MINISTRY OF HEALTH AND FAMILY WELFARE

Detailed Guidelines for Infection Prevention Control for suspected cases of 2019-nCoV Acute Respiratory Disease

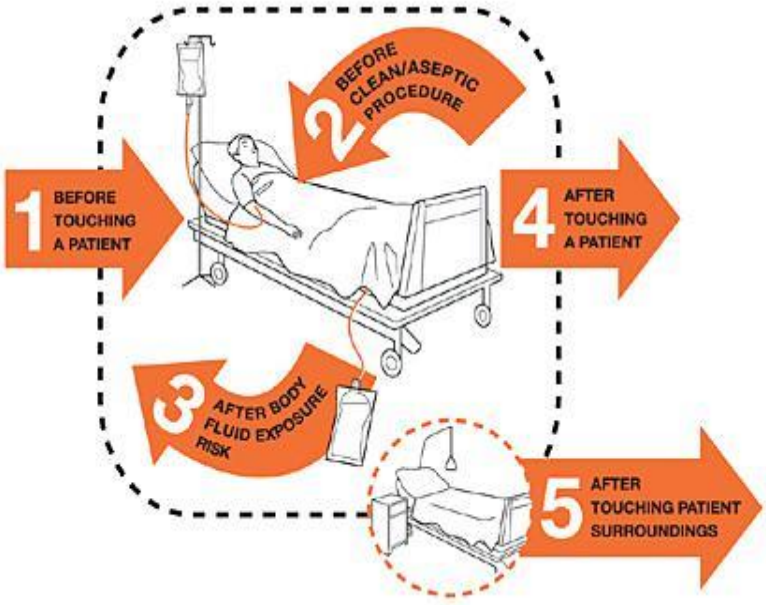
Clinical triage includes early recognition and immediate placement of patients in separate area from other patients (source control). Triaging Station-Offer mask, follow hand hygiene and respiratory etiquettes. Minimize the waiting time at triage station. A self-declaration form should be filled up for all suspected cases reporting to the hospital. All individuals, including family members, visitors and HCWs should apply standard, contact and droplet precautions. Place patients in adequately ventilated single rooms. When single rooms are not available, cohort patients suspected of 2019-nCoV acute respiratory disease together with minimum distance between two patients to be 1 meter.

IPC strategies to prevent or limit infection transmission in health-care settings include the following:

1. **Standard Precautions**
   - 1.1 Hand hygiene
   - 1.2 Respiratory hygiene
   - 1.3 Personal protective equipment (PPE)
2. **Additional Precautions**
3. **Bio Medical waste management**
4. **Laundry management**
5. **Sample collection, storage and transportation**
6. **Monitor health of HCWs providing care to cases of 2019-nCoV Acute Respiratory Disease**
7. **Hospital Disinfection (Environmental)**

1.1 Hand Hygiene

Moments of Hand Hygiene



Steps of Hand Hygiene

1.2 Respiratory Hygiene

Offer a medical/surgical mask for suspected 2019-nCoV acute respiratory disease case for those who can tolerate it.

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

Perform hand hygiene after contact with respiratory secretions.

1.3 Personal Protective Equipment (PPE)

PPE includes shoe cover, gown, mask, eye protection & gloves.

Shoe cover should always be worn before entering the patient care area (Isolation ward etc.).

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

Donning & Doffing procedures should be diligently & carefully followed as given below.

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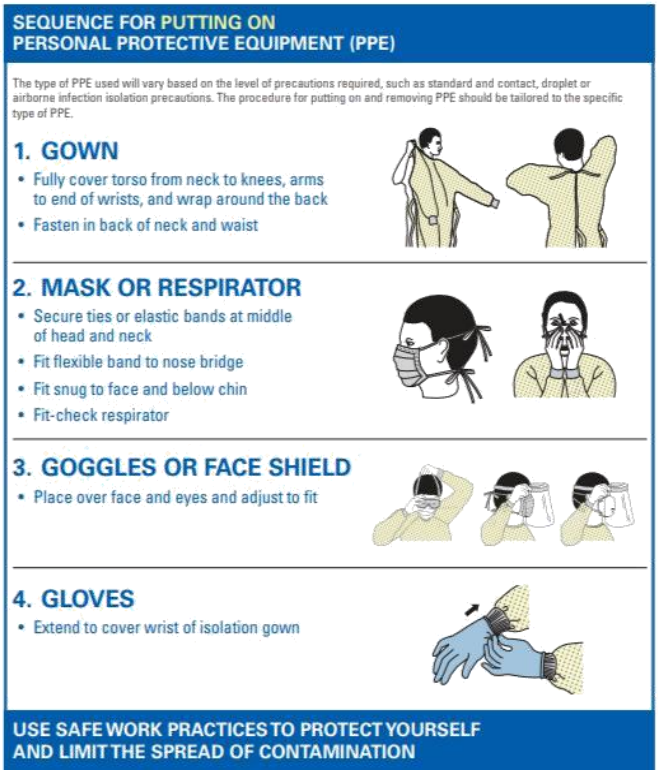
<td> 
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<td>Keep hands away from face
Limit surfaces touched
Change gloves when torn or heavily contaminated
Perform Hand Hygiene</td>
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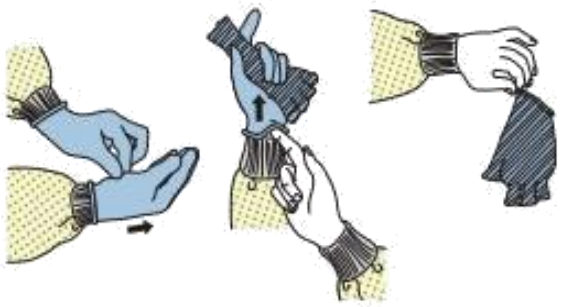
HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

