Patient Management

Standard Operating Procedures - Containment Phase

General principles

The current evidence strongly supports that nCOVID-19 is transmitted via droplets, or via direct contact, it is mandatory to apply standard precautions supplemented by contact and droplet isolation where caring for infected patients. When procedures with a potential for aerosol generation are performed, such as throat sampling, tracheal aspiration, intubation, additional precautions to prevent airborne transmission are applicable.

I. Transport from home to ER

1. Any patient suspected should call the call center 76-562966.
2. A first triage is done to verify risk factors. If the case is equivocal, the society of Pulmonary medicine volunteer will verify through either by direct phone call with the suspected patient or additional clarification with the call center
3. If the suspected patient has severe symptoms, and or not clinically stable, the Lebanese Red Cross will transport him/her based on request from Call center team; reception of patient at ER will follow the standard SOPs
    - The patient should be separated at all times. Family members should not ride in the transport vehicle.
    - The driver's compartment should be separated if possible. If not the driver should wear a face mask.
    - While preparing the patient for transport, transport personnel would wear personal protective equipment (PPE), including gloves, gown, respiratory protection with fit-tested N95 filtering face piece respirator and eye protection (goggles or disposable face shield covering the front and sides of the face). Once the patient is transferred to a wheel chair or to the ambulance, the transporter may remove all PPE except masks and perform hand hygiene.
    - A face mask should be worn by the patient. If a nasal cannula is in place, a facemask should be worn over the nasal cannula. An oxygen mask may be an appropriate alternative.
    - During transport, the minimum number of personnel should be in the patient's compartment.
    - Personnel directly caring for the patient and present in the compartment should wear full PPE (gloves, isolation gown, respiratory protection such as N 95 high level respirator, eye protection with goggles or face shield.

- Drivers or personnel not directly involved in patient's care and not present in the patient's compartment, goggles or face shield, gloves and gowns are not necessary. A face mask or respiratory remains to be used during transport.
- Every time PPE is removed, hand hygiene should be performed.
- If performing aerosol generating procedures such bag valve mask ventilation, oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, continuous positive airway pressure (CPAP), biphasic positive airway pressure (BIPAP), resuscitation involving emergency intubation and cardiopulmonary resuscitation: health care personnel should exercise special caution through the strict use of PPE, equip the ventilator equipment with HEPA filtration to export expired air.
- Documentation should be complete and comprehensive and should include the names of all HCWs involved.
- Once the transport vehicle has been used, it should be thoroughly cleaned. While doing the cleaning, personnel should gloves, disposable gowns, facemask and goggles.
- Cleaning and disinfection using appropriate tools and chemicals should be used correctly. Doors of the vehicle should remain open to allow for air exchanges. Chemicals claiming activity against COVID 19 should be used. If unavailable, compounds active against the other strains of coronavirus should be used.

4. If the patient is clinically stable, and can drive himself /herself, or can be driven by a family member or taxi, the patient should: wear a surgical face mask; the driver should also wear a surgical face mask;
   - Upon arrival to ER, the patient should enter from the dedicated entrance as directed by the ER reception staff. The next of kin should not enter to the designated ER, unless the patient is a child.
   - The driver will be provided by the ER reception team with sanitizer and wet wipes to clean the car

II. Standards of care and IPC

Reception of patient at ER:

The trained receptionist at ER orients the patient through the designated ER. The receptionist should wear surgical mask at all times and perform strict hand hygiene and distancing.

