

COVID-19

Infection Prevention and Control Manual



GOVERNMENT MEDICAL COLLEGE
THIRUVANANTHAPURAM

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COVID -19
Infection Prevention and Control Manual

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and

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Government Medical College

Thiruvananthapuram

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1. INTRODUCTION TO COVID -19

Healthcare personnel (HCP) are on the front lines for caring patients with confirmed or possible infection with Corona virus disease 2019 (COVID-19) and therefore have an increased risk of exposure to this virus. HCPs can minimize their risk of exposure when caring confirmed or possible COVID-19 patients by following these guidelines.

DEFINITION

Corona virus disease 2019 (COVID-19) is an infectious disease caused by **severe acute respiratory syndrome corona virus 2 (SARS-CoV-2)**. The disease was first identified in December 2019 in Wuhan, the capital of China's Hubei province, as an outbreak of pneumonia of unknown cause. The outbreak was declared public health emergency of international concern on 30 January 2020. It spread globally; involving many countries resulted in the ongoing 2019 - 20 corona virus pandemic.

RISK FACTORS

- Travel
- Viral Exposure

MODE OF TRANSMISSION

Person-to-person spread

Person-to-person transmission of COVID-19 virus occurs via droplet and contact transmissions.

- **Droplet transmission:** The transmission of COVID-19 is thought to occur mainly through respiratory droplets. These droplets, produced when the infected person coughs or sneezes, can infect the persons who are within 1 meter distance
- **Contact transmission:** Respiratory droplets settle down on floor and surfaces, inanimate objects. Virus can easily spread through contact with contaminated surfaces.
- **Airborne transmission:** Airborne transmission occurs when performing aerosol generating procedures such as tracheal intubation, open suctioning, tracheostomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy, airway suction, chest physiotherapy, nebulization, sputum induction and collection of specimens for investigations.

- Some recent studies have suggested that COVID-19 may be spread by asymptomatic/presymptomatic people.

INCUBATION PERIOD

Typically 5–6 days (may range between 2–14 days)

CLINICAL MANIFESTATIONS

Common symptoms include:

- Fever
- Fatigability
- Dry cough.

Other symptoms include:

- Shortness of breath
- Myalgia
- Sore throat
- Diarrhoea, nausea or a runny nose.
- Anosmia/hyposmia or dysgeusia.

DIAGNOSTIC METHOD

- Real Time PCR (RT-PCR) testing with nasopharyngeal swab in case of upper respiratory tract infection. In case of lower respiratory tract infection sputum sample and for patients on ventilator, endotracheal aspirate must be collected for testing.
- CT scan

COMPLICATION

- Pneumonia
- Viral Sepsis
- Acute Respiratory Distress Syndrome(ARDS)
- Acute Kidney injury.
- Disseminated intravascular coagulation [DIC]

CASE DEFINITIONS

WHO periodically updates the Global Surveillance for human infection with coronavirus disease (COVID-19) document which includes case definitions. For easy reference, case definitions are included below.

Suspected case

A. A patient with acute respiratory illness (fever, and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath) diarrhoea AND a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset.

OR

B. A patient with any acute respiratory illness AND having been in contact with a confirmed or probable COVID-19 case (see definition of contact) in the last 14 days prior to symptom onset;

OR

C. A patient with severe acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath; AND requiring hospitalization) AND in the absence of an alternative diagnosis that fully explains the clinical presentation.

Probable case

A. A suspect case for whom testing for the COVID-19 virus is inconclusive. a. Inconclusive being the result of the test reported by the laboratory.

OR

B. A suspect case for whom testing could not be performed for any reason.

Confirmed case

A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.

Technical guidance for laboratory testing can be found [here](#).

Definition of contact

A contact is a person who experienced any one of the following exposures, during the 2 days before and the 14 days after the onset of symptoms of a probable or confirmed case:

1. Face-to-face contact with a probable or confirmed case within 1 meter and for more than 15 minutes;

2. Direct physical contact with a probable or confirmed case;
3. Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment; OR
4. Other situations as indicated by local risk assessments.

Note: for confirmed asymptomatic cases, the period of contact is measured as the 2 days before through the 14 days after the date on which the sample was taken which led to confirmation.

PREVENTION

How to protect yourself and others

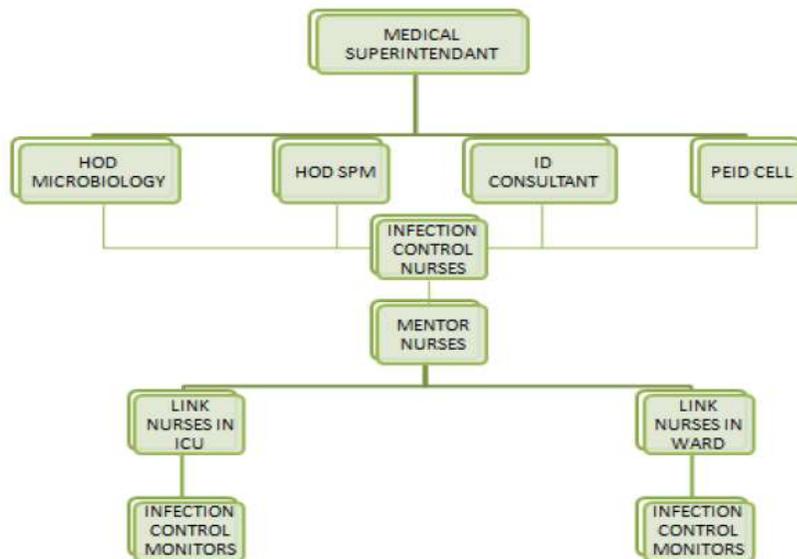
- Cough or sneeze by covering your mouth and nose with tissues or into your upper sleeve or elbow, not your hand
- Put used tissues in a bin immediately.
- Wash your hands with soap and water often (for at least 20 seconds).
- Try to avoid close contact with people who are unwell.
- Don't touch your eyes, nose or mouth if your hands are not clean.
- Avoid handshakes and touching face with hands
- Avoid personal contact, such as kissing, sharing cups or food with sick people.
- Clean and disinfect frequently touched surfaces and objects, such as doorknobs.
- Stay home if you feel unwell and call DISHA for further queries.

DISHA Health Department -0471-2552056

Medical College Hospital - 0471-2528125

2. ORGANISATIONAL PREPAREDNESS FOR PREVENTING AND CONTROLLING COVID-19

INFECTION CONTROL TREE



ORGANISATIONAL CHART FOR NURSES



3. INFECTION PREVENTION AND CONTROL PRECAUTIONS FOR COVID-19

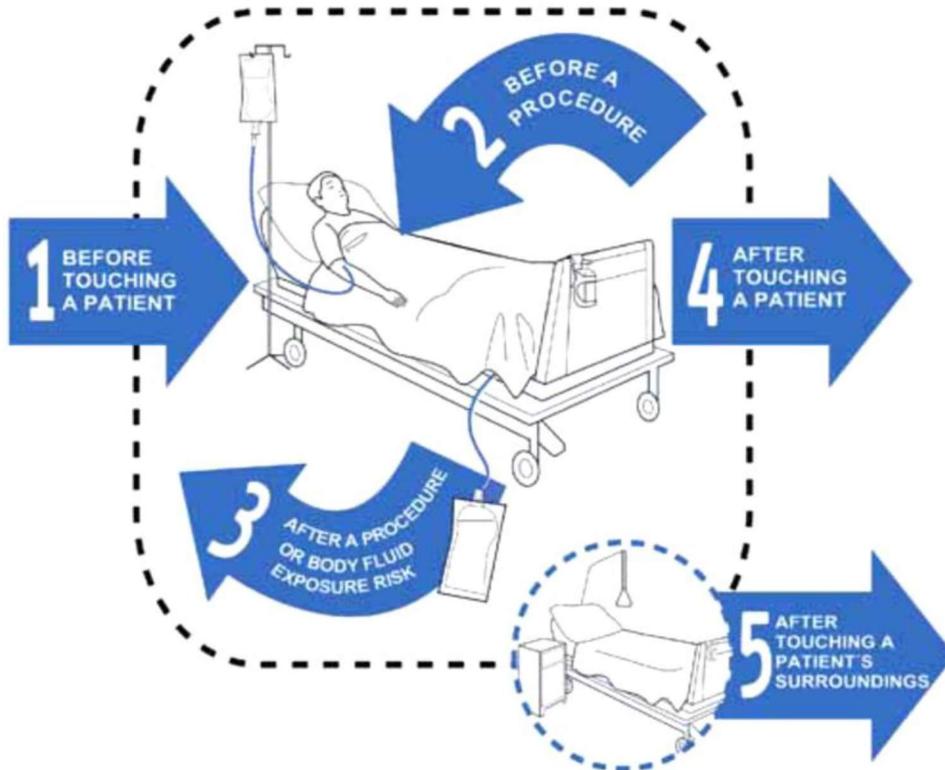
Based on the mode of transmission; standard, contact and droplet precautions have been advised.

3.1 HAND HYGIENE

- Hands are the most important vehicle of transmission of infection. So Hand hygiene is the most important measure for the prevention and control of COVID-19.
- Use alcohol based hand rub, if hands are not visibly soiled (duration 20-30sec.).
- Use soap and water, if hands are visibly soiled(duration 40-60sec), before having food and after using wash room.

FIVE MOMENTS OF HAND HYGIENE

This approach recommends health-care workers to clean their hands



Hand Hygiene Technique with Alcohol-Based Formulation

Duration of the entire procedure: 20-30 seconds



Apply a palmful of the product in a cupped hand, covering all surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.

Hand Hygiene Technique with Soap and Water

Duration of the entire procedure: 40-60 seconds



Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

Remember: Hand hygiene is the most important measure for COVID-19 prevention.

3.2 SOCIAL DISTANCING

- Avoid contact with someone who shows symptoms of possible COVID-19.
- Avoid non-essential travel and use of public transport.
- Avoid public places, crowd and large family get-togethers.
- Keep in touch with friends and relatives using phone, internet, and social media.
- Avoid routine visits to hospitals / Labs. For minor problems, contact hospital over phone or use helpline number if possible.
- If you are regularly checking INR and adjusting blood thinning medicines, please contact the doctor over phone if possible and try and avoid a hospital visit as much as possible.

3.3 RESPIRATORY HYGIENE / COUGH ETIQUETTE

Cough etiquette is designed to reduce the spread of respiratory illness to others.

- Cover your mouth and nose with a tissue when coughing or sneezing;
- Use the nearest waste receptacle to dispose of the tissue after use;
- Perform hand hygiene (e.g., hand washing with soap and water or alcohol-based hand rub) after having contact with respiratory secretions and contaminated objects/materials.
- Healthcare facilities should ensure the availability of materials for adhering to Respiratory Hygiene/Cough Etiquette in waiting areas for patients and visitors.
- Provide conveniently located dispensers of alcohol-based hand rub. Where sinks are available, ensure that supplies for hand washing (i.e., soap, disposable towels) are consistently available.

3.4 APPROPRIATE USE OF PERSONAL PROTECTIVE EQUIPMENT(PPE)

PPE should be used based on the risk of exposure; will vary according to the setting and type of personnel and activity. The overuse/misuse of PPE will have a further impact on supply shortages. All staff should be trained for proper use of PPE.

3.4.1 PPE components

1. Head cap

In order to protect our hair from contamination



2. Shoe cover



3. Gloves



4. Gown



5. N-95 mask

Some models of different masks available

N95 masks provide good protection against the haze as they are at least 95% efficient against fine particles that are about 0.1 – 0.3 microns. It is even more efficient (99.5% efficient) against particles that are 0.75 microns and larger.



3M – 8210
Most common model in the market



3M – 1860
Commonly used in healthcare institutions



3M – 8110S
(Similar to 3M – 8210 but for smaller faces)



3M – 1860S
(Similar to 3M – 1860 but for smaller faces)



Dräger Piccola FFP3
Cone-shaped mask for better fit



Kimberly-Clark 46727
Pouch-style, large breathing chamber for added comfort

6. Goggles



7. Face shield



3.4.2 GUIDELINES FOR USE OF MASK

Procedure of wearing triple layer surgical mask

- Before putting on a mask, clean hands with alcohol-based hand rub or soap and water.
- Unfold the pleats; make sure that they are facing down.
- Place over nose, mouth and chin. Fit flexible nose piece over nose bridge.

- Secure with tie strings (upper string to be tied on top of head above the ears and lower string at the back of the neck.)
- Ensure there are no gaps on either side of the mask, adjust to fit.
- Avoid touching the mask while using it; if you do, clean your hands with alcohol-based hand rub or soap and water.
- Do not let the mask hanging from the neck.
- Change the mask after six hours or as soon as they become wet. Replace the mask with a new one as soon as it is damp
- Disposable masks are never to be reused
- To remove the mask: remove it from behind (do not touch the front of mask); While removing the mask, great care must be taken not to touch the potentially infected outer surface of the mask. To remove mask, first untie the string below and then the string above and handle the mask using the upper string.
- Disposal of used masks: Used mask should be considered as potentially infected medical waste. Discard the mask in a closed bin immediately after use. Clean hands with alcohol-based hand rub or soap and water.

Remember: Masks are effective only when used in combination with frequent hand hygiene with alcohol based hand rub or soap and water. Also use and dispose mask properly.

