

# Guidelines of Infection Control in Laboratory

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# Subject

Infection Control in Laboratories in  
Medical College & Blood Bank.

## Purpose:

To prevent infection to

1. Clinical laboratory employees,
2. Students of College & employees of Hospital
3. Patients in the Hospital

## Definition:

**The laboratory** - is a unique work environment that may pose infectious disease threats to those who work there.



# Basics

- It is mandatory that the clinical laboratory employees includes all the employees involved in the collecting, transporting and processing of specimens
- Patients has to follow strictly infection control guidelines so as to minimize the risk of transmission of infection in the clinical laboratory.
- Infection control practices shall be observed to prevent the spread of infection.

# Laboratories in Medical Institutes

- 1. Chemistry Lab
- 2. Physics Lab
- 3. Pharmacology Lab
- 4. Histopathology Lab
- 5. Physiology Lab
- 6. Anatomy Museum
- All above labs have mainly safety concerns and little consideration to Infection Control

# Other Labs in Medical Institutes

- Biology Lab
- Microbiology Lab
- Dissection rooms
- Animal experiments Lab
- Research Laboratories
- Dental Laboratories
- Drug and Medicinal Laboratories
- Biochemical laboratories
- Have more concerns with Infection Control and Less with Lab Safety

# Infection Control activities

This is along with the guidelines of infection control activities for all hospital & Medical College departments.

## A. Infection Control Activities of the Laboratory

1.) **The Clinical Laboratory serves as a data source and surveillance tool for the Infection Control.**

a. Identifying organisms appropriately.

b. Providing results of infection control significance like:

- Positive smear of sputum for acid-fast bacillus.
- Positive stool for enteric reportable pathogens.
- Positive specimens of multiple resistant organisms
- Positive Hepatitis B antigen.
- Positive Hepatitis C antigen.
- Positive HIV status.



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# Procedures:

- c. Maintaining records on all potentially significant isolates.
- d. Providing information and techniques for outbreak investigation.

- 2.) The Laboratory can serve as an early warning system for potential healthcare associated outbreaks.**
- 3.) The Laboratory conducts microbiological sampling of the hospital environment as determined by the Infection Control Practitioner and Infection Control Director.**
- 4.) The Laboratory conducts testing on hospital personnel as determined by the Infection Control Committee.**

# Procedures:

## **B. Activities of the Laboratory which may influence the Infection Risk to Patients and/ or Employees.**

### **1.) Collection of blood**

- a. Perform hand washing before and after collecting blood and contact with body fluids.
- b. Personnel assign to collect specimen must wear gloves during patient contact and specimen collection.
- c. Use aseptic technique and disposable equipment between patients, during site preparation and procedure
- d. Use sterile collecting vials/tubes.



# Procedures:

## **2. Transporting and Receiving Specimen in the Laboratory**

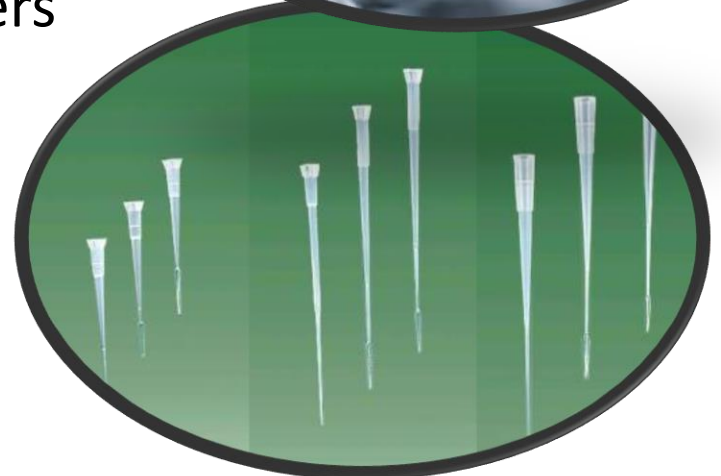
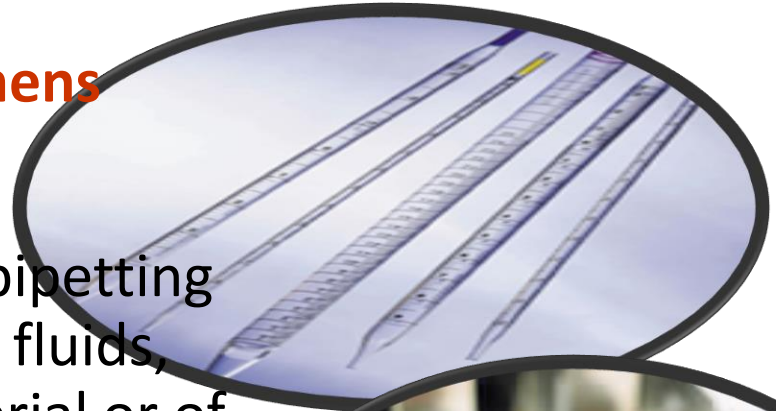
- a. Specimen containers should be securely closed properly before placing on the bag with biohazard symbol.
- b. Specimens taken from patients on isolation precaution should be doubled-bagged.
- c. Service personnel should transport specimens gently in a plastic container to prevent spills, leaks or environmental contamination.

