

# Sri Ramachandra Preparedness, Advisory And Position Statement For Handling SARS CoV-2 Pandemic



**SRI RAMACHANDRA**

**INSTITUTE OF HIGHER EDUCATION AND RESEARCH**

(Category - I Deemed to be University) Porur, Chennai

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**SRMC/SRH-STRATEGIC TEAM COVID-19**

DEPARTMENTS	RESPONSIBILITY
Leadership	Planning effective and efficient use of resources including manpower .Coordination with ALL HOCs and consultants to comply COVID guidelines , Identifying the consultants from each department along with list of residents supposed to posted with backup plan , Staff clinics , ensure adequate supply of resources and infrastructure changes , safety and precautionary measures taken from all the staff involved for COVID 19 , resolve bottlenecks of the process flows,
Nodal Officer	Physician Co-ordination , To devise admission & discharge criteria, management protocols , identifying training requirements , oversee implementation of GOVT policies , sensitization and conducting daily reviews, data reporting to GOVT , liaising between Govt and SRIHER . Further communications as per the GOVT guidelines.
ICO	Validation of appropriateness of the processes , protocols, checklists, development of infection control measures and strategic teams, conducting DRILLS , trainings , Overall coordination from leadership to ground level staff for devising risk mitigation guidelines,
ICN	Data Collection and Report, Counsel, educate, train about hand hygiene, respiratory hygiene, cough etiquette, use of tissues, to dispose tissues, contaminated items in dustbin, monitor implementation of area specific checklist trainings, Coordination with triage area in isolating suspected cases , attending to the queries and given responsibilities
Education	Ensure training & education of the staffs of identified groups on COVID-19 protocol, drill evaluation, monitoring for compliance with area specific checklists, evaluation of knowledge and skill demonstration & retraining as required.
HR	Staffing list done for – Physicians, Nurses, Admin, Supporting, technical and contractual. Adequate pre induction and post induction welfare measures taken, risk allowance, Fit tested employees posted , contingency plan for staffing , adequate planning for contract workers , Developing strategic staffing plan , fall back plan , daily reviews .
Admin In charge	Ensure effective implementation as per the decisions and guidelines, monitor and ensure all staff trained appropriate to the handled job , coordinate admission and registration services on a dynamic basis, create smooth operational flow environment, signage's and education material, ensure areas are well equipped and ready for use, coordination with support and ancillary services as need based, developing route maps for patient flows.
Nursing	Identify staffing , equipment , medication, PPEs, essential list of stationary and things to set up isolation area at F7 and SRH for ward and ICUs, provide list of Staff, coordinate with training needs, ensure safety of deployed nurses and staff comes under nursing services, escalate the bottle necks with concerned as and when required.
Quality	To Develop Protocols and process flows, checklists as per evidence based guidelines & monitor effective implementation. Create surveillance mechanism and indicators in coordination with Nodal officer and ICO, coordinate for daily debriefings, and communicate decisions through minutes for day to day operational implementation by respective stake holders. Evaluation of drills and documentation and reporting
House Keeping	Ensure staff trained over disinfectant protocols and religiously practised. Counsel on their safety, fit tested staffs need to be posted, The PPE's used by the patient should be disposed in a yellow bag labelled & transported in separate trolley. Trolley should be cleaned with bleach every time after it is been used for transporting. Lift must be disinfected regularly, strict monitor for compliance at all the designated areas for surface cleaning on hourly / two hourly basis.

DEPARTMENTS	RESPONSIBILITY
Biomedical purchase	Adequate supply and quality of delivered goods maintained within given TAT, PPM and readiness of equipment's before placing into F7 and SRH, meet Dr. Ram E and take approval on working condition. Ensure written approval on the selection and use of resources procured, as well as supervising its performance testing and maintenance. Forecasting upcoming demand.
IT	Digital support in reporting and process flows ; educational SMS / through Med. Dir.
Pharmacy	Ensure that stock has to be maintained. Involve in procurement and distribution of all PPEs required for the patient. Thermal scanners need to be procured for screening of patients
Security	Ensure that ER to FO A lift pathway barricaded and manned by security. Compliance with visitors policy, escalate to CHA/ Asst. Medical Director on day to day issues. staff counselled and not changed after identifying the list

## 1.0 Purpose

To, delineate the process of care for patient with suspected/ positive COVID-19 at Sri Ramachandra Medical Centre and Ari Ramachandra Hospital.