Procedure for wearing N-95 Respirator

- Wash your hands thoroughly before putting on and taking off the respirator.
- Inspect the respirator for damage. If your respirator appears damaged, DO NOT USE IT. Replace it with a new one.
- Do not allow facial hair, hair, jewelry, clothing, or anything else to prevent proper placement or come between your face and the respirator.
- Position the respirator in your hands with the nose piece at your fingertips.
- Cup the respirator in your hand allowing the headbands to hang below your hand. Hold the respirator under your chin with the nosepiece up.
- The top strap (on single or double strap respirators) goes over and rests at the top back of your head. The bottom strap is positioned around the neck and below the ears. Do not crisscross straps.

Leak Test

- Place both hands over the respirator, take a quick breath in to check whether the respirator seals tightly to the face.
- Place both hands completely over the respirator and exhale. If you feel leakage, there is not a proper seal.
- If air leaks around the nose, readjust the nosepiece as described. If air leaks at the mask edges, re-adjust the straps along the sides of your head until a proper seal is achieved.

3.4.3 ARTICLES, STEPS AND SPECIAL INSTRUCTIONS FOR DONNING AND DOFFING

Donning Area

Requirements

- One Chair /Stool
- Hand rub/hand washing facility
- Articles – cap, face shield, gloves, PPE kit (n-95 mask, goggles, gloves, gown, shoe cover)
- Micropore/ adhesive tape
- Checklist for donning
- Yellow bucket with cover and lid
- Mirror

Donning steps

- Hand wash
- Head cap
- Shoe cover
- Hand rub
- Inner gloves
- N-95 mask
- Gown
- Goggles
- Face shield (ICU/ swab collection)
- Outer gloves

Special Instructions

- Hydrate well
- Eat well before donning
- Use wash room if needed before donning
- Hair should be tied up well.
- Spectacles should be tied well before donning
- Avoid personal things like jewelry including wedding ring, watch, mobile phone, etc.
- Adjust PPE before going to the patient side
- Range of motion to be checked prior and do show yourself to a buddy before moving to the patient side.
- Minimal touch to the patient care environment and other places

Doffing area

Requirements

- Two chairs /stool – one dirty chair and one clean chair
- Hand rub/ Hand washing facility
- Extra gloves
- Checklist for doffing
- Yellow bucket with cover and lid

Doffing steps

- Hand rub----Outer gloves
- Hand rub---Face shield
- Hand rub---Goggles
- Hand rub---Gown
- Hand rub---Shoe cover
- Hand rub---Inner gloves
- Hand wash---N-95
- Hand rub---Head Cap
- Hand wash

Special instructions

- Do not make a hurry to doff
- Sit in dirty chair if needed before doffing

- If you are not feeling well call for a buddy/assistant to help in doffing. Buddy must be in full PPE
- Hand rub should be used in between each step of doffing
- Do fold the gown inside out while removing and put it in the yellow bucket itself
- Sit in a clean chair to remove shoe cover if needed
- N-95 respirator to be removed outside the doffing room in a separate bucket closed with lid
- An extra bucket is placed for keeping the cap
- The removed PPE must not lie on the floor.
- Take a bath after the removal of PPE.

3.4.4 Rational use of PPE in COVID -19

| *Complete PPE | N-95 Respirator & Gloves | Triple layer Mask | No PPE |
|--|--|--|---|
| High risk | Moderate Risk | Low risk | No risk |
| All Corona ICUs or critical care areas where aerosol generating procedures are done | OPD: <ul style="list-style-type: none"> • Triage area • Help desk and registration counter • Doctors chamber • Temperature recording station | Visitors attending OPD | <ul style="list-style-type: none"> • Supportive services • Administrative • Financial • Engineering • Security |
| Those who all attending severely ill patient in Corona care wards with severe acute respiratory illness. | Clinical management in isolation rooms | Visitors accompanying patient in IP facility | |
| During death care | Dead body transport and handling in mortuary | | |
| While performing autopsy | Sanitary staff/ cleaning staff | | |
| Sample collection area | CSSD/ laundry Handling linen of COVID-19 patients | | |

3.4.5. Extended use and reuse policy for N95 respirator (in view of impending supply depletion during COVID-19 pandemic)

Step 1: Prioritise and limit use of PPE (especially N95 respirators) – Refer recommendations on rational use of PPE above

Step 2: Plan and implement practices of extended use and limited reuse of N95 respirators

- ❖ Extended use: Wearing the N95 respirator for repeated close contact encounters with several patients (eg: Identified cohort or isolation areas for COVID-19 suspect/confirmed to pool N95 reserves for common purpose)
- ❖ Limited reuse: Using the same N95 respirator for multiple encounters with patients but removing it ('doffing') after each encounter.

Step 3: Reuse of N95 respirators following biological decontamination based on the assessment criteria furnished below

Do's and Don'ts while using N95 respirator:

- Use when any aerosol-generating procedure (AGP) is performed. The list of aerosol generating procedures are provided in Annexure 2
- Wear Trivandrum Medical College Shield (TMC Shield) to prevent contamination of N95 respirators with blood or body fluids while performing procedures.
- Use a N95 respirator for maximum 8 hours of continuous/intermittent patient care or specimen processing
- During the entire wear-time, perform hand hygiene before and after touching or adjusting the N95 respirator
- Always hold the respirator by its strings
- Use a pair of gloves (Clean, non-sterile) while donning the decontaminated N95 mask and while performing the user seal check
- In between or after use, disinfect storage container periodically (twice daily) with 1% sodium hypochlorite
- Don't wear N-95 respirator after accidental contamination with blood or body fluids
- Do not wear N-95 respirator if it is torn / any loss of physical integrity or becomes difficult to breathe through.
- Do not wear respirator if the elasticity of straps is lost (lack of enough tension to hold the respirator firmly on face as assessed by the seal-check test)

Protocol for reuse of N95 Respirators

- Disposable Filtering Face Piece (FFP) respirators are not approved for routine decontamination and reuse. However decontamination and reuse is considered as a contingency/ crisis strategy to ensure its continued availability.
- A committee has been set up with focus on reuse of PPE by Institutional COVID cell.
- The collection and decontamination/recycling of PPE must be coordinated by head nurse in the collection point & CSSD, Scientific officer-SSB, Officer in charge Sterrad.

Method of decontamination/recycling - Vaporized hydrogen peroxide (Gas plasma) Sterrad-NX (in OT-Super speciality block)

No. of times N95 respirator can be used after Sterrad sterilization -three as per the advanced sterilization protocol (ASP)

Collection points of N95 respirators- Casualty OP, Corona OP, Corona ward (Deluxe pay ward, pay ward 600), Corona ICU (MSB)

Selection criteria for N95 respirator

- 1) N95 mask used by all HCWs mentioned in the collection points, for caring patients other than confirmed COVID-19
- 2) Discard the mask used while performing aerosol generating procedures (AGP), those which has lost the integrity, and those contaminated with blood and body fluids or damaged.

Extra Requirements in collection points:

- 1) 1 marker pen at the donning area
- 2) 1 white plastic cover as “For Re use” with a brown paper cover inside labelled in the doffing area.
 - Before donning/ before wearing N95 mask and after doing hand hygiene, the wearer should put a mark (**I**) on the side of outer surface of the mask.
 - During doffing or while removing the N95, the HCW should put the N95 mask in the labeled cover instead of putting in yellow bag.

- In each shift, the mask thus collected in various collection points should be transferred to a **common collection centre** (in SSB or in CSSD) after proper sealing of the plastic cover. It must be stored there in dry environment till sterilization.
- The mask collected on the previous day in the collection centre (SSB/CSSD) should be shifted to the point of sterilization (Sterrad-NX) by a second grade staff wearing triple layer surgical mask and gloves.
- The second grade staff (additional posting of these staff required, if necessary) be posted at this point must be trained in IPC.
 - After wearing Apron, N95 mask and gloves, he/ she should do the packing.
 - Proper instruction from the technical officer in-charge of the Sterrad machine should be obtained regarding how to pack the mask in Tyvek cover and seal it after putting a chemical indicator for the quality control.
 - Ideally each N95 mask should be put in separate cover with chemical indicator..
- Separate register must kept in sterilization area to note the number of masks sterilized per day and number of times sterilization done.
- The mask which has 3 markings (**111**) must not be taken for sterilization.
- After Sterilization, the technician in- charge must ensure adequate sterilization in each pack, by noting the change of indicator strip as yellow. Those which have not attained proper sterilization must undergo another cycle with the next set of masks.
- The sterilized mask should be transported to CSSD for storing safely in a clean area there.
- **The respirator integrity of mask must be tested by seal check test and also strap elasticity test by the wearer before use. If found, not fitting well it must be discarded by the wearer.**

3.4.6. Reuse policy for Goggles

In the same collection points separate white cover can be kept for collecting goggles.

- In Each shift they should be transported to a common collection centre (CSSD)

Reuse procedure

- 1) Immerse the goggles in buckets of freshly prepared 1% sodium hypochlorite solution (not more than 4hrs old) for 10 minutes.
- 2) Wash it thoroughly in water after immersing in water for some time.
- 3) Allow it to dry in sterile area.
- 4) Only after the surface is completely dry, wipe all surfaces with 70% alcohol using a clean pad
- 5) Store it in clean dry containers/ plastic covers.

References

- 1) Decontamination and reuse of filtering face piece respirators- CDC
<https://www.cdc.gov/corona-virus/2019-ncov/hcp/ppe-strategy/decontamination-reuse-respirator.html>
- 2) Fact sheet of healthcare personnel on emergency use of Sterrad sterilization system to Reprocess N95 Respirator-Advanced sterilization protocol(ASP)
- 3) Guideline for reuse of personal protective equipment – All India Institute of Medical sciences

3.4.7. PPE for Aerosol Generating Procedure

| S. No. | Risk category | Precautions | PPE |
|--------|--|---|---|
| 1 | Non COVID 19 No contact, asymptomatic | Hand Hygiene Standard PPE | Head Cap Surgical mask Gloves Consider goggles |
| 2 | Intermediate Risk No contact, symptomatic | Droplet and Contact Precautions | Head Cap Triple layer mask Gloves Impermeable Gown Goggles |
| 3 | High Risk Contact, Symptomatic | Droplet and contact Precautions Negative Pressure room | Head cap Impermeable gown N95 mask Goggles Gloves |
| 4 | COVID-19 patient | Airborne precautions Droplet and contact precautions Negative Pressure room | Head cap Impermeable gown N95 mask Face shield Gloves |

3.4.8. Guidelines for PPE use

At Point of Entry

| S. No. | Setting | Activity | Risk | Recommended PPE | Remarks |
|--------|--|---|---------------|-------------------------------------|--|
| 1 | Health Desk | Provide information to travellers | Low risk | Triple layer medical mask Gloves | Minimum distance of one meter needs to be maintained. |
| 2 | Immigration counters, customs and airport security | Provide services to the passengers | Low risk | Triple layer medical mask Gloves | Minimum distance of one meter needs to be maintained. |
| 3 | Temperature recording station | Record Temperature with hand held thermal recorder. | Low risk | Triple layer medical mask Gloves | |
| 4 | Holding area/ Isolation facility of APHO/ PHO | Interview & Clinical examination by doctors/ nurses | Moderate Risk | N-95 masks Gloves | |
| 5 | Isolation facility of APHO | Clinical management (doctors, nurses) | Moderate Risk | N-95 masks Gloves | |
| | | Attending to severely ill passenger | High risk | Full complement of PPE | When aerosol generating procedures are anticipated |
| 5 | Sanitary staff | Cleaning frequently touched surfaces/ Floor/ cleaning linen | Moderate risk | N-95 mask Gloves | |
| 6 | Administrative staff | Providing administrative support | No risk | No PPE | No contact with patients of COVID-19. They should not venture into areas where suspect COVID-19 cases are being managed. |

Hospital Setting

| S. No | Setting | Activity | Risk | Recommended PPE | Remarks |
|-------|--|--|---------------|---------------------------|---|
| 1 | Triage area | Triaging patients Provide triple layer mask to patient. | Moderate risk | N 95 mask Gloves | Patients get masked. |
| 2 | Screening area help desk/ Registration counter | Provide information to patients | Moderate risk | N-95 mask Gloves | |
| 3 | Temperature recording station | Record temperature with hand held thermal recorder | Moderate Risk | N 95 mask Gloves | |
| 4 | Holding area/ waiting area | Nurses / paramedic interacting with patients | Moderate Risk | N 95 mask Gloves | Minimum distance of one meter needs to be maintained. |
| 5 | Doctors chamber | Clinical management (doctors, nurses) | Moderate Risk | N 95 mask Gloves | No aerosol generating procedures should be allowed. |
| 6 | Sanitary staff | Cleaning frequently touched surfaces/ Floor/ cleaning linen | Moderate risk | N-95 mask Gloves | |
| 7 | Visitors accompanying young children and elderlies | Support in navigating various service areas | Low risk | Triple layer medical mask | No other visitors should be allowed to accompany patients in OPD settings. The visitors thus allowed should practice hand hygiene |

