iv. Gowns, Aprons, and Other Protective Body Clothing.
Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated. Laboratory coats must be water repellent, anti-static, and with a closed front.
 - v. Dispose of PPE in designated containers before leaving area.
 - c. Biosafety Level 3 laboratories
Refer to the *Johns Hopkins Medical Laboratories Safety Manual* (Section IX). For Mycobacteriology a gown, glove, and mask procedures, refer to the AFB manual (Section I).

Infection Control

Effective Date: 9/1/1998rev, 10/02, rev.5/2003, 11/2005

Revised: 12/2007

4. Procedures for Contact with Patients and Handling Patient Specimens

a. Handwashing-

Complete after any patient contact, after removing gloves, after completion of any equipment cleaning procedure, after clean up of a spill, after using the restroom and before eating. The Infection Control procedure specific for handwashing is as follows:

i. **Soap and water-**

1. Take 15 seconds to vigorously rub together all surfaces of lathered hands and rinse under a stream of water.
2. Dry with a paper towel.
3. Do not recontaminate- Use a dry paper towel to turn the faucet off.

ii. **Alcohol based hand sanitizer-**

1. Apply 5 cc or 1 pump from dispenser of sanitizer into palm of hands, rub until dry.

b. Artificial Fingernails

Persons with direct patient contact may only have natural nails.

c. Standard Precautions

Standard Precautions defined as putting a barrier between the health care worker and the blood or body fluid of any patient.

Personnel are to consider all patients and patient specimens potentially infected with a Bloodborne pathogen and must adhere to the precautionary measure outlined in the **IFC -015 Policy -Standard Precautions And Infection Control And Prevention Requirements**
http://www.hopkinsmedicine.org/heic/policies/pdf/ifc015_Standard.pdf

d. Pipetting

All pipetting will be done with mechanical assistance (e.g., bulbs, semi-automated pipettor) to avoid dangers from liquid or aerosols. Pipetting by mouth is never permitted.

e. Biosafety Containment

Needs may vary with the tasks being performed. The user should review these needs with the JHM Biosafety Office (x5-5918) to determine the appropriate level of protection. For splatter protection, plastic shields or appropriate eyewear may be used. For biologic safety cabinet usage, refer to the *Johns Hopkins Medical Laboratories Safety Manual*.

Laboratory Infection Control Policy

5 of 9

- f. Eating, drinking, smoking, applying cosmetics, handling contact lens or the storage of food is not permitted in areas where specimens are either processed or stored. These activities shall be confined to designated staff break rooms, or designated conference or office areas. Use of hand lotion is acceptable.
- g. Isolation- Patients diagnosed with, or suspected of having an infectious disease may be placed in isolation to prevent the spread of infection to other patients, staff and visitors.

There are six categories of isolation/ precautions:

- Contact Precautions (green)
- Droplet Precautions (orange)
- Pediatric Droplet precautions (light pink)
- Airborne Isolation (blue)
- Special Precautions (dark pink)
- Maximum Precautions (red)

Specific procedures for the care of patients in isolation or patient specimens can be found in the *Interdisciplinary Clinical Practice Manual* (ICPM) and the Hospital Epidemiology Infection Control (HEIC) website, <http://www.hopkinsmedicine.org/heic>. (IFC 023)

5. General Practices

- 1. Specimen handling - All specimens are to be handled gently to avoid aerosolization of infectious material. All stirring, blending or situations where splashing of liquids may occur, must be performed in the biological safety cabinet.
- 2. Sharps - All needles and other sharps are discarded in approved containers.
- 3. Autoclaves - All contaminated items are to be autoclaved at 250° F for a minimum of 30 minutes (Quantity and content dependent). Time, temperature, pressure parameters and run number are recorded for each run. When sterilizing a chemical indicator is used. Weekly all autoclaves are challenged with a biological indicator and a sterilization control and the results recorded. Autoclaved biohazard bags are discarded in specially designated red bag containers.
- 4. Results that require Hospital Epidemiology and Infection Control Department notification are listed below. Results requiring immediate telephone notification are underlined. HEIC 955-8384 or pager 283-3855.

Infection Control

Effective Date: 9/1/1998rev, 10/02, rev.5/2003, 11/2005

Revised: 12/2007

Laboratory Infection Control Policy

6 of 9

Anthrax

Hepatitis A, B,C,D,E,F,G

Influenza A or B

Meningococcal

Measles

Plague

Polio

Rubella

Small Pox

Tuleremia

Viral gastroenteritis

(Rotavirus, Norwalk or related viruses)

Botulism

Chickenpox

Legionnaires Disease

Meningitis

Pertussis

Resistant Organisms (MRSA,VRE, VISA)

Respiratory Syncytial Virus

Scabies

Tuberculosis

Viral Conjunctivitis

Viral Hemorrhagic fevers

CJD

Positive AFB smears (first positive smear per patient)

MDR-TB identified (MTB resistant to at least INH plus RIF)

6. Cleaning and Disinfection of Equipment

Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.

