



DECONTAMINATION AND WASTE MANAGEMENT IN COVID-19 TESTING LABORATORY

1. Introduction

The main purpose of decontamination and waste management is to reduce the potential hazard posed by healthcare waste generated during diagnostics of Covid-19 to protect occupational hazard, public health, and the environment.

2. Routine Decontamination of Laboratory Area

Virus aerosols are notorious for sticking around at several surfaces and therefore, it is important to have a fixed decontamination schedule, preferably once every week which includes wiping down all surfaces including doorknobs.

1. Wipe all working surfaces and equipment's with 4% hypochlorite followed by 70% alcohol.
2. Maintain cleaning protocol sheets with log for all the workstations in the Pre PCR and Post PCR area.
3. For BSC, turn on UV light for 30 minutes before and after each batch of samples is processed.
4. Periodically perform swab test from all the surface areas (Pre and Post PCR areas) to ensure that these surfaces are free of any aerosol generated contaminants which could be major risk for laboratory contamination.

3. Spill Clean Up Procedure

Spill kits, including disinfectant, must be easily accessible to personnel. In the event of a spill of infectious or potentially infectious material, the following spill cleanup procedure should be used.

1. Wear disposable gloves and protective clothing, including face and eye protection if required;
2. Cover the spill with cloth or paper towels to contain it;
3. Pour an appropriate disinfectant over the paper towels and the immediately surrounding area (generally, 5% bleach solutions are appropriate);
4. Apply disinfectant concentrically beginning at the outer margin of the spill area, working toward the center;
5. After the appropriate amount of time (e.g. 30 min), clear away the materials; glass fragments should be handled with forceps. Clean and disinfect the area of the spillage (if necessary, repeat steps 2 to 5);
6. Dispose of contaminated materials into a leakproof, puncture-resistant waste disposal autoclave able bag;
7. If laboratory forms or other printed or written matter are contaminated, the information should be copied onto another form and the original should be discarded;
8. After successful disinfection, inform the competent authority that the site has now been decontaminated.