In Patient services

| S. No. | Setting | Activity | Risk | Recommended PPE | Remarks |
|--------|---|---------------------|---------------|---------------------|--|
| 1 | Individual isolation rooms/ cohorted isolation rooms | Clinical management | Moderate risk | N 95 mask Gloves | Patient masked. Patients stable. No aerosol generating activity. |
| 2 | ICU/ Critical | Critical care | High risk | Full complement of | Aerosol generating |

| | care | management | | PPE | activities performed. |
|---|---|---|--|---|--|
| 3 | ICU /critical care | Dead body packing | High risk | Full complement of PPE | |
| 4 | ICU/ Critical care | Dead body transport to mortuary | Low Risk | Triple Layer medical mask Gloves | |
| 5 | Sanitation | Cleaning frequently touched surfaces/ floor/ changing linen | Moderate risk | N-95 mask Gloves | |
| 6 | Other Non-COVID treatment areas of hospital | Attending to infectious and non-infectious patients | Risk as per assessed profile of patients | PPE as per hospital infection prevention control practices. | No possibility of exposure to COVID patients. They should not venture into COVID-19 treatment areas. |
| 7 | Caretaker accompanying the admitted patient | Taking care of the admitted patient | Low risk | Triple layer medical mask | The caretaker thus allowed should practice hand hygiene, maintain a distance of 1 meter |

Emergency Services

| S.No | Setting | Activity | Risk | Recommended PPE | Remarks |
|------|-----------|--|---------------|-------------------------|--|
| 1 | Emergency | Attending emergency cases | Moderate risk | N 95 mask Gloves | When aerosol generating procedures are anticipated |
| 2 | | Attending to severely ill patients of SARI | High risk | Full complement of PPE | Aerosol generating activities performed. |

Pre Hospital Ambulance Services

| S. No. | Setting | Activity | Risk | Recommended PPE | Remarks |
|--------|---|---|---------------|-------------------------------------|--|
| 1 | Ambulance Transfer to designated hospital | Transporting patients not on any assisted ventilation | Moderate risk | N-95 mask Gloves | |
| | | Management of SARI patient while transporting | High risk | Full complement of PPE | When aerosol generating procedures are anticipated |
| | | Driving the ambulance | Low risk | Triple layer medical mask Gloves | Driver helps in shifting patients to the emergency |

Other Supportive / Ancillary services

| S. No. | Setting | Activity | Risk | Recommended PPE | Remarks |
|--------|---------------------------|---|---------------|-------------------------|--|
| 1. | Laboratory | Sample collection and transportation | High risk | Full complement of PPE | |
| | | Sample testing | High risk | Full complement of PPE | |
| 2 | Mortuary | Dead body handling | Moderate Risk | N 95 mask Gloves | No aerosol generating procedures should be allowed. No embalming. |
| | | While performing autopsy | High Risk | Full complement of PPE | No post-mortem unless until specified. |
| 3 | Sanitation | Cleaning frequently touched surfaces/ Floor/ cleaning linen in COVID treatment areas | Moderate risk | N-95 mask Gloves | |
| 4 | CSSD/Laundry | Handling linen of COVID patients | Moderate risk | N-95 mask Gloves | |
| 5 | Other supportive services | Administrative Financial Engineering Security, etc. | No risk | No PPE | No possibility of exposure to COVID patients. They should not venture into COVID-19 treatment areas. |

Health workers in Community Setting

| S. No. | Setting | Activity | Risk | Recommended PPE | Remarks |
|--------|---|---|-------------|---------------------------------|---|
| 1 | ASHAs/ Anganwadi and other field staff | Field Surveillance | Low Risk | Triple layer mask Gloves | Maintain distance of one meter. Surveillance team to carry adequate triple layer masks to distribute to suspect cases detected on field surveillance |
| 2 | Doctors at supervisory level conducting field investigation | Field surveillance Clinical examination. | Medium risk | N 95 mask Gloves. | |

Quarantine Facility

| S. No. | Setting | Activity | Risk | Recommended PPE | Remarks |
|--------|---|---|---------------|-----------------------------|---------|
| 1 | Persons being quarantined | | Low Risk | Triple layer mask | |
| 2 | Healthcare staff working at quarantine facility | Health monitoring and temperature recording | Low Risk | Triple layer mask Gloves | |
| | | Clinical examination of symptomatic persons | Moderate Risk | N-95 masks Gloves | |
| 3 | Support staff | | Low Risk | Triple layer mask Gloves | |

Home Quarantine

| S. No. | Setting | Activity | Risk | Recommended PPE | Remarks |
|--------|---------------------------|---|----------|-------------------|---|
| 1 | Persons being quarantined | | Low Risk | Triple layer mask | |
| 2 | Designated family member | Taking care of person being quarantined | Low Risk | Gloves | While cleaning commonly touched surfaces or handling soiled linen |
| 3 | Other family | | No Risk | No PPE required | Maintain a distance of at least 1 meter from person under home quarantine. Senior citizens in the household should stay away from such persons under home quarantine. |

4. CLEANING AND DISINFECTION PROTOCOL

Routine environmental cleaning

Cleaning is essential prior to disinfection. Organic matter can inactivate many disinfectants. Cleaning removes organic and inorganic substances allowing the disinfectant to work. Removal of germs such as the virus that causes COVID-19 requires thorough cleaning followed by disinfection. The length of time that SARS-COV-2 (the cause of COVID-19) survives on inanimate surfaces will vary depending on factors such as the amount of contaminated body fluid – such as respiratory droplets – present and environmental temperature and humidity. In general, coronaviruses are unlikely to survive for long time, once droplets produced by coughing or sneezing.

4.1 Cleaning agents and disinfectants

1. Freshly prepared 1% Sodium Hypochlorite can be used as a disinfectant for cleaning and disinfection.
2. Phenol for cleaning non client area like office room/staff room and also toilets.
3. Alcohol (e.g. isopropyl 70% or ethyl alcohol 70%) can be used to wipe down surfaces where the use of bleach is not suitable, e.g. metals.

(ii) Preparation of 1% Hypochlorite Solution

Requirements

- Utility Gloves
- Disposable Plastic Apron
- Goggles
- Mask
- Bucket
- Container
- Bleaching Powder
- 30gm Measuring Cup

Steps

1. Don appropriate PPE
2. Take adequate amount of water in a bucket
3. Take sufficient quantity of bleaching powder (30gm for 1 liter) in a container
4. Pour small quantity of water and make it into a paste and transfer it to a bucket

5. Add more water to make it 1percent bleach solution, appears as a milky white solution
6. Wait for sedimentation
7. Colourless odorless highly disinfectant one percent bleach solution is ready to use.
8. Close the bucket of solution with a lid
9. Maximum time for prepared bleach is 6 hours

| 1% Bleaching Powder | Water |
|----------------------------|--------------|
| 30gm | 1L |
| 300gm | 10L |
| 600gm | 20L |
| 1 kg/1000gm | 33L |

4.2 CLEANING GUIDELINES

Use a checklist to promote accountability for cleaning responsibilities

Instructions for cleaning staff

- Housekeeping staff should be trained regarding donning and doffing
- They must attired in suitable PPE (heavy duty/disposable gloves, disposable long-sleeved gowns, eye goggles or a face shield, and a N95 respirator, shoe cover), when handling and transporting used patient care equipment and while cleaning/disinfecting corona ward.
- Disposable gloves should be removed and discarded if they become soiled or damaged, and a new pair worn
- Cleaning staff should be informed to avoid touching their face, especially their mouth, nose, and eyes when cleaning.
- They should do hand hygiene before putting on and after removing gloves.
- If there is visible contamination with respiratory secretions or other body fluid, the cleaners should wear a full length disposable gown in addition to the surgical mask, eye protection and gloves
- Housekeeping staff should wash their hands with soap and water immediately after removing the PPE, and when cleaning and disinfection work is completed.
- Discard all used PPE in a double yellow -bagged biohazard bag, which should then be securely sealed and labelled.
- The staff should be aware of the symptoms, and should report to their occupational health service if they develop symptoms.

General instructions:

The environment must be thoroughly cleaned by applying the following general principles

- Avoid cleaning methods that produce mists or aerosols or disperse dust, for example dry sweeping (brooms, etc.), spraying or dusting. Brooms should never be used. Dry mopping using microfiber floor mops. Wash microfiber with detergent and dry well before next use
- Wash the mop under running water before doing wet mopping. Wet mopping of the walls and floors should be done in three shift with 1% Sodium hypochlorite. Prepare fresh disinfectant solution and change disinfectant solution more frequently, especially after cleaning heavily contaminated areas & managing blood spills and body fluids.
- After cleaning, all equipment used for cleaning including mop head should be washed with soap and water; followed by decontamination with 1 %hypochlorite for 10 min and then dry it in sunlight. It should be dried thoroughly before reuse. Clean the buckets with detergent and warm water and keep them inverted for drying.
- Blood spills should be treated with 1% sodium hypochlorite and allow 20 minutes contact time.
- Waste segregation should be done according to the hospital waste management guidelines. Empty the waste and sharp disposal boxes when the containers are three-fourth full.
- Housekeeping staff should wash their hands with soap and water immediately on leaving the room.
- Thorough cleaning and disinfection of surface according to the cleaning protocol is more beneficial than fumigation.

Frequency of cleaning of surfaces:

- Frequently Touched Surfaces -Door handles, bedrails, tabletops, light switches, telephone. It must be cleaned 2nd hourly
- Minimally Touched Surface -Floors, ceilings, walls requires routine cleaning that is in each shift.

Daily Cleaning

- ICU door should be closed all time and clean the door handle with 1% Hypochlorite solution
- In the beginning of each shift, high touch areas to be cleaned by nursing assistant.
- ICU bed rails should be cleaned with 1% Hypochlorite solution hourly
- Door handle, phone, fridge door, table, chair, stair rails, sink & tap are high touch areas.
- Second hourly cleaning as per cleaning checklist for isolation areas
- Patient room, equipment, bed, mattress and including washroom must be cleaned in every shift.
- Separate bucket and mop for cleaning each room. After cleaning, all equipment used for cleaning including mop head should be washed with soap and water; followed by decontamination with 1% hypochlorite 10 minute and then dry it in sunlight. It should be dried thoroughly before reuse. Clean the buckets with detergent and warm water and keep them inverted for drying.

Terminal cleaning

Terminal cleaning is a complete and enhanced cleaning procedure that decontaminates an area following discharge or transfer of a patient with an infectious/communicable disease, sometimes also referred to as an 'infectious clean'. Terminal cleaning requires both thorough cleaning and disinfection for environmental decontamination.

- Do not spray or fog occupied or unoccupied rooms with disinfectant – potentially dangerous practice that has no proven benefits.
- Cleaning should be followed by or combined with a disinfectant process
- Ensure room is prepared prior to cleaning, remove medical equipment and patient used items.
- Cleaning staff should be attired in suitable PPE (heavy duty/disposable gloves, disposable long-sleeved gowns, eye goggles or a face shield, and a N95 respirator, shoe cover).
- Change bed screens and curtains (including disposable curtains/screens) that are soiled or contaminated
- Damp dust all surfaces, furniture and fittings
- Clean windows, sills and frames

- Clean all surfaces of bed and mattress
- Mop floor with 1% hypochlorite solution. Wipe down all accessible surfaces of walls from top to bottom as well as blinds with 1% bleach solution.
- Discard cleaning items made of cloth and absorbent materials and linen into double-bagged yellow bags and seal it properly.
- Ensure no spillage occurs during handling and transit of bio-medical waste. Untreated bio-medical waste must not be stored >48 hrs
- Never carry soiled linen against body; place soiled linen in a leak-proof bag or bucket
- All other disposable PPE should be removed and discarded after cleaning activities are completed
- Hands should be washed with soap and water immediately after PPE is removed.
- Dishes and eating utensils used by a patient with known or suspected infection: No special precautions other than standard precautions such as hand hygiene and wearing gloves when handling patient trays, dishes and utensils.

| Area | Disinfectant | Contact time | Frequency |
|--|---|--------------|------------------------|
| High touch surfaces | Hypochlorite 1% | 10 min | 2 hourly |
| Floor | Clean with detergent (soap & water)and then Hypochlorite 1% | 10min | 8 th hourly |
| Wall, ceiling | Hypochlorite 1% | 10min | Once daily |
| Corridor | Hypochlorite 1% | 10min | 8 th hourly |
| Linen | Hypochlorite 0.1% | 30 min | As on when |
| Toilet | Clean with detergent (soap & water)and then Hypochlorite 1% | | 4 th hourly |
| Non-critical equipment (stethoscope, BP cuff, thermometer etc) | Alcohol wipes | | After each use |

5. BIOMEDICAL WASTE MANAGEMENT FOR COVID 19

(Kerala State Pollution Control Board : 20/03/2020)

In order to deal with COVID-19 pandemic, State and Central Governments have initiated various steps, which include setting up of quarantine centers/camps, Isolation wards, sample collection centers and laboratories.

These guidelines are based on current knowledge on COVID-19 and existing practices in management of infectious waste generated in hospitals while treating viral and other contagious diseases like HIV, H1N1, etc.