Circulation of patients:

- Channel all patients presenting to health care through a triage point at the entry of the facility.
- Triage: Trained healthcare personnel screen patients to detect those with respiratory tract infection symptoms and those with suspected COVID-19 infection, according to case definitions by WHO. Personnel at the triage wear a medical mask at all times. Use preset questionnaire for triage to assess exposure to the virus.
- If the patient is not suspected of COVID-19 infection: Provide a medical mask to the patient with symptoms of upper or lower respiratory tract infection and admit them to the regular emergency room department for further appropriate workup, ruling out other causes of respiratory tract infection, such as Influenza.
- If the patient is suspected of COVID-19 infection: Provide them with a surgical facemask and send them to an isolated predetermined examination area, allocated for management of potential COVID-19 patients, for further work up.
- Do not allow patients suspected with COVID-19 to circulate amidst the other patients.
- Avoid crowding. Allow for 2 meters distance between patients. Attempt at rapid diagnosis.
- Inform Infection Prevention and Control department about a suspected case of novel coronavirus. IPC officer informs the Ministry of Public Health about the suspected case.
- In the event an COVID-19 suspected patient is admitted to the hospital, transport from ER to the room should be as short as possible, and as separate from hospital services and wards as possible. Circulation of the patient outside their room is kept to minimal necessary during hospitalization, while the patient is wearing a surgical mask.
- If the patient is discharged home, instructions about hand hygiene and cough etiquette are provided, awaiting further medical follow up on out basis.

Standard precautions:

- Apply standard precautions to all patients, namely hand and respiratory hygiene, as well as sharps injury safety, disinfection of patient equipment, waste disposal and environmental cleaning, as per hospital and local regulations.
- Use alcohol hand rubs if hands are not visibly soiled; otherwise wash hands with soap and water for at least 20 seconds. Provide visible reminders about the 5 Moments of hand hygiene.
- In addition, apply contact and droplet precautions to patients suspected with COVID-19 infection.

Complementary contact and droplet and/or airborne isolation for patients suspect of nCOVID-19 infection:

- Place suspected cases in single patient rooms, with adequate ventilation; namely rooms with natural ventilation at 60L/s per patient.
- If single patient rooms are not available, cohorting of cases can be done.
- Avoid frequent moving of the patient outside the room. Apply surgical mask to patient in case the patient is displaced. Use portable X-ray if possible.
- When caring for patients with COVID-19 infection, HCWs should use a mask, with eye or face protection. HCWs should wear a clean non-sterile long sleeved gown and gloves. They should dispose properly of PPEs after patient care and apply hand hygiene.
- Patient equipment may be disposable. However if dedicated equipment, such as a stethoscope, is shared between patients, it should be cleaned and disinfected before each use. Ethyl alcohol at 70% is effective to disinfect dedicated equipment.
- Perform environmental cleaning and disinfection routinely.
- Limit entrance of HCWs to necessary and limit family visits. Keep a record of all exposed HCWs and exposed visitors.
- Use additional Airborne precautions, if aerosol-producing procedures, such as cough induction, tracheal intubation or tracheotomy or cardiorespiratory resuscitation are contemplated: in this case, adequate room ventilation is secured with air flow at least at 160L/s per patient with natural ventilation, or a negative pressure room with 12 air changes per hour. Air from room is exhausted directly to outside, or HEPA filtered.

Promotion of hand hygiene, respiratory hygiene and cough etiquette:

- Through the use of visual reminders like posters or signs, remind patients in waiting areas of proper hand hygiene and cough etiquette.
- Provide 65% alcohol-based tissues and non-touch bins for disposal.

Healthcare workers:

- Use surgical mask to cover mouth and nose upon entry to the room of a patient with suspected COVID-19 infection. Tighten the mask properly.
- To dispose of the mask, remove it from the laces behind, then do hand hygiene.
- Change the mask if it becomes wet.
- Do not reuse single use masks.

Environmental:

- Maintain regular cleaning and disinfection of environment. Clean with water and detergent.
- Disinfect frequently touched surfaces properly. May use sodium hypochlorite at 0.5% for that matter.

III. ICollection and Handling of Specimens (Emergency Rooms and Laboratories)

As per the CDC and OSHA guidelines and until we know more about COVID-19 spreads, standard precautions including contact and airborne precautions as well as eye protection are to be used to protect laboratory workers.