**Note:** The process of care is based on recommendations by the CDC, WHO and Ministry of Health (MOH) Government of India (GOI)

### When to suspect

*Any patient with acute respiratory illness with:*

1. A history of national and international travel to the suspected / reported cases in the 14 days prior to symptom onset, or
2. Close contact with a confirmed/ suspected case of COVID 19 in the 14 days prior to symptom onset, or
3. Healthcare worker taking care of confirmed/ suspected patients of COVID 19

## Case Definition of Covid 19

### ► Suspected Case

Patients with acute respiratory infection (sudden onset of at least one of the following: cough, sore throat, shortness of breath) requiring hospitalization or not

**AND**

In the 14 days prior to onset of symptoms, met at least one of the following epidemiological criteria: Were in close contact with a confirmed or probable case of COVID 19 infection;

**OR**

Had a history of international travel with ongoing community transmission of SARS CoV- 2

**OR**

Worked in or attended a health care facility where patients with SARS CoV- 2 infections were being treated.

### ▶ **Close Contact**

Close contact is defined as:

- Healthcare associated exposure, visiting patients or staying in the same close environment as a COVID-19 patient.
- Working together in close proximity or living in the same household with a COVID 19 patient.
- Travelling together with a COVID-19 patient in any kind of conveyance
- The epidemiological link may have occurred within a 14 -day period before or after the onset of illness in the case under consideration

### ▶ **Probable Case**

A suspected case for whom testing for COVID-19 is inconclusive (the result of the test reported by the laboratory) or for whom testing was positive on a pan-corona virus assay

### ▶ **Confirmed Case**

A person with laboratory confirmation of SARS CoV- 2 infection, irrespective of clinical signs and symptoms

### ▶ **Clinical Features**

The clinical and radiological manifestations of COVID-19 include:

- Fever (83%)
- Cough (82%)
- Shortness of breath (31%)
- Sore throat (5%)
- Rhinorrhoea (4%)
- Diarrhea (2%)
- Bilateral pneumonia on imaging (75%)
- ARDS (10-17% of admitted patients)

## 2.0 Scope

Hospital Wide (Sri Ramachandra Medical Centre and Sri Ramachandra Hospital)

## 3.0 Responsibilities

Vice Chancellor, Dean of Faculties, Medical Director, Nodal Officer, Director Finance, Medical Superintendent, Infection Control Officer & Committee, Assistant Medical Director, HQAD, Deputy Medical Superintendent, All HOCS, GM-HR, NS, CHA, CQO, CSO and all the HODs.

## 4.0 Procedure

### 4.1 Lobby and ER Zone Arrangement

#### ▶ **Lobby**

Patients and their attenders with history of travel and fever and/or respiratory symptoms shall be guided into a suspected COVID- patient zone; those patients with regular fever but no clear epidemiological history shall be guided into a mixed zone and other buffer zones shall be used by staff and as exit.

#### ▶ **ER**

Attenders accompanying the patients with history of travel and fever and/or respiratory symptoms shall be guided into a suspected COVID- patient zone (room no. 44); for hospitalized patient attenders, id band is checked and restricted to one number screened and allowed to in patient areas when found to be asymptomatic.

### 4.2 Screening Criteria (ER & Lobby)

- Screening shall be done at screening counters (History of travel, Fever, cold, cough) and symptomatic patients to be identified.
- Screening Counters to be located at a distance of 2 meters apart.
- Suspected patients to be identified by Administration of questionnaire to patient/attender/visitor, along with Thermal screening.
- Suspected patients shall be given a mask and shall be transferred to ER- 44.