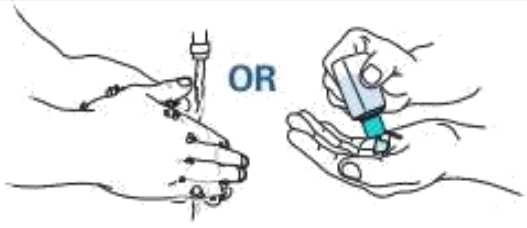
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container

5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

2. Additional precautions

Cohort HCWs to exclusively care for cases to reduce the risk of spreading transmission.

Place patient beds at least 1m apart;

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

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

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%);

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

Some **aerosol generating procedures** have been associated with increased risk of transmission of coronaviruses such as tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation and bronchoscopy. Ensure that HCWs performing aerosol-generating procedures use PPE with particulate respirator at least as protective as a NIOSH-certified N95, EU FFP2 or equivalent. When putting on a disposable particulate respirator, always perform the seal-check. Note that if the wearer has facial hear (beard) this can prevent a proper respirator fit.

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;

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

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

Routinely clean and disinfect patient-contact surfaces;

Limit the number of HCWs, family members and visitors in contact with a patient with suspected 2019 nCoV- Acute Respiratory Disease;

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

Duration of contact and droplet precautions for 2019 nCoV- Acute Respiratory Disease Standard precautions should always be applied at all times. Additional contact and droplet precautions should continue until the patient is asymptomatic.

3. Bio Medical Waste Management from suspected case of nCoV

Bio medical waste generated must be segregated at source and discarded as per biomedical waste management Rules 2016 (amendment 2018,2019)

4. Laundry

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

Do not shake sheets when removing them from the bed.

Always perform hand hygiene after handling soiled laundry items.

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

5. Sample collection, storage and transportation

Collection and handling of laboratory specimens from patients with suspected 2019 nCoV- Acute Respiratory Disease. All specimens collected for laboratory investigations should be regarded as potentially infectious, and HCWs who collect, or transport clinical specimens should adhere rigorously to Standard Precautions to minimize the possibility of exposure to pathogens.

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

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

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

Samples to be collected:

Nasopharyngeal swab / Nasal Swabs – 2

Throat Swab

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

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).

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.

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.

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.

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

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

6. Monitor health of HCWs providing care to cases of 2019-nCoV Acute Respiratory Disease

HCWs and housekeeping staff providing care to cases of 2019-nCoV 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. If they develop any symptoms then standard protocol laid down for management of suspect case of 2019-nCoV acute respiratory disease shall be followed.

7. Hospital Disinfection (Environmental)

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. Spray the surface with 0.5% to 1% solution of Sodium Hypochlorite.

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

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%) or5%Lys

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

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.

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.

Clean and disinfect mattress impermeable covers.

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.

Intermediate Level disinfectant: Alcohols, chlorine compounds, hydrogen Peroxide, chlorhexidine, Low level disinfectants: Benzalkonium chloride, some soaps

LIQUID SPILL MANAGEMENT:

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

Wear protective gloves.

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.

Leave for 30 minutes for contact

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

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

References

Infection Prevention Control Guidelines for suspected cases of Novel Coronavirus (nCoV) Atal Bihari Vajpayee Institute of Medical Sciences & Dr Ram Manohar Lohia Hospital, New Delhi-110001

Infection prevention and control during health care when novel coronavirus (2019-nCoV) infection is suspected Interim guidance January 2020 WHO/2019-nCoV/IPC/v2020.1

CDC guidelines on PPE https://www.cdc.gov/HAI/pdfs/ppe/PPEslides6-29-04.pdf