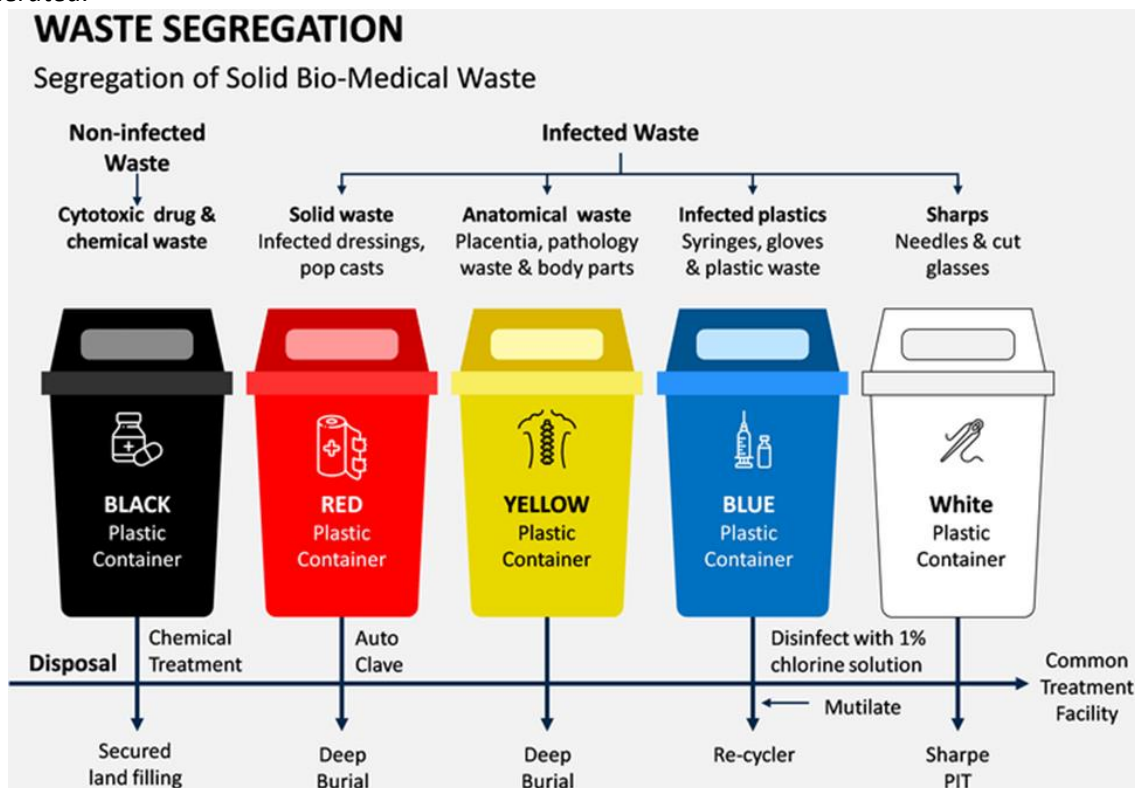
Laboratory Spill Kit





4. Management of Biomedical Waste

Keep separate color-coded bins/bags/containers and maintain proper segregation of waste as per Biomedical Waste Management Rules for disposal of different categories of biomedical waste generated.



- As precaution double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation wards and COVID-19 Testing Laboratories to ensure adequate strength and no-leaks.
- It is mandatory for bags/containers used for collecting biomedical waste from COVID-19 laboratories should be labelled as "COVID-19 Waste".
- Use a dedicated collection bin and trolleys labelled as "COVID-19" to store COVID-19 waste and keep separately in temporary storage room prior to handing over to authorize staff.
- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID19 waste should be disinfected with 1% sodium hypochlorite solution daily.
- PPEs such as goggles, face-shield, splash proof apron, Plastic Coverall, Hazmet suit, nitrile gloves and pre-treat viral transport media, plastic vials, vacutainers, eppendorf tubes, plastic cryovials, pipette tips should be disposed in **RED bags**.
- Collect used masks (including triple layer mask, N95 mask, etc.), head cover/cap, shoe-cover, disposable linen Gown, non-plastic or semi-plastic coverall in **YELLOW bags**.
- Waste Sharps including metals Needles, syringes with fixed needles, needles from needle tip cutter or burner, scalpels, blades, or any other contaminated sharp object that may cause puncture and cuts should be disposed in **WHITE bags** or Sharp Container.
- Broken or discarded and contaminated glass including medicine vials and ampoules except those contaminated with cytotoxic wastes should be disposed in **BLUE bags**.
- Used PPEs, lab specimens and other contaminated waste generated from patients or by COVID-19 Waste handlers and Pathologists shall be stored separately in **YELLOW bag** shall be pre-treated with Autoclaving before transfer to temporary storage area and then hand over to Common treatment Facility in **YELLOW bags** with specific marking as "COVID-19 Waste".



5. Autoclaving

Autoclaving is a low heat thermal process, and it uses steam for disinfection of waste.

- **Documentation**

1. Maintain and post autoclave log sheets or logbook near the autoclave.
2. Prepare a SOP for each autoclave that is used to treat biohazardous waste. SOP must include cycle time, temperature, pressure, waste type, containers, closure on containers, loading pattern, water content, and maximum load quantity.

- **Operation**

Consult the manufacturer's manual for your autoclave to select or program a cycle.

- For sterilization of biohazardous waste, the cycle must include a minimum temperature of **121°C or 250°F for 30 minutes** or longer, depending on size and compaction of the load.
 - The full cycle time will take **60-90 minutes**. Greater time and/or temperature may be necessary to sterilize certain loads.
1. Press power ON/OFF button and open the machine.
 2. Pour distilled water into the vessel of machine.
 3. Add sterilization media and instrument into basket and put it into the machine.
 4. Close the lid and press start button.
 5. Sterilization complete press the stop button.



Notes: *Dispose of all specimens and materials used to perform the test as bio-hazard waste. Laboratory chemical and biohazard wastes must be handled and discarded in accordance with all local, state, and national regulations.*

Reference

- https://www.who.int/docs/default-source/coronaviruse/laboratory-biosafety-novel-coronavirusversion-1-1.pdf?sfvrsn=912a9847_2
- Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Coronavirus Disease 2019 (COVID-19)
<https://www.cdc.gov/coronavirus/2019-ncov/lab/lab-biosafetyguidelines.html>
- https://www.who.int/docs/default-source/coronaviruse/laboratory-biosafety-novel-coronavirus-version-1-1.pdf?sfvrsn=912a9847_2
- <http://www.hirayama-hmc.co.jp/english/hvseries.html>