<b>FOR ANY QUERIES Help Line Numbers:</b>	   <p>மக்கள் நல்வாழ்வு மற்றும் குடும்பநலத் துறை</p> <p><b>கொரோனா வைரஸ் (COVID-19)</b></p> <p><b>24 மணி நேர கட்டுப்பாட்டு அறை</b></p> <table border="0"> <tr> <td></td> <td style="text-align: center;">தொலைபேசி</td> <td style="text-align: center;">கைபேசி</td> </tr> <tr> <td style="text-align: center;">104</td> <td style="text-align: center;">044-2951 0400 044-2951 0500</td> <td style="text-align: center;">94443 40496 87544 48477</td> </tr> </table>		தொலைபேசி	கைபேசி	104	044-2951 0400 044-2951 0500	94443 40496 87544 48477
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<b>Sri Ramachandra Medical Centre and Sri Ramachandra Hospital</b> Dr.Sudagar Singh - 9003178899 Dr.Vidhya Krishna - 9444976855 Dr.Senthil - 9381049376 Dr.Sowmya - 9840414834							
<b>Government Helpline :</b> Central Helpline Number : <b>+91-11-2397 8043</b> Tamil Nadu Helpline Number : <b>044 - 2951 0500</b> Email: <a href="mailto:ncov2019@gmail.com">ncov2019@gmail.com</a>	<p>If you seek any help, you may call to know details about <b>District &amp; State Surveillance Officers &amp;</b> in case of any clinical query connect with <b>Intergrated Disease Surveillance Programme (IDSP) Officer</b></p>						

#### ► Laboratory Diagnosis

##### Whom to test:

- For persons with international travel history to the affected areas from last 2 weeks, respiratory samples (nasopharyngeal swab, oropharyngeal swab) and blood samples should be collected for all persons whether symptomatic or asymptomatic.
- respiratory and blood samples will be collected only from symptomatic cases As per directive from MoHFW, Government of India, all suspected cases are to be reported to District & State Surveillance Officers. Their team will arrange for sample collection and transport to the KING'S Institute and subsequently communicate the reports (to contact helpline number). \*All suspected cases to be mandatorily reported to the District & State Surveillance Officers

#### 4.3 Sample Collection

##### ► General Guidelines

- Until permission granted from the MOH, samples shall be collected by the GOVT representative after information on admission of the suspected cases.
- Trained health care professionals to wear appropriate personal protective with latex free purple nitrile gloves while collecting the sample from the patient. Maintain proper barrier when collecting specimens.
- Restricted entry to visitors or attenders during sample collection.
- Specimens should be collected as soon as possible once a suspected case is identified regardless of time of symptom onset.
- It is recommended that testing of multiple clinical specimens from different sites, including two specimen types - lower respiratory and upper respiratory must be done.
- Label each specimen container with the patient's HID number, name, ward, specimen type and the date the sample was collected. Complete the requisition form for each specimen submitted.
- Transport immediately to central Lab
- Proper disposal of all waste generated.



### ► Specimen Type and Priority

For initial diagnostic testing for COVID-19 by Real Time - PCR, it is recommended to collect and test

- Upper respiratory (nasopharyngeal AND oropharyngeal swabs) and
- Lower respiratory for patients with productive cough Induction of sputum is not indicated.

### ► Respiratory Specimen collection

#### A. Lower respiratory tract

##### ***Bronchoalveolar lavage, tracheal aspirate***

- Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.

##### ***Sputum***

- Rinse the patients mouth with water, expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.

#### B. Upper respiratory tract

##### ***Nasopharyngeal swab AND oropharyngeal swab (NP/OP swab)***

Nasopharyngeal swab: Tilt patient's head back 70 degrees. Insert flexible swab through the nares parallel to the palate (not upwards) until resistance is encountered or the distance is equivalent to that from the ear to the nostril of the patient. Gently, rub and roll the swab. Leave the swab in place for several seconds to absorb secretions before removing

Oropharyngeal swab (e.g., throat swab): Tilt patient's head back 70 degrees. Rub swab over both tonsillar pillars and posterior oropharynx and avoid touching the tongue, teeth, and gums.

Use only synthetic fiber swabs with plastic shafts NP and OP specimens should be kept in separate vials.

Do not use calcium alginate swabs or swabs with wooden shafts. Place swabs immediately into sterile tubes containing 2-3 ml of viral transport media.

***Combined Nasal & Throat Swab:*** Tilt patients head back 70 degrees. While gently rotating the swab, insert swab less than one inch into nostril (until resistance is met at turbinates).