COVID-19 Isolation wards:

- Healthcare Facilities having isolation wards for COVID-19 patients need to follow these steps to ensure safe handling and disposal of biomedical waste generated during treatment;
- Keep separate bins/bags/containers (yellow colour) in isolation wards and maintain proper segregation of waste as per BMW Rules, 2016 as amended and Central Pollution Control Board(CPCB) guidelines for implementation of BMW Management Rules.
- 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 prevent leaks;
- Collect and store biomedical waste separately prior to handing over the same to Common Biomedical Waste Treatment and Disposal facility (CBWTF). Use a dedicated collection bin labeled as “COVID-19” to store COVID-19 waste and keep separately in temporary storage room prior to handing over to CBWTF. Biomedical waste collected in such isolation wards can also be lifted directly from ward into CBWTF collection van.
- In addition to mandatory labeling, bags/containers used for collecting biomedical waste from COVID-19 wards, should be labeled as “COVID-19 Waste”. This marking would enable CBWTFs to identify the waste easily for priority treatment and disposal immediately upon the receipt.
- Mixing of COVID-19 waste with the biomedical waste from other wards, general waste etc. should be avoided.

- General waste other than bio medical waste should be disposed as per Solid Waste Management (SWM) Rules, 2016 only after proper disinfection.
- Maintain separate record of waste generated from COVID-19 isolation wards. - Use dedicated trolleys and collection bins in COVID-19 isolation wards. A label “COVID-19 Waste” to be pasted on these items also.
- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite solution.

Duties of Common Biomedical Waste Treatment Facility (CBWTF):

- Report to SPCBs/PCCs about receiving of waste from COVID-19 isolation wards/quarantine camps/quarantined homes/COVID-19 testing centers;
- Operator of CBWTF shall ensure regular sanitization of workers involved in handling and collection of biomedical waste;
- Workers shall be provided with adequate PPEs including N95 respirators. Splash proof aprons/gowns, nitrile gloves, gum boots and safety goggles;
- Use dedicated vehicle to collect COVID-19 ward waste. It is not necessary to place separate label on such vehicle;
- Vehicle should be sanitized with 1% sodium hypochlorite or any appropriate chemical disinfectant after every trip.
- COVID-19 waste should be disposed-off immediately with high priority upon receipt at facility.
- In case it is required to treat and dispose more quantity of biomedical waste generated from COVID-19 treatment, CBWTFs may operate their facilities for extra hours, by giving information to SPCBs/PCCs.
- Operator of CBWTF shall maintain separate record for collection, treatment and disposal of COVID-19 waste.
- Do not allow any worker showing symptoms of illness to work at the facility. May provide adequate leave to such workers and by protecting their salary.
- Food waste generated in Covid-19 Isolation area is disposed as per institutional policy

Waste disposal timings

- First shift – 10am - 11am
- Second shift – 5pm - 6pm
- Night shift – 5am - 6am

6. INSTRUCTIONS FOR SAFE USE OF LINEN

Packing and transporting linen and laundry from isolation areas

- Place soiled linen directly into containers or bags in the isolation room or area.
- Contain the soiled linen in a manner that prevents the containers or bags from opening or bursting during transport.
- One layer of packing is adequate, provided that the soiled linen can be placed in the bag without contaminating the outside of the bag. Double-bagging is unnecessary.
- Ensure that all persons who handling the soiled linen must use Standard Precautions, and perform hand hygiene after removing PPE.
- Heavy-duty tasks (e.g. cleaning of the environment) require more resistant PPE (e.g. rubber gloves and apron, and resistant closed shoes).

Best practices for linen (and laundry) handling

- Always wear reusable rubber gloves prior to handling soiled linen (e.g., bed sheets, towels, curtains).
- Never carry soiled linen against the body. Always place it in the designated container.
- Carefully roll up soiled linen to prevent contamination of the air, surfaces, and cleaning staff. Do not shake it.
- If there is any solid excrement on the linen, such as feces or vomit, scrape it off carefully with a flat, firm object and put it in the commode or designated toilet/latrine before putting linen in the designated container
- Place soiled linen into a clearly labelled, leak-proof container (e.g., bag, bucket) in the patient care area. Do not transport soiled linen by hand outside the specific patient care area from where it was removed.
- Reprocess (i.e., clean and disinfect) the designated container for soiled linen should be reprocessed after each use
- If reusable linen bags are used inside the designated container, do not overfill them, tie them securely, and launder after each use
- Soiled linen bags can be laundered with the soiled linen they contained.
- The effectiveness of the laundering process depends on many factors, including:
 - Time and temperature
 - Mechanical action
 - Water quality (pH, hardness)

- Volume of the load
- Extent of soiling
- Model/availability of commercial washers and dryers

Always use and maintain laundry equipment according to manufacturer's instructions.

Always launder soiled linens from patient care areas in a designated area, which should:

- be a dedicated space for performing laundering of soiled linen
- not contain any food, beverage or personal items
- have floors and walls made of durable materials that can withstand the exposures of the area (e.g., large quantities of water and steam)
- have a separation between the soiled linen and clean linen storage areas, and ideally should be at negative pressure relative to other areas
- have hand washing facilities
- have Structured Operating Protocols (SOP) and other job aids to assist laundry staff with procedures

Best practices for personal protective equipment (PPE) for laundry staff:

- Practice hand hygiene before application and after removal of PPE.
- Wear tear-resistant reusable rubber gloves when handling and laundering soiled linens.
- If there is risk of splashing, for example, if laundry is washed by hand, laundry staff should always wear gowns or aprons and face protection (e.g., face shield, goggles) when laundering soiled linens.
- Follow instructions from the washer/dryer manufacturer.
- Use hot water (70–80°C X 10 min) [158–176°F]) and an approved laundry detergent.
- Use disinfectant on a case by case basis, depending on the origin of the soiled linen (e.g., linens from an area on contact precautions).
- Dry linens completely in a commercial dryer

Manual reprocessing steps

If laundry services with hot water are not available, reprocess soiled linens manually according to the following:

1. Immerse in detergent solution and use mechanical action (e.g., scrubbing) to remove soil.

2. Disinfect by: Immersing the linen in boiling water or Immersing the linen in disinfectant solution for the required contact time and rinsing with clean water to remove residue.

3. Allowing to fully dry, ideally in the sun

Washing by Machine

- Wash and disinfect linen: washing by machine with warm water (60-90°C) and laundry detergent is recommended for cleaning and disinfection of linens.
- Linen can be soaked in hot water and soap in a large drum, using a stick to stir, avoiding splashing.
- If hot water not available, soak linen in 0.1% chlorine for approximately 30 minutes. Finally, rinse with clean water and let linen dry fully in the sunlight.

Best practices for management of clean linen:

- Sort, package, transport, and store clean linens in a manner that prevents risk of contamination by dust, debris, soiled linens or other soiled items.
- Each floor/ward should have a designated room for sorting and storing clean linens.
- Transport clean linens to patient care areas on designated carts or within designated containers that are regularly (e.g., at least once daily) cleaned with a neutral detergent and warm water solution

References

1. Infection prevention and control of epidemic- and pandemic-prone acute respiratory infections in health care WHO Guidelines World Health Organization 2014
2. Centers for Disease Control and Prevention (CDC) and the Infection Control Africa Network (ICAN). Best Practices for Environmental Cleaning in Healthcare Facilities in Resource-Limited Settings Date: November 2019 2 Version 1 November 2019

7. PATIENT CARE EQUIPMENT

- Dedicated instruments must be used for suspected patients and confirmed cases.
- Staff on duty must check the availability of the equipment in each shift.
- Proper cleaning and disinfection is necessary.
- Thermometer, stethoscope, glucometer, BP apparatus, Pulse oximeter etc. to be the dedicated patient care equipment
- Disinfect equipment with 70% alcohol after use.

8. PROTOCOL FOR HANDLING OF DECEASED

Scope of the document

This guideline is based on the current epidemiological knowledge about the COVID-19. India is currently having travel related cases and few cases of local transmission. At this stage, all suspect/ confirmed cases will be isolated in a health care facility. Hence the document is limited in scope to hospital deaths.

The main driver of transmission of COVID-19 is through droplets. There is unlikely to be an increased risk of COVID infection from a dead body to health workers or family members who follow standard precautions while handling body. Only the lungs of dead COVID patients, if handled during an autopsy, can be infectious.

Standard Precautions to be followed by health care workers while handling dead bodies of COVID.

Standard infection prevention control practices should be followed at all times. These include:

1. Hand hygiene.
2. Use of personal protective equipment (e.g., water resistant apron, gloves, masks, eyewear).
3. Safe handling of sharps.
4. Disinfect bag housing dead body; instruments and devices used on the patient.
5. Disinfect linen. Clean and disinfect environmental surfaces.

Training in infection and prevention control practices

All staff identified to handle dead bodies in the isolation area, mortuary, ambulance and those workers in the crematorium / burial ground should be trained in the infection prevention control practices.

Removal of the body from the isolation room or area

- The health worker attending to the dead body should perform hand hygiene, ensure proper use of PPE (gloves, N95 mask, goggles, water resistant apron).
- All tubes, drains and catheters on the dead body should be removed.
- Any puncture holes or wounds (resulting from removal of catheter, drains, tubes, or otherwise) should be disinfected with 1% hypochlorite and dressed with impermeable material.
- Apply caution while handling sharps such as intravenous catheters and other sharp devices. They should be disposed into a sharps container.
- Plug oral, nasal orifices of the dead body to prevent leakage of body fluids.

- If the family of the patient wishes to view the body at the time of removal from the isolation room or area, they may be allowed to do so with the application of Standard Precautions.
- Place the dead body in leak-proof plastic body bag. The exterior of the body bag can be decontaminated with 1% hypochlorite solution. The body bag can be wrapped with a mortuary sheet or sheet provided by the family members.
- The body will be either handed over to the relatives or taken to mortuary.
- All used/ soiled linen should be handled with standard precautions, put in biohazard bag and the outer surface of the bag disinfected with hypochlorite solution.
- Used equipment should be autoclaved or decontaminated with disinfectant solutions in accordance with established infection prevention control practices.
- All medical waste must be handled and disposed of in accordance with Biomedical waste management rules.
- The health staff who handled the body will remove personal protective equipment and will perform hand hygiene.
- Provide counselling to the family members and respect their sentiments.

Environmental cleaning and disinfection

All surfaces of the isolation area (floors, bed, railings, side tables, IV stand, etc.) should be wiped with 1% Sodium hypochlorite solution; allow a contact time of 30 minutes, and then allowed to air dry.

Handling of dead body in Mortuary

- Mortuary staff handling COVID-19 dead body should observe standard precautions.
- Dead bodies should be stored in cold chambers maintained at approximately 4°C.
- The mortuary must be kept clean. Environmental surfaces, instruments and transport trolleys should be properly disinfected with 1% Hypochlorite solution.
- After removing the body, the chamber door, handles and floor should be cleaned with sodium hypochlorite 1% solution.

Embalming

- Embalming of dead body should not be allowed. Autopsies on COVID-19 dead bodies Autopsies should be avoided. If autopsy is to be performed for special reasons, the following infection prevention control practices should be adopted:
- The Team should be well trained in infection prevention control practices.

- The number of forensic experts and support staff in the autopsy room should be limited.
- The Team should use full complement of PPE (head cover, gloves shoe cover, N 95 mask, coveralls/gown, goggles / face shield).
- Round ended scissors should be used
- PM40 or any other heavy duty blades with blunted points to be used to reduce prick injuries
- Only one body cavity at a time should be dissected
- Unfixed organs must be held firm on the table and sliced with a sponge – care should be taken to protect the hand
- Negative pressure to be maintained in mortuary. An oscillator saw with suction extraction of the bone aerosol into a removable chamber should be used for sawing skull, otherwise a hand saw with a chain-mail glove may be used
- Needles should not be re-sheathed after fluid sampling – needles and syringes should be placed in a sharps bucket.
- Reduce aerosol generation during autopsy using appropriate techniques especially while handling lung tissue.
- After the procedure, body should be disinfected with 1% Sodium hypochlorite and placed in a body bag, the exterior of which will again be decontaminated with 1% Sodium hypochlorite solution.
- The body thereafter can be handed over to the relatives.
- Autopsy table to be disinfected as per standard protocol.

Transportation

- The body, secured in a body bag, exterior of which is decontaminated poses no additional risk to the staff transporting the dead body.
- The personnel handling the body may follow standard precautions (surgical mask, gloves).
- The vehicle, after the transfer of the body to cremation/ burial staff, will be decontaminated with 1% Sodium hypochlorite.

At the crematorium/ Burial Ground

- The Crematorium/ burial ground staff should be sensitized that COVID 19 does not pose additional risk.
- The staff will practice standard precautions of hand hygiene, use of masks and gloves.

- Viewing of the dead body by unzipping the face end of the body bag (by the staff using standard precautions) may be allowed, for the relatives to see the body for one last time.
- Religious rituals such as reading from religious scripts, sprinkling holy water and any other last rites that does not require touching of the body can be allowed.
- Bathing, kissing, hugging, etc. of the dead body should not be allowed.
- The funeral/ burial staff and family members should perform hand hygiene after cremation/ burial.
- The ash does not pose any risk and can be collected to perform the last rites.
- Large gathering at the crematorium/ burial ground should be avoided as a social distancing measure as it is possible that close family contacts may be symptomatic and/ or shedding the virus.

9. SAMPLE COLLECTION, PACKING, TRANSPORT PROTOCOL AND PROCEDURE GUIDELINES FOR NOVEL CORONA VIRUS (COVID-19)

Scope: To be used by the Government health authorities/ hospitals/ clinicians/laboratories planning to collect appropriate clinical samples as indicated for diagnosis of SARS- CoV- 2.