# Procedures:

## 3. Processing Laboratory specimens

### a. Pipetting

- Do not perform direct mouth pipetting of infectious or toxic biological fluids, sera or any biohazardous material or of any specimen.
- Do not blow infectious material out of pipettes.
- Dispose used pipettes immediately into non-pen penetrable sharp containers after each used.



# Procedures:

## **b. Spillages in the Laboratory**

If a spill is confined to the interior of the cabinet, it should not be hazardous; however, if the spillage is either inside or on the floor the following disinfection procedures should be initiated at once while the cabinet continues to operate to prevent escape of contaminants:

- Wear gloves and gown for the cleanup.
- Spray or wipe walls, work surfaces and equipments with disinfectant.
- Use sufficient disinfectant to flood the top work surface tray and, if a class II cabinet, the drain pans and catch basins below the surface. Allow to stand 15 minutes.
- See your biologic safety cabinet manual for procedure to disinfect drain pans and catch basins.
- It should not be necessary to disinfect the filters, blowers and air ducts of a cabinet that is certified for no leakage. Only a specially trained person should attempt this procedure ( Lab Safety Officer).

# Procedures:

## c. Biosafety Containment

- Needs may vary with the task being performed, please refer to biosafety manual to determine the appropriate level of protection. For biologic safety cabinet usages refer to Laboratory safety manual.

# Procedures:

## **d. Care with operation of centrifuges and shakers.**

- Instruct operators with the proper use of the different types of centrifuges and shakers.

## **e. First Aid in laboratory**

- Obtain first aid for puncture wounds and report all work related injuries and exposures to the Infection Control Director and the Lab doctor. (Management of needle prick injury.)

## **f. Biological safety cabinet**

- Use biological safety hood for agents with potential for transmission into the respiratory tract and all categories of organisms (includes organisms, viruses and materials, which offer special hazards to laboratory personnel and for which special accommodation and conditions for containment must be provided).

# Procedures:

## C. General Practices (Infection Control Guidelines)

### a. Handwashing

\*\* Hands must be washed with plain or antimicrobial soap when:

- When hands *are visible dirty*.
- Before and after touching a patient
- Before and after a procedure or body fluid exposure.
- After touching patient surroundings.

\*\* Use Alcohol based handrub when hands are *not visibly soiled/ dirty*.



# Procedures:

## b. Standard Precautions

- Consider all patients and patient specimens potentially infected with a bloodborne pathogen and all must adhere to the Standard and Isolation Based Precaution Policy: APP-ALJGH-IC-006 of Infection Control.

## c. Eating, drinking, smoking, applying cosmetics, handling contact lens or the storage of food is not allowed in areas where specimens are either processed or stored. This should not be done inside the laboratory.

## d. Sharps

- All needles, lancet, slides, pipettes, glass tubes and other sharps should be discarded in a puncture proof, leak proof sharp container.



# Procedures:

## f. Personal Protective Equipments

- **Gloves** – helps protect when directly handling potentially infectious materials or contaminated surfaces. It is worn as a part of Standard Precautions or Contact Precautions.
- **Appropriate protective clothing but not limited to gowns, apron lab coats, clinic jackets** or similar outer garments shall be worn in occupational exposure situation.
- **Masks and Respirators** – masks help protect your nose, mouth from splattered body fluids and respirators filter the air before you inhale it.
- **Goggles and Face shield** – goggles help protect the eyes from splatters, a face shield provides splatter protection to facial skin, eyes, nose, and mouth.

## Procedures:

1. Laboratory personnel should be immunized for Hepatitis B
2. Vaccination for Polyvalent Influenza Every year

Thank You!