Rotate the swab several times against nasal wall and repeat in other nostril using the same swab. Place tip of the swab into sterile viral transport media tube and cut off the applicator stick. For throat swab, take a second dry polyester swab, insert into mouth, and swab the posterior pharynx and tonsillar areas. (avoid the tongue) Place tip of swab into the same tube and cut off the applicator tip

In patients with confirmed COVID-19 infection, repeat URT and LRT samples should be collected to demonstrate viral clearance. The frequency of specimen collection will be at least every 4 days until there are two consecutive negative results (both URT and LRT samples if both are collected) in a clinically recovered patient at least 24 hours apart.

### 4.4 Infection prevention and control (IPC) measures

IPC is a critical and integral part of clinical management of patients and should be initiated at the point of entry of the patient to hospital. The same should be continued in the designated ward for in-patient care of suspected and confirmed cases. The following areas have been identified for the care of suspected and confirmed patients:

- a. NEW Emergency screening: Area R.No 44 (both pediatric and adults)
- b. F7 ward: 7 Isolation beds and 4 critical care inclusive of 2 negative pressure rooms have been demarked for the in-patient management of admitted patients.
- c. ER shall be converted into isolation ward with 12 beds for holding suspected patients.
- d. Routine emergencies shall be shifted to F0.
- e. SRH: Psychiatry ward starting with 15 beds, shall be increased upon the need and available resources.

#### 4.5 Implementing IPC measures for patients with suspected or confirmed COVID-19 infection

SITUATION	MEASURES
At Triage	<ul style="list-style-type: none"> <li>• Suspected patients to be triaged at the screening area of the R.No 44 Emergency</li> <li>• The Promotion of hand hygiene and respiratory hygiene are essential preventive measures (Appropriate signages)</li> <li>• Give suspected patients a medical mask.</li> <li>• Instruct all patients to cover nose and mouth during coughing or sneezing with tissue or flexed elbow.</li> <li>• Perform hand hygiene after contact with respiratory secretions.</li> <li>• Keep at least 1 – 2 meters distance between suspected patients.</li> <li>• Adequate supplies including alcohol- based hand rub (ABHR), tissues, no touch receptacles for disposal, and facemasks at designated areas.</li> <li>• Team of dedicated physicians manning the area and ensuring minimum waiting time before admission.</li> <li>• Healthcare worker (HCW) to use a N95 respirator / Three-layered medical mask during work in designated areas.</li> <li>• Use Personal Protective Equipment (PPE) (N95 respirator / medical mask, eye protection, gloves and gown) when entering room and remove PPE when leaving. Donning/ doffing has to be strictly adhered to.</li> <li>• Use dedicated equipment (E.g. Stethoscopes, blood pressure cuffs and thermometers).</li> <li>• Equipment shall not be shared among patients, If at all, clean and disinfect between each patient use (only mobile X ray, Ultrasound, scopes, ECHO, ECMO etc).</li> <li>• Health care workers should refrain from touching their eyes, nose and mouth with potentially contaminated hands.</li> <li>• Avoid contaminating environmental surfaces (e.g. Door handles and light switches).</li> <li>• When providing care in close contact, use eye protection (Goggles)</li> </ul>
Transfer to designated F7 ward and SRH & Intra-hospital transfer of patients	<ul style="list-style-type: none"> <li>• Use predetermined transport routes (F block lift no 1) to minimize exposure for staff other patients and visitors.</li> <li>• Standard, droplet and contact precautions as above.</li> <li>• No visitor access to suspected /positive patients.</li> <li>• Provide only dedicated diagnostic and therapeutic devices including portable ultrasonography, electrocardiography, mechanical ventilation, and cardiorespiratory monitoring equipment within the designated patient areas.</li> <li>• In case of requirement of procedures like computed tomography (CT scan) or operative procedures which necessitate shifting, this may be scheduled during out of routine work hours.</li> <li>• The hospital personnel involved in shifting and managing the patient outside designated areas should follow all standard contact and droplet precautions.</li> <li>• All specimens collected for laboratory investigations should be regarded as potentially infectious; reinforce safe handling practices and spill decontamination procedures for staff transporting the samples.</li> </ul>
Apply airborne precautions when performing an aerosol generating procedures. Includes open suctioning of respiratory tract, intubation, bronchoscopy, cardiopulmonary resuscitation (CPR)	<ul style="list-style-type: none"> <li>• Patient care team performing aerosol-generating procedures should use PPE, including gloves, long-sleeved non-permeable gowns, eye protection and N95n respirator.</li> <li>• Adequately ventilated single rooms should be used performing aerosol-generating procedures.</li> </ul>