Clinical Pathology

1. Sterilization of Reusable Equipment - All reusable items constructed of metal, glass, or heat-resistant plastic will be sterilized using steam heat. Sterilizer monitoring should be performed according to the guidelines described in the ICPM –Sterilization Standards. A designated individual will be responsible for documentation of all monitoring activity.
2. Disinfection of Non-Heat-Resistant Reusable Equipment - Items must be washed in a detergent solution to remove all visible organic debris and gross soil. Household bleach or Dispatch® may be used to disinfect clean items. Refer to the *Johns Hopkins Medical Laboratories Safety Manual* (Section I.H) for additional information.
3. Disinfection of Work Surfaces - All work surfaces in daily use, such as bench tops, sinks or mobile carts, must be disinfected at the end of each work shift. Use products which have been approved by the HEIC, such as Wescodyne®, Dispatch®, or Lysol®. Use household Bleach (1:10 strength dilution) or Dispatch if a specimen of blood or blood products have been manipulated. Refer to the *Johns Hopkins*

Infection Control

Effective Date: 9/1/1998rev, 10/02, rev.5/2003, 11/2005

Revised: 12/2007

Medical Laboratories Safety Manual (Section I.I.) for additional information. Each specific laboratory may also have a policy addressing cleaning agents appropriate for that area.

4. Centrifuges - Any centrifuge used for processing potentially infective biological materials will be disinfected weekly with 1:10 dilution of household bleach solution.

b. Surgical Pathology

1. Specimen storage containers - After emptying contaminated reusable containers are filled with water and detergent. At the end of the day they are collected, rinsed and immersed in Household Bleach overnight. The following day, they are washed in detergent, dried and shelved for reuse.
2. Blocks and work areas - Blocks and work areas are wiped with 1:10 dilution of Household Bleach, Dispatch® or other hospital approved cleaner, at least daily, or when visibly soiled.
3. Cutting area - the cutting area is wiped down with a Household Bleach when visibly contaminated with blood or tissue.
4. Cryostats - Cryostats used for frozen sections are cleaned with 100 OH on a daily basis, and after cutting tissue with suspected M. tuberculosis..
5. Disposable material - All disposable contaminated items are placed in specially designed redbag trash containers.
6. Creutzfeldt-Jakob disease (CJD) - Blocks containing tissue known or suspected of being contaminated with the agent associated with Creutzfeldt-Jakob Disease are sealed in paraffin, placed in a box marked C-J and kept in a locked cabinet. Refer to Laboratory Safety Manual for additional instructions on handling CJD specimens.
And HEIC website
http://www.hopkinsmedicine.org/heic/policies/pdf/IFC032_Prion_Associated_Diseases.pdf
7. Decontamination of equipment in contact with CJD agent - Steam autoclave for one hour at 270° F in a gravity-displacement sterilizer prior to disposal unless it can be carefully collected, contained, and completely incinerated.

Laboratory Infection Control Policy

8 of 9

c. Cytopathology

1. All Cytopathology specimens must be treated as if known to be infectious. Standard Precautions apply to blood and body fluids, secretions, excretions and all tissues. .
2. Equipment and work areas - Several times a day work areas and equipment are wiped with a hospital approved product, either 1:10 Household Bleach or Dispatch®. Weekly, the centrifuge and drains are cleaned with the same disinfectant.

d. Autopsy Pathology

1. Autopsy table and instruments - After completion of a case, the table and instruments are saturated thoroughly and wiped with Dispatch® or 1:10 dilution household bleach and then rinsed. The table and instruments are then washed thoroughly with an enzymatic detergent and rinsed.
3. Wall and floor surfaces - After completion of a case, the walls and floor are cleaned with a disinfectant, either Dispatch® or 1:10 dilution of household bleach. The mop head is discarded in a red bag.
4. Isolation room - Patients in whom a communicable disease is suspected or confirmed prior to autopsy, must have their autopsy performed in the isolation room. However, because many infections are not identified before autopsy, **STANDARD PRECAUTIONS** shall be used for all autopsy cases. Refer to the *Johns Hopkins Medical Laboratories Safety Manual* for specific procedures used in the isolation room.

7. Housekeeping Procedures

The Environmental Services Department is responsible for cleaning all Pathology areas according to guidelines in the *Environmental Services Department Policy and Procedure Manual*.

8. Maintenance and Repair Services

Maintenance workers are to report to a supervisor/technical staff prior to beginning work to ensure their safety as well as the processing integrity of patient material.

The Pathology department will review this infection control policy every two years.

Infection Control

Effective Date: 9/1/1998rev, 10/02, rev.5/2003, 11/2005

Revised: 12/2007

Laboratory Infection Control Policy

9 of 9

References:

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CJD by Barbara Crain, MD, Director JHH Autopsy Pathology, May 1996.

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Infection Control

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