Protocol for Hospitals with Suspected/Confirmed cases of COVID-19

1. Principles of infection prevention and control strategies associated with health care with suspected COVID-19 IPC strategies to prevent or limit infection transmission in health-care settings include the following:

a. Early recognition and source control

b. Application of Standard Precautions for all patients

c. Implementation of empiric additional precautions (droplet and contact and whenever applicable airborne precautions) for suspected cases

d. Administrative controls

e. Environmental and engineering controls

2. Early recognition and source control

a. Clinical triage including early recognition and immediate placement of patients in separate area from other patients (source control) is an essential measure for rapid identification and appropriate isolation and care of patients with suspected COVID-19 infection.

b. To facilitate early identification of suspect cases, healthcare facilities should:

i. Encourage staff to have a high level of clinical suspicion

ii. Institute screening questionnaire and

iii. Post signage in public areas reminding symptomatic patients to alert staff.

c. Promotion of respiratory hygiene is an important preventative measure.

d. Suspected COVID-19 patients should be placed in an area separate from other patients, and additional IPC (droplet and contact) precautions promptly implemented.

3. Application of Standard Precautions for all patients

a. Standard Precautions include hand and respiratory hygiene; use of Personal protective equipment (PPE) depending on risk; prevention of needle-stick or sharps injury; safe waste management; environmental cleaning and sterilization of patient-care equipment and linen.

b. Ensure the following respiratory hygiene measures:

i. Offer a medical mask for suspected COVID-19 infection for those who can tolerate it

ii. Cover nose and mouth during coughing or sneezing with tissue or flexed elbow for others

iii. Perform hand hygiene after contact with respiratory secretions.

c. Personal protective equipment (PPE)-

i. Rational, correct, and consistent use of available PPE and appropriate hand hygiene also helps to reduce the spread of the pathogens.

ii. PPE effectiveness depends on adequate and regular supplies, adequate staff training, proper hand hygiene and specifically appropriate human behaviour.

d. Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly.

e. Thorough cleaning of environmental surfaces with water and detergent and applying commonly used hospital level disinfectants (such as sodium hypochlorite) is an effective and sufficient procedure.

f. Manage laundry, food service utensils and medical waste in accordance with safe routine procedures2.

4. Implementation of additional precautions for suspected COVID-19 infections

a. Contact and Droplet precautions for suspected COVID-19 infection:

i. In addition to Standard Precautions, all individuals, including family members, visitors and HCWs should apply Contact and Droplet precautions

ii. Place patients in adequately ventilated single rooms. For naturally ventilated general ward rooms this is considered to be 160 L/second/patient

iii. When single rooms are not available, cohort patients suspected of COVID-19 infection together

iv. Place patient beds at least 1m apart;

v. Where possible, staff to exclusively care for cases to reduce the risk of spreading transmission due to inadvertent infection control breaches;

vi. Use a medical mask

vii. Use eye/facial protection (i.e. goggles or a face shield);

viii. Use a clean, non-sterile, long-sleeved fluid resistant gown;

ix. Use gloves;

x. Use either single use disposable equipment or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers). If equipment needs to be shared among patients, clean and disinfect between each patient use (e.g. ethyl alcohol 70%);

xi. Refrain from touching eyes, nose or mouth with potentially contaminated hands;

xii. Avoid the movement and transport of patients out of the room or area unless medically necessary. Use designated portable X-ray equipment and/or other important diagnostic equipment. If transport is required, use pre-determined transport routes to minimize exposures to staff, other patients and visitors and apply medical mask to patient;

xiii. Ensure that HCWs who are transporting patients wear appropriate PPE as described in this section and perform hand hygiene;

xiv. Notify the receiving area of necessary precautions as soon as possible before the patient's arrival;

xv. Routinely clean and disinfect patient-contact surfaces;

xvi. Limit the number of HCWs, family members and visitors in contact with a patient with suspected COVID-19 infection;

xvii. Maintain a record of all persons entering the patient's room including all staff and visitors.

b. Airborne precautions for aerosol-generating procedures for suspected COVID-19 infection:

i. Some aerosol generating procedures have been associated with increased risk of transmission of such as tracheal intubation, noninvasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation and bronchoscopy.

ii. Ensure that HCWs performing aerosol-generating procedures:

a) Use a particulate respirator at least as protective as a NIOSH certified N95, EU FFP2 or equivalent;

b) when putting on a disposable particulate respirator, always perform the seal-check.

c) Note that if the wearer has facial hear (beard) this can prevent a proper respirator fit6.