Purpose: This document describes the information for collection, packaging and transport of clinical samples for COVID19 testing at Government Medical College, Thiruvananthapuram, Kerala.

Responsibilities:

- The clinician should decide necessity for collection of clinical specimens for laboratory testing of COVID-19 only after following the case definition as given by the health authorities, Government of India.
- Appropriate clinical samples need to be collected, and along with it a properly filled performa containing patient details should send to testing laboratory.
- By following all standard precautions and using personal protective equipment (PPEs), clinical samples need to be collected and sent to Virus Research and Diagnostic Laboratory (VRDL) under the Microbiology Department.

Selection of patient:

Updated case definition need to be followed as per MOHFW, Government of India which is available on the website www.mohfw.gov.in

Sample collection details:

(Adapted from the WHO guidelines on COVID19):

| Sample type | Collection materials | Transport to Laboratory | Storage till testing | Comment |
|---|---------------------------------------|-------------------------|----------------------------------|---|
| Throat swab and Nasal swab | Dacron or Polyester flocced swabs | 4 °C | ≤5 days: 4 °C >5days: -70 °C | Both swabs should be placed in the same viral transport medium (VTM) to increase the viral load |
| Bronchoalveolar lavage | Sterile container | 4 °C | ≤48 hours:4 °C >48 hrs:-70 °C | There may be some dilution of pathogen but still a worthwhile specimen |
| Tracheal aspirate | Sterile container | 4 °C | ≤48 hours:4 °C >48 hrs:-70 °C | Not applicable |
| Tissue from biopsy or autopsy including from lung | Sterile container with sterile saline | 4 °C | ≤24 hours:4 °C >24 hrs:-70 °C | Autopsy sample collection preferably to be avoided |

The HCW who collect samples, should use appropriate PPE (hand gloves, N95 Mask, apron, face shield, etc.) and should follow all biosafety precautions to protect individual and environment. Samples should be collected in isolation room. The HCW who collect the specimen should do the sample packaging also. Before taking the swab explain the procedure to the patient. Arrange the materials required for sample collection in a tray and the labels for samples to be kept ready.

Collection of Throat swab and Nasal swab

- Patient should be seated in a comfortable place for sample collection and provide tissue paper or gauze pad.
- Appropriate clinical samples need to be collected and transported along with a properly filled request form signed by designated medical officer. The samples should be sent to the VRDL, Microbiology Department, Government Medical College, Trivandrum
- The HCW who collect samples should use complete PPE and follow bio-safety precautions to protect individual and environment. Specimen should be collected in an isolated room. The HCW who collected should do the sample packing also.
- For URTI, nasal and throat swab should be collected using Dacron or polyester swab and must be placed in same viral transport medium.
- **Throat swab:** A flexible, fine-shafted polyester swab is inserted into the throat, without touching the tongue. Pass it behind uvula, soft palate, tonsillar pillars and swab the posterior pharyngeal wall. Tip of the swab is put into a vial containing 2–3 ml of viral transport medium (VTM), excess the shaft cut and the lid closed tightly.
- **Nasal swab:** By using a single swab both nostrils swabbed. Swab is passed through the floor of nasal cavity till a resistance is felt, kept it for few seconds, rotated and taken out. The swab is placed in the same viral transport medium as described above.
- For LRTI sputum sample and for intubated patients endotracheal aspirate must be collected in a sterile screw capped container.
- The surface of the container should be wiped with 1% hypochlorite solution.
- After collecting the specimen, lid of the container is tightly closed and sealed with parafilm to avoid sample leak. Label the container with patient's details such as Name, Age, Sex, ID number legibly.
- Place the sample in a leak-proof secondary container (Zip lock bag) which is securely sealed and placed in an outer container (thermocool box).
- If sample has to be collected from more than one patient, after collecting samples from each patient and placing them in Zip lock cover, they can be kept in a test tube rack. The rack containing the samples without tilting can be placed in the thermocol box.

- If there is any delay in transporting samples, it can be kept at 4-8°C. For samples transported from other distant collection centers cold chain should be maintained.
- Person who transport the samples and the person who receives the sample in the lab, should wear N95 mask and gloves.

Requirements for Clinical Samples Collection, Packaging and Transport

| | | |
|--|--|--|
| <p>1. Sample vials and Virus Transport Medium (VTM)</p>  | <p>2. Adsorbent material (cotton, tissue paper), paraffin, seizer, cello tape</p>  | <p>3. A leak-proof secondary container (e.g., ziplock pouch, cryobox, 50 mL centrifuge tube, plastic container) www.taxguru.in</p>  |
| <p>4. Hard-frozen Gel Packs</p>  | <p>5. A suitable outer container (e.g., thermocol box, ice-box, hard-board box) (minimum dimensions: 10 x 10 x 10 cm)</p>  | |

Procedure for Specimen Packaging and Transport

| | | | |
|---|---|--|---|
| <p>1. Use PPE while handling specimen</p>  | <p>2. Seal the neck of the sample vials using parafilm</p>  | <p>3. Cover the sample vials using absorbent material</p>  | <p>4. Arrange primary container (vial) in secondary container</p>  |
| <p>5. Placing the centrifuge tube inside a zip-lock pouch</p>  | <p>6. Placing the zip-lock pouch inside a sturdy plastic container and seal the neck of the container</p>  | <p><i>Note: Sample vials can also be placed inside a zip-lock pouch, covered in absorbent material and secured by heat-sealing or rubber bands. Then, the zip-lock pouch should be placed inside another plastic pouch and secured</i></p> | <p>7. Using a thermocol box as an outer container and placing the secondary container within it, surrounded by hard-frozen gel packs</p>  |
| <p>7. Using a hard card-board box as an outer container and placing the secondary container and the gel packs</p>  <p>www.taxguru.in</p> | <p>8. Placing the completed Specimen Referral Form (available on www.niv.co.in) and request letter inside a leak-proof, zip-lock pouch</p>  | <p>9. Securing the zip-lock pouch with the Specimen Referral Form on the outer container</p>  | <p>10. Attaching the labels:</p> <ul style="list-style-type: none"> • Senders' address, contact number; Consignee's address/contact number; • Biological substance- Category B; • 'UN 3373'; Orientation label, Handle with care  |

Collection of results:

The report send from VRDL, Microbiology Department is being issued through State PEID cell, Government Medical College Hospital, Thiruvananthapuram

10. RED CHANNEL PROTOCOL AND FLOW CHART

Operation of red channel guidelines for transporting suspected/positive COVID-19 PATIENTS among different departments of MCH, Trivandrum

- Inform security officer in charge regarding the opening of red channel from (.....) to (.....) as per the order of Medical Officer in charge.
- Inform the same to Nursing officer in charge and ICN.
- Arrange PPE kit to ambulance driver.
- The staff who are going to receive the patient must wear PPEs and keep ready the trolley
- All items or drugs needed should be communicated over phone and must be ready.
- Accompanying staff must wear PPE if the patient is positive, he/she should wear PPE, otherwise he/she should wear N95.
- For ICU patients on ventilators, atleast cover the patient with surgi kit/drape. Ensure the availability of NRBM [Non rebreather mask] for transport.
- Lift operator must be ready with PPE.
- Lift should be blocked and passengers must be restricted till the staff/ patient returns.
- After shifting the patient, lifts/trolley should be cleaned by attenders with 1% hypochlorite solution.
- Shifting area or reviewing area trolleys must be thoroughly washed with 1% hypochlorite
- Ensure the doffing of ambulance driver and cleaning of the ambulance.
- Ensure proper recording of shifting/red channel
- Ensure closed loop communication in each step so that there is no delay in the whole process.

Red channel flow chart

Inform security section (8474)



Inform nursing superintendent office (8231)



Ensure closed loop communication between shifting & receiving areas



Make sure the readiness of shifting as well as receiving the patient without any delay



Avoid unnecessary delaying of shifting to save other emergency services



Ensure proper cleaning of whole path through which the patient is passed

11. RECORDS AND REGISTERS FOR COVID- 19

- IP Register
- Swab Collection Register
- Diet Book
- Report Book
- Transfer In- Transfer Out Register
- Discharge Register
- Medicine, Consumable, Stationaries, Chemical And Surgical Register
- Inventory Register
- Waste Management Register
- PPE Usage Register
- Attendance Register
- Covid Training Register
- Red Channel Register
- Record for 1% Hypochlorite Solution

12.ADMISSION AND DISCHARGE PROTOCOL FOR COVID -19

Admission protocol for COVID -19

- Check the OP ticket and confirm the admission request
- IP book / Case sheet is issued from the IP Counter and collected by the attender.
- Case sheet must be handled only by healthcare workers
- Availability of bed to be confirmed from OP
- The room/ bed should be kept ready by the duty nurse as per the information from OP counter
- Patient is transported from OP to room/ICU as per red channel protocol.
- Patient should be provided with N -95 mask and ensure proper wearing
- Personal care items like soap and hand rub will be given to the patient
- Bystanders are not permitted to enter the isolation area.
- Provide proper advice regarding the hospital policy as well as infection prevention practices to be followed.
- Enter admission details in COVID-19 IP register.
- Inform the admission to the duty doctor.

Discharge Protocol

COVID-19 positive Patient will be discharged once he/she is clinically stable and two Real time RT-PCR samples taken 24 hours apart are negative. Decision regarding discharge will be taken by Institutional Medical Board.

13.ROLES AND RESPONSIBILITIES OF NURSING STAFF

Roles and responsibilities of head nurse

- Orient new staffs and other health care professionals about the ward/ICU routine
- Monitor all the infection control activities of the assigned area
- Daily contact the patient via phone about the health status, food preferences and council them if necessary
- Intending and arranging essential medicines, equipment's for caring COVID -19 patients.
- Intending to be done in local purchase form by head nurse to Superintendent via (ICN- Nursing Officer- Store Superintendent)
- Shortage for any items should be reported to ICN at 9am itself

- Duty schedule to be prepared for the allocated staff in advance
- Maintain all necessary records and registers – IP register, transfer in transfer out, diet register
- Ensure proper recording of sample sending register and positive patient sample sending register.
- Activate red channel protocol for the transfer of COVID- 19 Patients.
- Monitor cleaning and disinfection of the assigned area.
- Intend Medicines, zip lock cover, VTM bottle, sample referral form for COVID -19, surgicals, cover, etc by attender grade I before 6 pm
- Ensure the availability of N-95 and PPEs

Roles and responsibilities of staff nurse

- Report 15 minutes' prior to the duty
- Must attend infection control training before COVID-19 duty
- Hand washing must be done soon after reaching the concerned area.
- Take proper handover including common instructions
- Orientation of that area to be clearly defined by the previous staff including the dedicated equipment, intubation tray, donning and doffing area, food timing, red channel protocol, cleaning protocol etc.
- Assist in sample collection and record it properly
- Persons who are collecting sample should not go out with PPE to other floors
- Do not touch fridge with the outer gloves
- IP, transfer-in, transfer-out and discharge must be entered carefully.
- Ensure the cleaning of the high touch area hourly.
- Follow red channel protocol for unnecessary delay while shifting the patient.
- Report the unavailability of any patient care equipment to the head nurse.
- Monitor Cleaning and disinfection of the assigned area and strictly follow infection control practices
- Follow ward routines accordingly
- Do not discuss patient details over phone.

ANNEXURES

Annexure 1

DONNING STEPS

1. HAND WASH
2. HEAD CAP
3. SHOE COVER
4. HAND RUB
5. INNER GLOVES
6. N-95 MASK
7. GOWN
8. GOGGLES
9. FACE SHIELD (ICU/SWAB COLLECTION)
10. OUTER GLOVES

DOFFING STEPS

1. Hand rub
2. OUTER GLOVES
3. Hand rub
4. FACE SHIELD
5. Hand rub
6. GOGGLES
7. Hand rub
8. GOWN
9. Hand rub
10. SHOE COVER
11. Hand rub
12. INNER GLOVES
13. Hand wash/Rub
14. N-95 MASK
15. Hand rub
16. HEAD CAP
17. Hand wash

Annexure 2

| AEROSOL-GENERATING PROCEDURES (AGPS) | |
|---|--|
| In OPD during medical emergencies | <ol style="list-style-type: none"> 1. Endotracheal intubation, extubation and related procedures 2. Manipulation of oxygen mask 3. Cardiopulmonary resuscitation 4. Manual ventilation 5. Sputum induction 6. Laboratory procedures- centrifugation, pipetting & processing of respiratory samples. |
| In Operating rooms/ICU | <ol style="list-style-type: none"> 1. Bag mask ventilation 2. Intubation 3. Tracheostomy 4. Non-invasive ventilation 5. Chest physiotherapy 6. Coughing/vomiting/retching 7. Bone drilling 8. Laparoscopic procedures 9. Endoscopic procedures 10. Open suctioning of Endotracheal tube 11. CUSA/Cautery dissection 12. Sternotomy/Craniotomy 13. Ryle's tube insertion/TEE |
| Non-aerosol generating procedures | |
| | <ol style="list-style-type: none"> 1. Central line insertion 2. Arterial line insertion 3. Bladder catheterization 4. Regional nerve blocks 5. Lumbar puncture 6. Muscle Biopsy 7. Percutaneous Interventions |

Annexure 3

COMMON INSTRUCTION FOR GENERAL ISOLATION AREAS AND ICUs TO ALL HEALTH CARE WORKERS

- All stationary items (paper materials including case sheet) should be kept outside the ICU.
- Do not handle the case sheet with PPE or gloves.
- All ICU Patients must wear N-95 mask
- N-95 mask should be removed outside the Doffing area especially in ICU.
- All the basket for disposing waste should be kept closed.
- Used N-95 mask (except used for confirmed positive cases for future use by separating it in a cover with date.
- Used Goggles (except for confirmed positive cases) should be kept in a separate box.
- Ensure the hand washing facility in doffing area by the staff on duty.

