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Standard Operating Protocol/Procedure for Sanitation, Simple Waste Disposal and Biomedical Waste Disposal

Following specific guidelines will be followed by us while practicing sanitation and disinfection activities and for management of waste generated during diagnostics and treatment of covid-19 suspected / confirmed patients, at isolation wards, quarantine centres, sample collection centres, laboratories, in our institute.

These guidelines are based on current knowledge on Covid-19 and existing practices and principles brought out by:

- WHO (World Health Organisation)
- MOH & FW (Ministry of Home and Family Welfare)
- National Health Mission
- Central Pollution Control Board (Ministry of Environment, Forest & Climate Change)
- ICMR (Indian Council of Medical Research)

and other concerned agencies.

GENERAL INSTRUCTIONS:

1. All health care waste produced during the care of COVID-19 patients must be considered infectious waste and should be collected safely in designated containers and bags, treated and then safely disposed (WHO).
2. Staff who is assigned in handling and disposal of waste management will be trained.
3. Staff trained on how to put and remove PPE.
4. Necessary PPE (Gown, gloves, face mask, goggles or face shield, gumboots) will be provided to all staffs.
5. It will be ensured that staffs wear PPE when handling and disposing waste according to the guideline.
6. If any waste handler develops symptoms of COVID- 19 medical advice should be sought.

Sanitation Protocol:

Environmental cleaning and Disinfection Environmental decontamination:

- Cleaning of medical equipment
- Cleaning soiled bedding, towels and clothes from patients with COVID-19
- Cleaning and disinfection of occupied patient rooms
- Cleaning and disinfection after patient discharge and transfer
- Prevention of environmental contamination

General Principles

- As COVID-19 virus can potentially survive in the environment for several hours/days Premises and areas potentially contaminated with the virus to be cleaned before their re-use.
- Established cleaning strategies to be used
 - Remove the majority of bioburden, and
 - Disinfect equipment and environmental surfaces
- Housekeeping surfaces are divided into two groups
 - Those with minimal hand contact (e.g. floors and ceilings)
 - "High touch surfaces" - those with frequent hand-contact
- High touch housekeeping surfaces in patient-care areas should be cleaned and/or disinfected more frequently, they include:
 - Doorknobs
 - Bedrails
 - Light switches
 - Wall areas around the toilet in the patient's room
 - Edges of privacy curtains
- Alcohol based cleansing agent is used for High touch surfaces.

Cleaning of medical equipment:

- Wear gloves when handling and transporting used patient care equipment
- Before removing equipment from patients room, medical equipment must be disinfected.
- Non-critical medical equipment:
 - E.g., stethoscopes, blood pressure cuffs, dialysis machines and equipment knobs and controls.
 - Usually only require cleansing followed by low to intermediate level disinfection, depending on the nature and degree of contamination.
- In absence of manufacturer instructions regarding cleaning/disinfection of equipment:
 - Ethyl alcohol or isopropyl alcohol (60 % - 90%) often used to disinfect small surfaces (rubber stoppers of multiple-dose medication vials, and thermometers) and occasionally external surfaces of equipment (stethoscopes and ventilators)

- Alcohol causes discoloration, swelling, hardening and cracking of rubber and certain plastics after prolonged and repeated use
 - Cover mattresses should be used for easier disinfection
- Barrier protection of difficult to clean surfaces and equipment is useful, especially if these surfaces are:
 - Touched frequently by gloved hands during the delivery of patient care
 - Likely to become contaminated with body substances
- Impervious-backed paper, plastic or fluid-resistant covers are suitable for use as barrier protection
- Remove and discard coverings with gloved hands.
- Cover these surfaces again with clean materials before the next patient encounter.

Cleaning/disinfection of medical equipment:

Area / Items	Inputs	Process	Procedure
Stethoscope	Alcohol-based rub/Spirit swab	Cleaning	<ul style="list-style-type: none"> ○ Will be cleaned with detergent and water ○ Will be wiped with alcohol based rub/spirit swab before each patient contact
BP cuffs & Covers	Detergent Hot water	Washing	<ul style="list-style-type: none"> ○ Cuffs Will be wiped with alcohol-based disinfectant and regular laundering is recommended for the cover
Thermometer	Detergent and water Alcohol rub Individual thermometer holder	Cleaning	<ul style="list-style-type: none"> ○ Will be stored dry in individual holder ○ Clean with detergent and tepid water and wipe with alcohol rub in between patient use ○ Stored in individual holder inverted
Injection and dressing trolley	Detergent and water Duster Disinfectant (70 % alcohol)	Cleaning	<ul style="list-style-type: none"> ○ Preferably one thermometer for each patient To be cleaned daily with detergent and water ○ After each use Will be wiped with disinfectant

Cleaning soiled bedding, towels and clothes from patients with COVID-19:

- Individuals/staff dealing with soiled bedding, towels and clothes from patients with COVID-19 should:
 - Wear appropriate PPE - heavy duty gloves, mask, eye protection (goggles/face shield), long-sleeved gown, apron (if gown is not fluid resistant), and boots or closed shoes
 - Never carry soiled linen against body; place soiled linen in a leak-proof bag or bucket.