d) Eye protection (i.e. goggles or a face shield);

e) Clean, non-sterile, long-sleeved gown and gloves;

f) If gowns are not fluid resistant, use a waterproof apron for procedures with expected high fluid volumes that might penetrate the gown;

g) Perform procedures in an adequately ventilated room; i.e. at least natural ventilation with at least 160 l/s/patient air flow or negative pressure rooms with at least 12 air changes per hour (ACH) and controlled direction of air flow when using mechanical ventilation

h) Limit the number of persons present in the room to the absolute minimum required for the patient's care and support

c. Administrative controls

i. Administrative controls and policies that apply to prevention and control of transmission of COVID-19 infections include establishment of sustainable IPC infrastructures and activities;

ii. Staff training;

iii. patients' care givers education;

iv. policies on early recognition of acute respiratory infection potentially due to COVID-19, access to prompt laboratory testing for identification of the etiologic agent; prevention of overcrowding especially in the Emergency department;

v. provision of dedicated waiting areas for symptomatic patients and appropriate placement of hospitalized patients promoting an adequate patient-to-staff ratio; provision and use of regular supplies;

vi. IPC policies and procedures for all facets of healthcare provisions

vii. with emphasis on surveillance of acute respiratory infection potentially due to COVID-19 among staff and the importance of seeking medical care; and

monitoring of staff compliance, along with mechanisms for improvement as needed.

d. Environmental and engineering controls

i. These include basic health-care facility infrastructures.

ii. These controls address ensuring adequate environmental ventilation in all areas within a health-care facility, as well as adequate environmental cleaning.

iii. Spatial separation of at least 1-meter distance should be maintained between each suspect patient and others.

iv. Both controls can help reduce the spread of many pathogens during health care.

5. Duration of contact and droplet precautions for COVID-19 infection

a. Standard precautions should always be applied at all times. Additional contact and droplet precautions should continue until the patient is asymptomatic.

b. More comprehensive information on the COVID-19 infection mode of transmission is required to define duration of additional precautions.

6. Collection and handling of laboratory specimens from patients with suspected COVID-19

a. All specimens collected for laboratory investigations should be regarded as potentially infectious, and staff who collect, or transport clinical specimens should adhere rigorously to Standard Precautions to minimize the possibility of exposure.

i. Ensure that HCWs who collect specimens use appropriate PPE (eye protection, medical masks, long-sleeved gown, gloves).

ii. If the specimen is collected under aerosol generating procedure, personnel should wear a particulate respirator at least as protective as a NIOSH-certified N95, EU FFP2 or equivalent

iii. Ensure that all personnel who transport specimens are trained in safe handling practices and spill decontamination procedures.

iv. Place specimens for transport in leak-proof specimen bags (secondary container) that have a separate sealable pocket for the specimen (i.e. a plastic biohazard specimen bag), with the patient's label on the specimen container (primary container), and a clearly written laboratory request form.

v. Ensure that health-care facility laboratories adhere to appropriate biosafety practices and transport requirements according to the type of organism being handled.

vi. Deliver all specimens by hand whenever possible. DO NOT use pneumatic-tube systems to transport specimens.

vii. Document patients full name, date of birth of suspected COVID-19 of potential concern clearly on the accompanying laboratory request form. Notify the laboratory as soon as possible that the specimen is being transported.

7. Sample collection, storage and transportation

a. Collection and handling of laboratory specimens from patients with suspected 2019 COVID-19- Acute Respiratory Disease.

b. All specimens collected for laboratory investigations should be regarded as potentially infectious, and who collect, or transport clinical specimens should adhere rigorously to Standard Precautions to minimize the possibility of exposure to pathogens.

c. Ensure that staff who collect specimens use appropriate PPE (eye protection, medical mask, long-sleeved gown, gloves).

d. If the specimen is collected under aerosol generating procedure, personnel should wear a particulate respirator at least as protective as a NIOSH-certified N95, EU FFP2 or equivalent

e. Ensure that all personnel who transport specimens are trained in safe handling practices and spill decontamination procedures (As per Hospital Policy).