CLEANING

- ICU door should be closed all time and clean the door handle with 1% Hypochlorite solution
- 1% Hypochlorite solution for cleaning to be prepared in every shift - 1kg bleach powder in 33 L of water.
- Door handle, phone, fridge door, table, chair, stair rails, sink & tap are high touch areas.
- In the beginning of each shift, high touch areas to be cleaned by nursing assistant.
- ICU bed rails should be cleaned with 1% Hypochlorite solution hourly
- Second hourly cleaning as per cleaning checklist for isolation areas
- Patient room, equipment, bed, mattress and including washroom must be cleaned in every shift.
- Separate bucket and mop for cleaning each room. After cleaning mops should be washed with soap and water and allow it to dry.

Waste disposal timings

- Waste removal when bucket is $\frac{3}{4}$ th filled.
- First shift – 10am - 11am
- Second shift – 5pm - 6pm
- Night shift – 5am - 6am

Linen

- Used patient dress to be dipped in 1% hypochlorite solution before washing and then send it for autoclaving.
- Preferably disposable linen should be used for positive patients.

Annexure 4

INSTRUCTIONS FOR CORONA VIRUS PATIENTS/ SUSPECTS IN HOME CARE & THEIR CONTACTS

Isolation duration : 14 days

ISOLATION ROOM

- The patient should be placed in a well-ventilated non-ac room. Windows should be kept open during day time
- The room should have an attached bathroom. If not, there should be a separate bathroom for use by the patient till isolation period is over.
- Toiletries, linen and utensils used by the patient should not be shared by other members
- Alcohol-based hand rub (Hand-sanitizer) should be made available at the patient's bedside. The patient should perform hand hygiene frequently. Use hand hygiene soap and water especially after toilet and contact with body fluids.
- The patient should follow personal hygiene measures like daily bath, hand hygiene and respiratory hygiene. Respiratory hygiene refers to covering the mouth and nose during coughing or sneezing using medical masks, cloth masks, tissues or flexed elbow, *followed by hand hygiene*
- There should be two buckets for collecting wastes generated from the patients room
 - Any soiled linen like handkerchiefs, clothes or bed sheets used by the patients should be disposed in a covered bucket and washed separately in hot water and dried in sunlight. (RECYCLABLE)
 - Bio-waste from the patients room like soiled tissue papers, pads etc. should be collected in a covered bucket. It should be disposed off *separately and safely (BURNING)*
- The patient's room should be mopped every day using bleach solution*. The bleach solution should also be used to daily wipe furniture and washbasins, toilet seats, mirrors etc in the patient's room.
- An alcohol-based hand rub should be placed just in front of the isolation room and used by the caregivers who exit the room.

SYMPTOM MONITORING:

- The patient should be monitored over the course of the next couple of weeks for any worsening of symptoms
- Warning signs to look for – *breathlessness, fever, chills, hemoptysis (blood in sputum) , easy fatiguability, altered sensorium*
- In case of any worsening of symptoms, the family should immediately notify the nearby government hospital/hospital from where the patient was discharged and follow the instructions from the hospital

Annexure : 5 Washroom Cleaning Checklist for Isolation Areas

Area :

| | | | | | | | | | | | | | | |
|-----------------------|----------|-----------|----------|----------|-----------|----------|-----------------------|----------|-----------|----------|----------|-----------|----------|--|
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Door and door handles | | | | | | | Door and door handles | | | | | | | |
| Wall | | | | | | | Wall | | | | | | | |
| Sink & tap | | | | | | | Sink & tap | | | | | | | |
| Bath rooms | | | | | | | Bath rooms | | | | | | | |
| Floor | | | | | | | Floor | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Door and door handles | | | | | | | Door and door handles | | | | | | | |
| Wall | | | | | | | Wall | | | | | | | |
| Sink & tap | | | | | | | Sink & tap | | | | | | | |
| Bath rooms | | | | | | | Bath rooms | | | | | | | |
| Floor | | | | | | | Floor | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Door and door handles | | | | | | | Door and door handles | | | | | | | |
| Wall | | | | | | | Wall | | | | | | | |
| Sink & tap | | | | | | | Sink & tap | | | | | | | |
| Bath rooms | | | | | | | Bath rooms | | | | | | | |
| Floor | | | | | | | Floor | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Door and door handles | | | | | | | Door and door handles | | | | | | | |
| Wall | | | | | | | Wall | | | | | | | |
| Sink & tap | | | | | | | Sink & tap | | | | | | | |
| Bath rooms | | | | | | | Bath rooms | | | | | | | |
| Floor | | | | | | | Floor | | | | | | | |

Annexure 7

DONNING AREA CHECKLIST

Area :

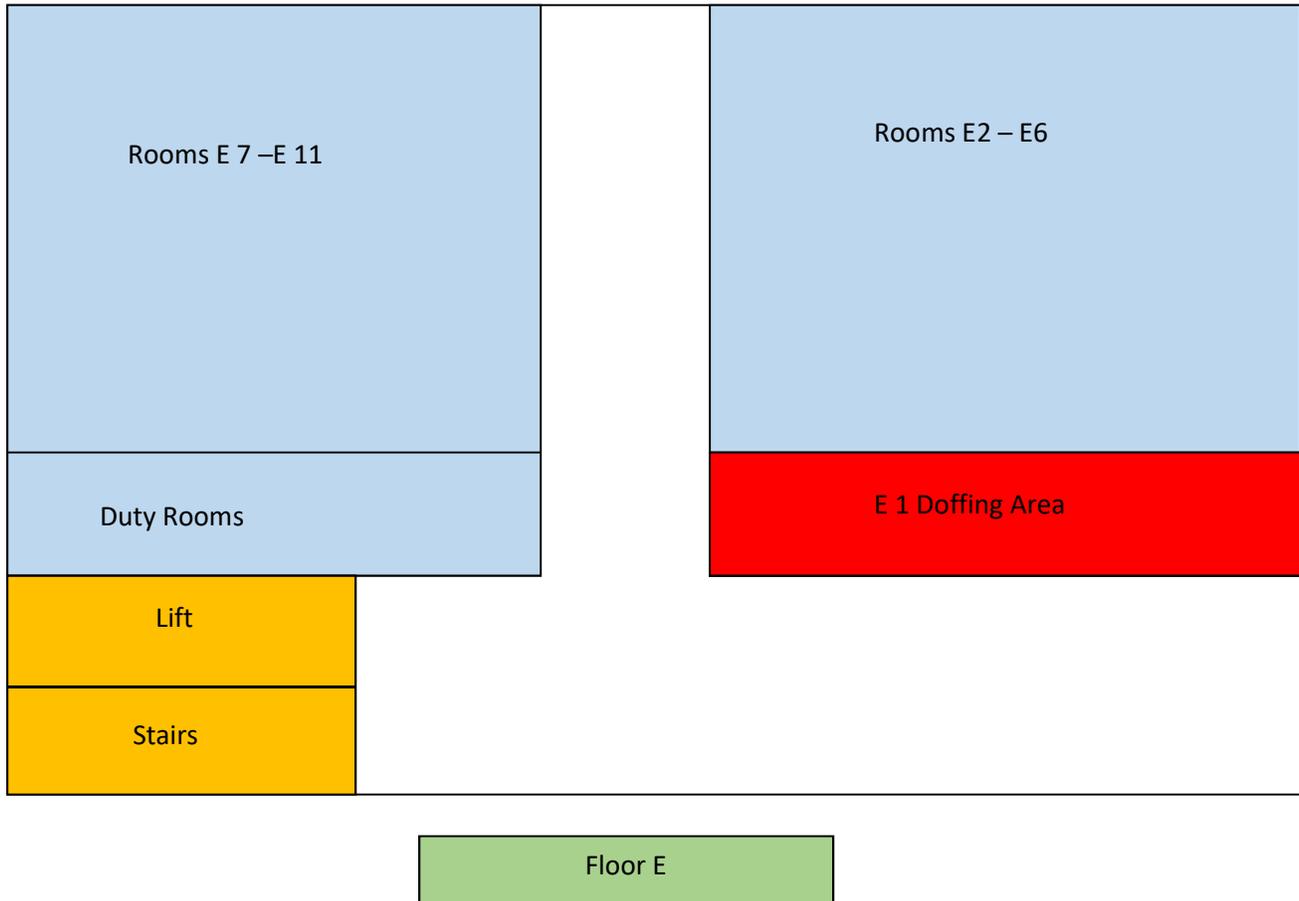
| | | | | | | | | | | | | | | |
|-------------------------|----------|-----------|----------|----------|-----------|----------|-------------------------|----------|-----------|----------|----------|-----------|----------|--|
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Chair | | | | | | | Chair | | | | | | | |
| Hand rub | | | | | | | Hand rub | | | | | | | |
| Table | | | | | | | Table | | | | | | | |
| Waste Collection Bucket | | | | | | | Waste Collection Bucket | | | | | | | |
| Mirror | | | | | | | Mirror | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Chair | | | | | | | Chair | | | | | | | |
| Hand rub | | | | | | | Hand rub | | | | | | | |
| Table | | | | | | | Table | | | | | | | |
| Waste Collection Bucket | | | | | | | Waste Collection Bucket | | | | | | | |
| Mirror | | | | | | | Mirror | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Chair | | | | | | | Chair | | | | | | | |
| Hand rub | | | | | | | Hand rub | | | | | | | |
| Table | | | | | | | Table | | | | | | | |
| Waste Collection Bucket | | | | | | | Waste Collection Bucket | | | | | | | |
| Mirror | | | | | | | Mirror | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Chair | | | | | | | Chair | | | | | | | |
| Hand rub | | | | | | | Hand rub | | | | | | | |
| Table | | | | | | | Table | | | | | | | |
| Waste Collection Bucket | | | | | | | Waste Collection Bucket | | | | | | | |
| Mirror | | | | | | | Mirror | | | | | | | |

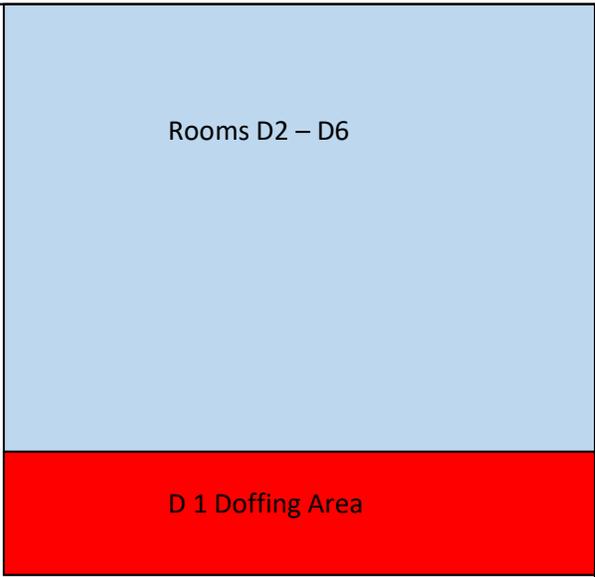
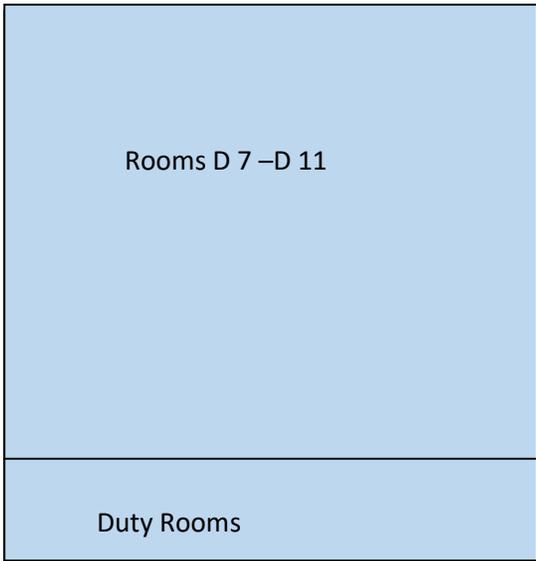
Annexure 8: DOFFING AREA CHECKLIST