Specimen collection should be done in the lab, or a dedicated collection room in the ER

General Guidelines

1- Testing for other pathogens should be done as part of the initial evaluation.

2- Type of specimens:
   - Upper respiratory (UR) specimens: nasopharyngeal (NP) and oropharyngeal (OP) swabs
   - Lower respiratory (LR) such as sputum, if possible, for patients with productive coughs. DO NOT INDUCE SPUTUM.

3- Specimens should be collected as soon as possible once a person under investigation (PUI) is identified, regardless of the time of symptom onset.

4- Label specimen (medical record number, specimen ID, type and the date of collection). The Centers for Disease Control and Prevention recommends adding on the label "Respiratory virus molecular detection (non-influenza)" and to bring it to the attention of the specific section or person taking care of the specimens "FROM PERSONS UNDER INVESTIGATION (PUI) FOR COVID-19".

5- Laboratory workers should change gloves between specimens to Avoid cross-contamination, including changing gloves between samples. All specimens should be kept cold during processing.

6- Store specimens at 2-8°C; if shipment is needed, ship or transport on ice pack.

Specimens

Nasopharyngeal (NP) and Oropharyngeal (OP)

1- Use only synthetic fiber swabs with plastic shafts.

2- Avoid using calcium alginate swabs or swabs with wooden shafts in order to prevent inactivation and inhibition of PCR testing of some viruses

3- Immediately place swabs in sterile tubes containing 2-3 ml of viral transport media.

4- Keep NP and OP specimens in separate vials.

5- Refrigerate specimen at 2-8°C and ship on ice pack if needed.

Nasopharyngeal wash/aspirate or nasal aspirat

1- 2-3 mL collected into a sterile, leak-proof, screw-cap cup or sterile dry container.

2- Refrigerate specimen at 2-8°C and ship on ice pack if needed.

Infection Control During Collection of Specimens

1- Laboratory workers should wear appropriate personal protective equipment (PPE): disposable gloves, laboratory coat/gown and eye protection when handling potentially infectious specimens.
2- A certified Class II Biological Safety Cabinet (BSC) should be used for any procedure potentially generating aerosols or droplets (for example vortexing of specimens)
3- Centrifuge safety buckets, sealed rotors, should be used for centrifugation. The rotors and buckets should be loaded and unloaded in a BSC.
4- Any procedure performed outside a BSC, eye and face protection (e.g. goggles, mask, face shield) or other physical barriers (e.g. splash shield) should be used to minimize the risk of exposure to laboratory staff.
5- Following processing of specimens, decontaminate work surfaces and equipment with EPA-registered hospital disinfectants. The label of these disinfectants should indicate effectiveness against respiratory pathogens, such as seasonal influenza and other human coronaviruses.
6- For SARS-CoV-2 laboratory waste, follow the same standard procedures used with other respiratory pathogens.

The following activities whereby manipulation of potentially infected specimens should be, performed in a certified Class II BSC in a BSL-2 facility.

1- Aliquoting and/or diluting specimens
2- Nucleic acid extraction procedures involving potentially infected specimens
3- Molecular analysis of extracted nucleic acid preparation
4- Pathologic examination and processing of formalin-fixed or inactivated tissues
5- Electron microscopy and routine preparation, fixing, staining and microscopic analysis of fixed smears
6- Packaging of specimens in sealed decontaminated containers for transport to diagnostic laboratories

References:

1. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected. WHO publication. Interim guidance 25 January 2020.
2. Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19). Interim guidance. WHO publication 27 February 2020.
3. Advice on the use of masks in the community, during home care and in health care settings in the context of the novel coronavirus (2019-nCoV) outbreak. Interim guidance. WHO publication 29 January 2020.
4. Interim Infection Prevention and Control Recommendations for Patients with Confirmed Coronavirus Disease 2019 (COVID-19) or Persons Under Investigation for COVID-19 in Healthcare Settings. National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases. Revised 21 February 2020.