8. Samples to be collected

a. Nasopharyngeal swab / Nasal Swabs – 2

b. Throat Swab

c. Before collecting the samples, it requires to be ensured that neck is in extended position.

d. Nasopharyngeal swab will be collected with the per nasal swab provided in the kit, after taking out the swab it is passed along the floor of nasal cavity and left there for about five second and transferred into VTM and transported to the designated lab at 4 degree Celsius as soon as possible (same day).

e. For collection of samples from throat area the other sterilized swab is swabbed over the tonsillar area and posterior pharyngeal wall and finally transferred into VTM and stored and transported to the designated lab at 4 degree Celsius as soon as possible (same day).

f. Other respiratory material like endotracheal aspirated/broncheo-alveolar lavage in patients with more severe respiratory disease can also be collected and transported in the same way.

g. Place specimens for transport in leak-proof specimen bags /Zip lock pouch (secondary container) with the patient's label on the specimen container (primary container), and a clearly written laboratory request form.

h. Ensure that health-care facility laboratories adhere to appropriate biosafety practices and transport requirements according to the type of organism being handled. · Deliver all specimens by hand whenever possible.

i. Document patients full name, age / date of birth of suspected 2019-COVID-19 case of potential concern clearly on the accompanying laboratory request form.

j. Notify the laboratory as soon as possible that the specimen is being transported.

9. Bio Medical Waste Management from suspected case of COVID-19

a. Refer to protocol on BWM management

b. All articles like swab, syringes, IV set, PPE etc are to be discarded in yellow bag.

c. All sharps like needle etc are to be collected in puncture proof container which should be discarded in yellow bag.

10. Laundry

a. All soiled clothing bedding and linen should be gathered without creating much motion / fluffing.

b. Do not shake sheets when removing them from the bed.

c. Always perform hand hygiene after handling soiled laundry items.

d. Laundry should be disinfected in freshly prepared 1% bleach and then transported to laundry in tightly sealed and labeled plastic bag.

11. Monitor health of staff providing care to cases

a. HCWs and housekeeping staff providing care to cases of 2019-COVID-19 acute respiratory diseases cases shall be monitored daily for development of any symptoms as per the suspect case definition including charting of their temperature twice daily for 14 days after last exposure.

b. If they develop any symptoms then standard protocol laid down for management of suspect case of 2019-COVID-19 acute respiratory disease shall be followed.

12. Hospital Disinfection (Environmental)

a. Environmental surfaces or objects contaminated with blood, other body fluids, secretions or excretions should be cleaned and disinfected using standard hospital detergents/disinfectants e.g. freshly prepared 1%Sodium Hypochlorite or 5% Lysol. Spray the surface with 0.5% to 1% solution of Sodium Hypochlorite.

b. The contact period of the chemical with the surface should be min. of 30 Minutes.

c. Disinfect all external surfaces of specimen containers thoroughly (using an effective disinfectant) prior to transport. E.g. Sodium hypochlorite at 1%, 500 ppm available chlorine (i.e. 1:100 dilution of household bleach at initial concentration of 5%) or 5%Lys

d. Environmental surfaces or objects contaminated with blood, other body fluids, secretions or excretions should be cleaned and disinfected using standard hospital detergents/disinfectants e.g. freshly prepared 1%Sodium Hypochlorite or5% Lysol

e. Do not spray (i.e. fog) occupied or unoccupied clinical areas with disinfectant. This is a potentially dangerous practice that has no proven disease control benefit.

f. Wear gloves, gown, mask and closed shoes (e.g. boots) when cleaning the environment and handling infectious waste. Cleaning heavily soiled surfaces (e.g. soiled with vomit or blood) increases the risk of splashes. On these occasions, facial protection should be worn in addition to gloves, gown and closed, resistant shoes. Wear gloves, gown, closed shoes and goggles/facial protection, when handling liquid infectious waste (e.g. any secretion or excretion with visible blood even if it originated from a normally sterile body cavity). Avoid splashing when disposing of liquid infectious waste.

g. Clean and disinfect mattress impermeable covers.

h. Non-critical instruments /equipment (that are those in contact with intact skin and no contact with mucous membrane) require only intermediate or low level disinfection before and after use

13. Liquid Spill Management

a. Promptly clean and decontaminate spills of blood and other potentially infectious materials.

b. Wear protective gloves.

c. Using a pair of forceps and gloves, carefully retrieve broken glass and sharps if any, and use a large amount of folded absorbent paper to collect small glass splinters. Place the broken items into the puncture proof sharps container. · Cover spills of infected or potentially infected material on the floor with paper towel/ blotting paper/newspaper. Pour 0.5%freshly prepared sodium hypochlorite.

d. Leave for 30 minutes for contact

e. Place all soiled absorbent material and contaminated swabs into a designated waste container.

f. Then clean the area with gauze or mop with water and detergent with gloved hands