Area :

| | | | | | | | | | | | | | | |
|-------------------------|----------|-----------|----------|----------|-----------|----------|-------------------------|----------|-----------|----------|----------|-----------|----------|--|
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Hand rub with dispenser | | | | | | | Hand rub with dispenser | | | | | | | |
| Dirty Chair | | | | | | | Dirty Chair | | | | | | | |
| Clean Chair | | | | | | | Clean Chair | | | | | | | |
| Waste Collection Bucket | | | | | | | Waste Collection Bucket | | | | | | | |
| Gloves | | | | | | | Gloves | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Hand rub with dispenser | | | | | | | Hand rub with dispenser | | | | | | | |
| Dirty Chair | | | | | | | Dirty Chair | | | | | | | |
| Clean Chair | | | | | | | Clean Chair | | | | | | | |
| Waste Collection Bucket | | | | | | | Waste Collection Bucket | | | | | | | |
| Gloves | | | | | | | Gloves | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Hand rub with dispenser | | | | | | | Hand rub with dispenser | | | | | | | |
| Dirty Chair | | | | | | | Dirty Chair | | | | | | | |
| Clean Chair | | | | | | | Clean Chair | | | | | | | |
| Waste Collection Bucket | | | | | | | Waste Collection Bucket | | | | | | | |
| Gloves | | | | | | | Gloves | | | | | | | |
| Date : | | | | | | | Date : | | | | | | | |
| Time | 8 | 12 | 4 | 8 | 12 | 4 | Time | 8 | 12 | 4 | 8 | 12 | 4 | |
| Hand rub with dispenser | | | | | | | Hand rub with dispenser | | | | | | | |
| Dirty Chair | | | | | | | Dirty Chair | | | | | | | |
| Clean Chair | | | | | | | Clean Chair | | | | | | | |
| Waste Collection Bucket | | | | | | | Waste Collection Bucket | | | | | | | |
| Gloves | | | | | | | Gloves | | | | | | | |

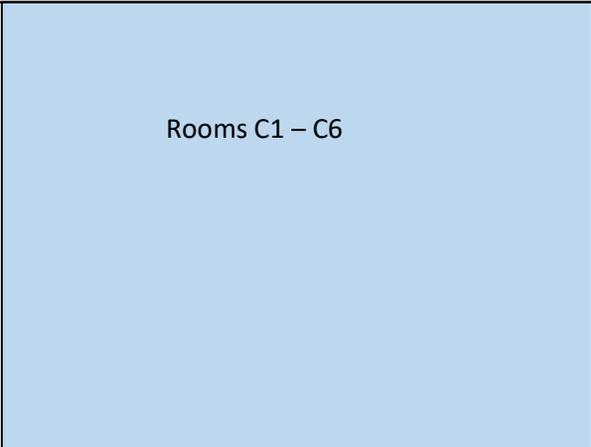
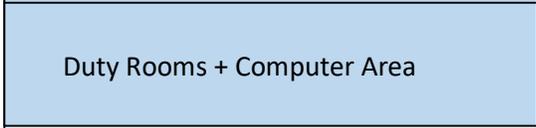
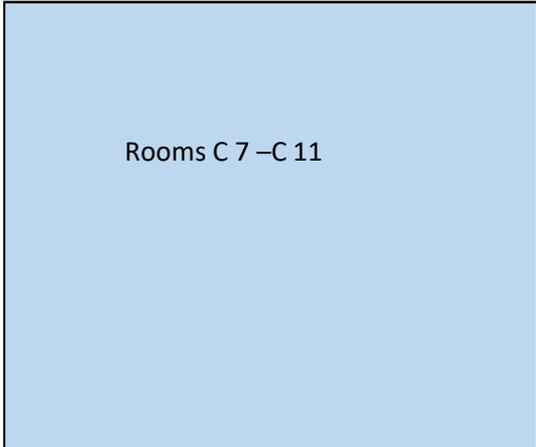
Annexure 10: Layout for Isolation rooms, Corona OP, ICU

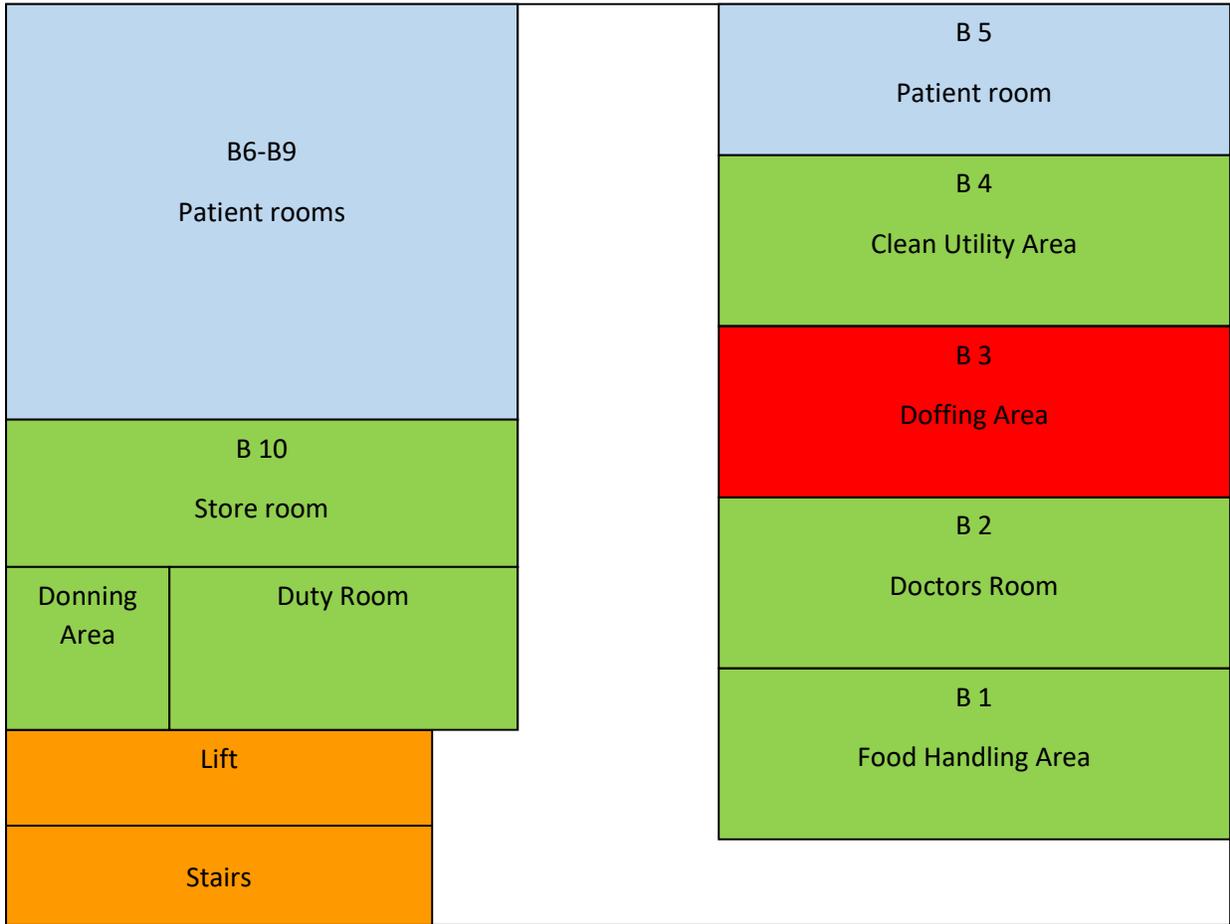




Floor D

A green rectangular box centered below the main floor plan diagram, labeled "Floor D".