- Perform hand hygiene after blood/body fluid exposure and after PPE removal.
- Soiled linen should be placed in clearly labelled, leak-proof bags or containers, carefully removing any solid excrement and putting in covered bucket to dispose of in the toilet or latrine.
- Washing machine:
 - Wash at 60-90 °C with laundry detergent followed by soaking in 0.1 % chlorine for approximately 30 minutes and dried.

Cleaning and disinfection of occupied patient rooms and Cleaning and disinfection after patient discharge and transfer:

- Clean the surfaces in all environments in which COVID-19 cases receive care - at least once a day and when a patient is discharged.
- Dishes and eating utensils used by a patient with known or suspected infection
 - No special precautions other than standard precautions
 - Wear gloves when handling patient trays, dishes and utensils
- Hospital disinfectants:
 - 70 % ethyl alcohol for small areas - reusable dedicated equipment (e.g. thermometers)
 - Sodium hypochlorite at 0.5 % for surface disinfection.
- Use a checklist to promote accountability for cleaning responsibilities.
- Keep cleaning supplies outside the patient room.

Prevention of environmental contamination:

- Spill management:
 - Worker assigned to clean the spill should wear gloves and other personal protective equipment Most of the organic matter of the spill to be removed with absorbent material
 - Surface to be cleaned to remove residual organic matter Use disinfectant: hypochlorite
 - 1 % for small spills
 - 10 % for large spills
- Containment of respiratory secretions:
 - Respiratory hygiene/cough etiquette.
 - Cover the nose/mouth when coughing or sneezing.
 - Use tissues to contain respiratory secretions
 - Dispose of tissues in the nearest waste receptacle after use.
 - Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials.
 - Offer triple-layer masks to persons who are visiting the flu OPD.
 - Encourage coughing persons to sit at least 3 feet (1 metre) away from others in common waiting areas.

- Healthcare workers should practice droplet precautions, in addition to standard precautions, when examining a patient with symptoms of a respiratory infection.
- Droplet precautions should be maintained until it is determined that they are no longer needed.

Biomedical Waste Management Protocol:

(Rules 2016, amended 2018 & 2019· Environment (Protection) Act, 1986.

Segregation, packaging, transportation and storage:

1. Segregation:
 - Untreated bio-medical waste should not be mixed with other wastes.
 - Bio-medical waste shall be segregated into containers or bags at point of generation.
2. Packaging
 - As precaution double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation wards so as to ensure adequate strength and no-leaks.
 - Bio-medical waste containers or bags should be prominently labelled with biohazard symbol.
 - A designated person will collect the bags from the COVID wards and other facilities where the bins have been kept.
 - This designated person will carry the bags in a designated trolley with a lid.
3. Transport:
 - Ensure no spillage occurs during handling and transit of biomedical waste.
 - The BMW will be picked up and transported out of the institute to the proper disposal facility of the hired company twice in a day.
 - The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste will be disinfected with 1 % sodium hypochlorite solution daily.
4. Storage:
 - Any Biomedical Waste will not be stored in the institute.

Instructions to the CBWTF:

- Will provide necessary support, security including authorisation to staff of CBWTF.
- All the staff of the company should be in proper uniform with id cards.
- All the staff will have to take the training provided by the institute.
- All the staff will be provided appropriate PPE in accordance with the guidelines formulated by the University.
- Separate team of workers shall be engaged in door step waste collection at quarantine centres.

- Training shall be provided for sanitization, about collection of biomedical waste, precautionary measures to handle biomedical waste.
- Dedicated and covered carts / trolleys / vehicles for transport of biomedical waste will be used.
- Sanitization of vehicles with 1 % hypochlorite after each trip.

Yellow bag:

Anatomical waste - human tissue

Soiled waste - items contaminated with blood or body fluids - like dressings, cotton swabs and bags containing residual blood/blood components

Chemical waste - chemicals used in production of biological.

Microbiology, biotechnology and other clinical laboratory waste

- Blood bags
- Laboratory cultures
- Stocks or specimens of microorganisms
- Live or attenuated vaccines
- Human and animal cell cultures

Discarded linen contaminated with blood or body fluid including mask and gown

Red Bag:

Contaminated recyclable waste

Waste from disposable items:

- Goggles from PPE kit
- Tubing and bottles
- Intravenous tubes and sets
- Catheters and urine bags
- Syringes (without needles), vacutainers
- Gloves

Plastic petri-plates containing infectious material (to be preferably pre-treated by autoclaving and discarded in red bags)

Translucent /white box:

Puncture, leak and tamper proof

Sharps waste (used, discarded and contaminated metal sharps)

- Needles
- Syringes with fixed needles
- Needles from needle tip cutter or burner
- Scalpels
- Blades

Any other contaminated sharps

Blue Box:

Puncture and leak proof boxes

Glassware

- Broken or discarded glass including medicine vials & ampoules (except those contaminated with cytotoxic waste)
- Broken or discarded contaminated glass

CLEANING THE WASTE BIN:

- 1. The dustbins must be cleaned after removal of waste
- 2. First clean the dustbin properly with detergents and water
- 3. Then clean the dustbins with 1: 9 bleach solution and dry

Guidelines for Preparation of 1 % sodium hypochlorite solution:

Product	Available chlorine	
Sodium hypochlorite-liquid bleach	3.5 %	1 part bleach to 2.5 parts water
Sodium hypochlorite-liquid	5 %	1 part bleach to 4 parts water
Bleaching powder	70 %	7 gm to 1 litre water