Floor B

Patient waiting Area
A

Patient Waiting Area
B

History Collection Room

Lift

Stairs

Sample Collection Room

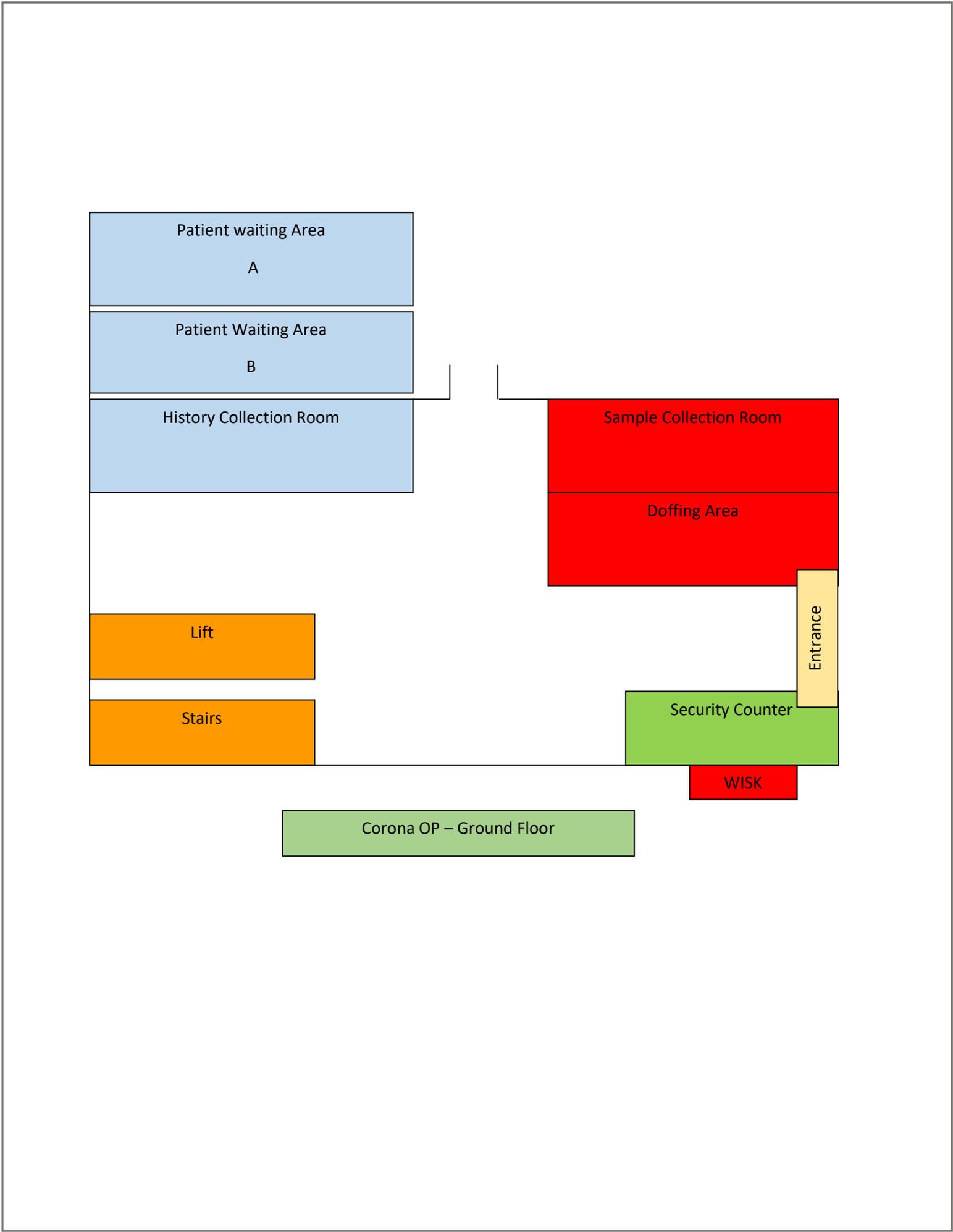
Doffing Area

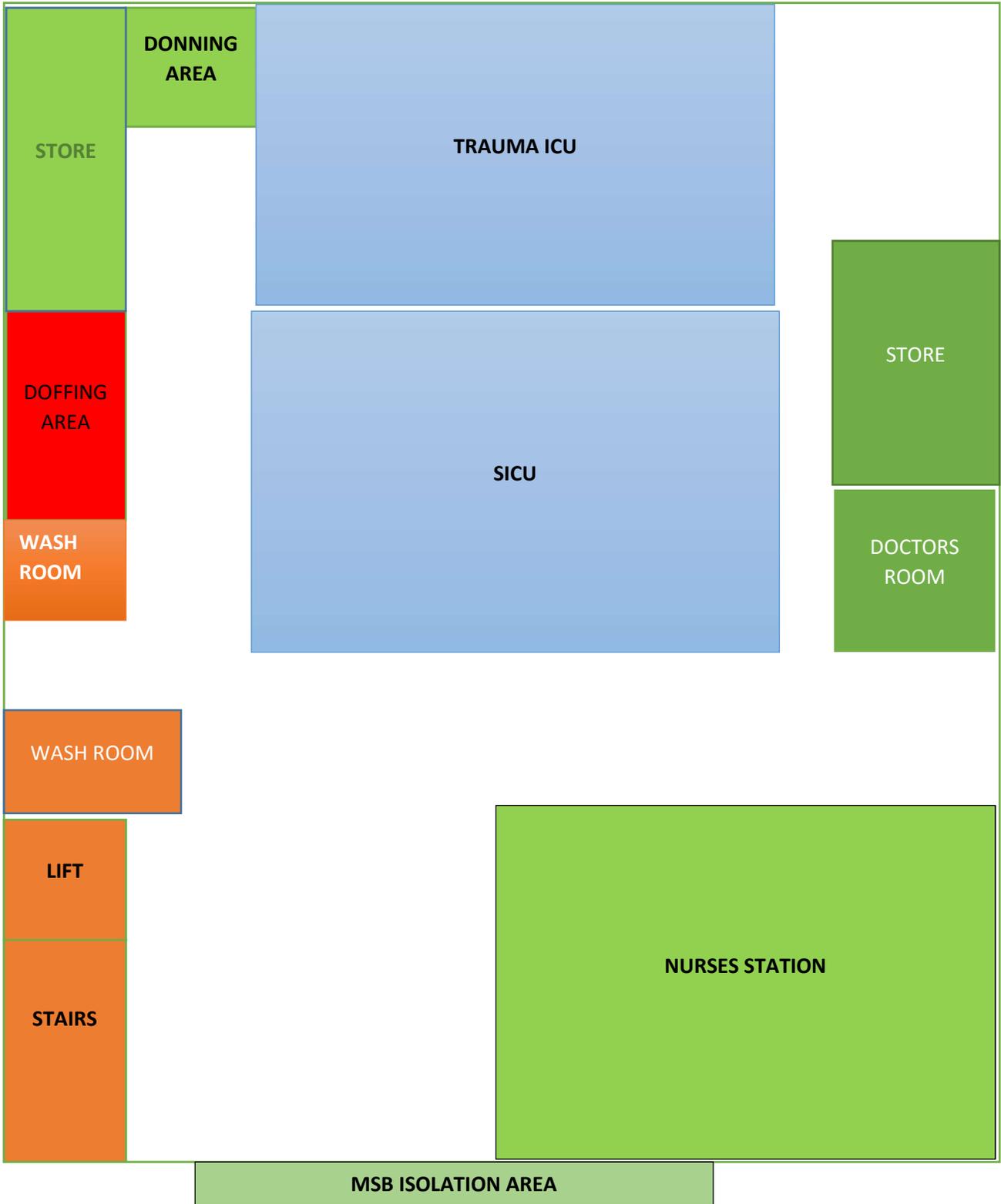
Entrance

Security Counter

WISK

Corona OP – Ground Floor





Annexure 11

കൂട്ടിരിപ്പുകാർക്കുള്ള നിർദ്ദേശങ്ങൾ

1. തുമ്മുകയോ ചുമയ്ക്കുകയോ ചെയ്യുമ്പോൾ ചിതറിത്തെറിക്കുന്ന ഉമിനീർക്കങ്ങൾ വഴി രോഗം പകരാം. അതിനാൽ തൂവാലയോ ടിഷ്യൂ പേപ്പറോ ഉപയോഗിക്കുക. ഇതുരണ്ടുമില്ലാത്ത പക്ഷം കൈമടക്കിലേക്ക് തുമ്മുകയോ ചുമക്കുകയോ ചെയ്യുക
2. പൊതുസ്ഥലത്തു തുപ്പുകയോ മൂക്ക് ചീറ്റുകയോ ചെയ്യരുത്
3. കൈകൾ ഇടയ്ക്കിടയ്ക്ക് സോപ്പും വെള്ളവും ഉപയോഗിച്ച് 20-30 സെക്കന്റ് കഴുകുക. സ്പിരിറ്റ് അടങ്ങിയ മിശ്രിതം ഇതിനായി ഉപയോഗിക്കാം
4. കഴിവതും യാത്രകൾ ഒഴിവാക്കുക. ആളുകൾ തിങ്ങിക്കിടക്കുന്ന സാഹചര്യം ഒഴിവാക്കുക
5. വിദേശയാത്രകഴിഞ്ഞെത്തിയവരുമായോ കൊറോണ രോഗലക്ഷണങ്ങൾ സംശയിക്കുന്നതുമായ വ്യക്തിയുമായി സമ്പർക്കമുണ്ടാകുകയാണെങ്കിൽ 'ദിശ' (1056) യുമായി ബന്ധപ്പെടുകയും ഹോം ഐസൊലേഷനിൽ കഴിയുകയും ചെയ്യുക
6. അത്യാവശ്യ സന്ദർഭങ്ങളിൽ മാത്രമേ ആശുപത്രി സന്ദർശനം നടത്താവൂ.
7. വ്യദ്ധരെയും കൂട്ടികളെയും രോഗപ്രതിരോധശേഷി കുറഞ്ഞവരെയും ആശുപത്രി സന്ദർശനത്തിൽ നിന്ന് തടയുകയും രോഗീപരിചരണത്തിൽ നിന്ന് ഒഴിവാക്കി നിർത്തുകയും വേണം
8. കഴിവതും ലിഫ്റ്റ് ഒഴിവാക്കി കോണിപ്പടികളുടെ ഉപയോഗം കൂട്ടുക. ലിഫ്റ്റ് ബട്ടൺ, കോണിപ്പടിയോട് ചേർന്ന പടിയും സ്പർശിച്ചാൽ കൈ സാനിറ്റൈസർ / സോപ്പും വെള്ളവും ഉപയോഗിച്ച് വൃത്തിയാക്കുക
9. ഉപയോഗിച്ച മാസ്കുകൾ പൊതുനിരത്തിൽ നിക്ഷേപിക്കാൻ പാടില്ല. ആശുപത്രിയിലാണെങ്കിൽ മഞ്ഞബക്കറ്റിൽ നിക്ഷേപിക്കുകയോ, വീട്ടിലാണെങ്കിൽ കത്തിച്ചുകളയുകയോ ചെയ്യുക
10. മാസ്ക് ധരിക്കുന്നവർ ഒരു കാരണവശാലും കൈകൊണ്ട് മാസ്കിന്റെ മുൻഭാഗത്ത് പിടിക്കരുത്. അഥവാ പിടിച്ചുപോയാൽ ഉടൻ തന്നെ കൈകൾ കഴുകുക .
11. ആശുപത്രി ജീവനക്കാരുടെ നിർദ്ദേശങ്ങൾ ഗൗരവമായി പാലിക്കുകയും അവരുടെ പ്രവർത്തനങ്ങളോട് സഹകരിക്കുകയും ചെയ്യുക.

Annexure 12

Duties Responsibilities of Nursing Assistants

1. ഡ്യൂട്ടിക്ക് 15 മിനിട്ട് മുൻപ് തന്നെ B ഘോറിൽ എത്തുക. ഡ്യൂട്ടിക്ക് കയറുന്നതിനു മുൻപ് തന്നെ സോപ്പും വെള്ളവും ഉപയോഗിച്ച് കഴുകുക
2. Assign ചെയ്ത Floor/OP യിൽ ഏതൊക്കെ ഏരിയ ഉൾപ്പെടുന്നു എന്നും എന്തൊക്കെ ജോലിയാണ് ചെയ്യേണ്ടതെന്നും Hand over സമയത്ത് തന്നെ ചോദിച്ച് മനസ്സിലാക്കുക
3. കസേര, മേശ , വാതിൽ പിടി എന്നിവ ഓരോ രണ്ടു മണിക്കൂർ കൂടുമ്പോഴും 1% ബ്ലീച്ചിംഗ് ലായനി ഉപയോഗിച്ച് തുടയ്ക്കുക
4. Apron, N -95 മാസ്കും യഥാക്രമം ധരിച്ച ശേഷം ഭക്ഷണം രോഗികൾക്ക് കൊടുക്കുക
5. മരുന്നു കൊടുത്തതിനുശേഷം ഇഞ്ചക്ഷൻ ട്രോളി ബ്ലീച്ച് ഉപയോഗിച്ച് അണുവിമുക്തമാക്കുക
6. C Floor ൽ കമ്പ്യൂട്ടർ ചാർജ്ജ് ഉള്ള നഴ്സിംഗ് അസിസ്റ്റന്റ് ഒ.പി.ടിക്കറ്റ് എടുക്കുകയും യഥാക്രമം രോഗിയെ അഡ്മിറ്റ് ചെയ്യേണ്ടതുമാണ്
7. പുതുതായി അഡ്മിഷനു വരുന്ന രോഗിയ്ക്കുള്ള റൂം ശരിയാക്കി ഇടേണ്ടതാണ്.
8. ഹെഡ് നഴ്സും, സ്റ്റാഫ് നഴ്സും പറയുന്ന കാര്യങ്ങൾ കൃത്യമായും സമയബന്ധിതമായും ചെയ്യുക

Annexure 13

കൊറോണ ഡ്യൂട്ടിയ്ക്കെത്തുന്ന സെക്യൂരിറ്റി ജീവനക്കാരുടെ ശ്രദ്ധയ്ക്ക്

1. ഭക്ഷണം കഴിച്ച ശേഷം മാത്രം ഡ്യൂട്ടിയ്ക്ക് വരിക. വൃത്തിയായി കൈ കഴുകിയതിനുശേഷം മാത്രം ഡ്യൂട്ടി തുടങ്ങുക
2. ആവശ്യത്തിന് വെള്ളം കുടിച്ച ശേഷം മാത്രം മാസ്ക്, ഗ്ലൗസ്, സർജിക്കൽ ഏപ്രൺ എന്നിവ ധരിക്കുക
3. മാസ്ക് ധരിക്കുന്നതിന് മുമ്പും ശേഷവും കൈ കഴുകുക
4. ഓരോ ദിവസവും ഏത്ര ആൾക്കാർ ഒ.പി.യിൽ വന്നുവെന്ന് കൃത്യമായും അറിഞ്ഞിരിക്കണം. അതിൽ ഏത്ര പേർ ഹോം ഐസൊലേഷൻ, ഏത്ര അഡ്മിഷൻ എന്നും റിമാർക്സ് കോളത്തിൽ എഴുതിയിരിക്കണം. എപ്പോൾ ചോദിച്ചാലും മറുപടി പറയേണ്ടതാണ് .
5. ഡ്യൂട്ടിക്ക് കയറുന്ന സെക്യൂരിറ്റി ജീവനക്കാരുടെ പേര്, ഫോൺ നമ്പർ എന്നിവ രജിസ്റ്ററിൽ എഴുതേണ്ടതാണ് .
6. ആൾക്കാർ വരുമ്പോൾ അവരെക്കൊണ്ട് വാതിൽ തുറപ്പിക്കാതെ സെക്യൂരിറ്റി ജീവനക്കാർ തന്നെ വാതിൽ തുറന്ന് കൊടുക്കേണ്ടതാണ്
7. ഒ.പി.യിൽ വരുന്നവരുടെ പേര്, വയസ്സ്, അഡ്രസ്സ്, മൊബൈൽ നമ്പർ, വന്ന സമയവും, പോയസമയവും, റിമാർക്സും കൃത്യമായി എഴുതിയിരിക്കണം.
8. ഒ.പി.യിൽ വരുന്നവരുടെ കാര്യങ്ങൾ എഴുതിയ ശേഷം 0471 2528125 ൽ വിളിച്ച് പറയേണ്ടതാണ്. ഒ.പി.ടി.കാറ്റ് നഴ്സിംഗ് അസിസ്റ്റന്റ് കൊണ്ടുവരുമ്പോൾ അത് ഡോക്ടറെ ഏൽ പിടിക്കേണ്ടതും, അതുവരെ പേഷ്യൻറിനെ വെയ്റ്റിംഗ് ഏരിയയിൽ ഇരുത്തേണ്ടതുമാണ് .

Annexure 14

Sample Collection എങ്ങനെ?

1. സ്വയം സുരക്ഷ കവചങ്ങൾ (PPE) ധരിച്ചതിനുശേഷം മാത്രം സാമ്പിൾ എടുക്കുക
2. ഡോക്ടർ പരിശോധിച്ചതിനുശേഷം രോഗിയെ സാമ്പിൾ കളക്ഷൻ റൂമിൽ ഇരുത്തുക
3. സാമ്പിൾ എടുക്കുവാനുള്ള ബോട്ടിൽ ലേബൽ ചെയ്തു വച്ചതിനുശേഷം മാത്രമേ രോഗിയുടെ അടുത്തു പോകുവാൻ പാടുള്ളൂ
4. പേര്, വയസ്സ്, ഒ.പി.നമ്പർ, തീയതി എന്നിവ വളരെ കൃത്യമായും വ്യക്തിയായും ലേബൽ ചെയ്യുക
5. Swab എടുത്തശേഷം (throat swab ഉം nasal swab ഉം) stick ഒടിച്ച് viral transport medium ൽ ഇടുക, നന്നായി അടയ്ക്കുക
6. ബോട്ടിൽ നന്നായി 1% ബ്ലീച്ച് ലായനി വച്ച് തുടച്ച് പാരാ ഫിലിം വച്ച് ഒടിച്ച് സിബ്ബ് ലോക്ക് കവറിൽ ഇടുപൊതിഞ്ഞ് പ്ലാസ്റ്റർ വെച്ച് സീൽ ചെയ്ത് ഫ്രീഡ്ജിൽ ഇരിക്കുന്ന റാക്കിൽ വയ്ക്കുക
7. മൂന്നോ നാലോ സാമ്പിൾ ആകുമ്പോൾ തെർമോക്കോൾ ബോക്സിൽ റാക്കോടുകൂടി ചരിഞ്ഞുപോകാതെ സ്പെസിമെൻ (house keeping staff) മുഖാന്തിരം ലാബിൽ എത്തിക്കുക
8. സ്പെസിമെൻ കളക്ഷൻ ഫോം കമ്പ്ലിറ്റ് പൂരിപ്പിച്ച് ഒപ്പിട്ട് ലാബിൽ എത്തിക്കുക
9. തെർമോക്കോൾ ബോക്സ് തിരികെ കൊണ്ടുവന്നശേഷം bleaching solution 1% വച്ച് തുടച്ച് വ്യക്തിയായി ഉണങ്ങാൻ വയ്ക്കുക