#### **4.6 Standard precautions should always be applied. Additional contact and droplet precautions should continue until the patient is asymptomatic.**

Standard precautions should always be routinely applied in all areas of health care facilities including OPD. Standard precautions are summarized below:

- Hand hygiene-
  - Every staff should perform hand hygiene using alcohol-based hand rub or by washing with soap and water for at least 20 seconds. If hands are visibly soiled, use soap and water before returning to ABHR
- Use of PPE to avoid direct contact with patients' blood, body fluids, secretions (including respiratory secretions) and non-intact skin.
  - An area is designated for donning and doffing PPE in the immediate vicinity of the patient area in F7 in SRMC and psychiatric ward at SRH
  - Gloves- Perform hand hygiene, then put on clean, non-sterile gloves upon entry into the patient room or care area. Change gloves if they become torn or heavily contaminated. Remove and discard gloves when leaving the patient room or care area, and immediately perform hand hygiene
  - Gowns- Put on a clean disposable non-permeable gown prior to entry into the patient room or area. Change the gown if it becomes soiled. Remove and discard the gown before leaving the patient room or care area.
  - Respiratory Protection - Use respiratory protection, i.e as follows:
    - I. Three-layered medical mask to be worn by patients at all times
    - II. A disposable N95 respirator to be worn by Health Care Providers (HCPs). Disposable respirators should be removed and discarded after exiting the patient's room or care area. Perform hand hygiene after discarding the respirator.

### **5.0 Environmental Infection Control**

- Dedicated medical equipment/single use disposable equipment (eg; Stethoscopes, blood pressure cuff, thermometers etc) shall be used for patient care
- All non-dedicated, non-disposable medical equipment used for patient care should be cleaned and disinfected as routine disinfection protocol (70% ethyl alcohol)
- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly (1% Sodium Hypochlorite)
- Management of laundry, food service utensils, and medical waste should also be performed in accordance with routine protocol.
- Prevention of needle-stick or sharps injury as universal precautions
- Safe waste management as routine hospital protocol
- Reinforcing the proper use of PPE by health care workers/ other staff involved in patient care

### **6.0 Case Management**

- The management will need to be individualized as patient may present with a wide spectrum of illness ranging from uncomplicated illness, mild pneumonia, severe pneumonia, ARDS, sepsis and septic shock.

#### **6.1 General supportive measures**

- Oxygen supplementation
- Conservative fluid management if there is no evidence of shock
- Give empiric antimicrobials to treat all likely pathogens causing SARS – CoV-2. Give antimicrobials within one hour of initial patient assessment for patients with sepsis
- Ventilator management as required
- Systemic corticosteroids are not recommended, unless indicated for other reasons

## 6.2 Close monitoring for worsening clinical status is of paramount importance (designated team)

NO SPECIFIC ANTIVIRALS are recommended for treatment of SARS-CoV and MERS-CoV due to lack of adequate evidence from literature. The use of lopinavir/ ritonavir in PEP regimens for HIV (4 weeks) is also associated with significant adverse events which many a times leads to discontinuation of therapy. In light of the above, lopinavir/ ritonavir should ONLY be used with proper informed consent on a case-to-case basis within the above framework along with supportive treatment as per need. The current standards of care that are consistent with best clinical practices and WHO guidelines including infection prevention and quarantine as the mainstay of management for the patients should be followed. Pregnant women with suspected or confirmed COVID-19 infection should be treated with supportive therapies and multidisciplinary team.

- Increase in creatinine by 50 % from baseline, GFR reduction by >25 % from baseline or urine output of <0.5 ml/Kg for 6 hours
- Reduction of GCS by 2 or more
- Any other organ dysfunction
  - ▶ High risk groups
  - ▶ Age > 60 years
    - Diabetes mellitus , renal failure , chronic lung disease and immunocompromised persons, post transplant /on Immuno suppressive Drugs

## 6.3 Dosage:

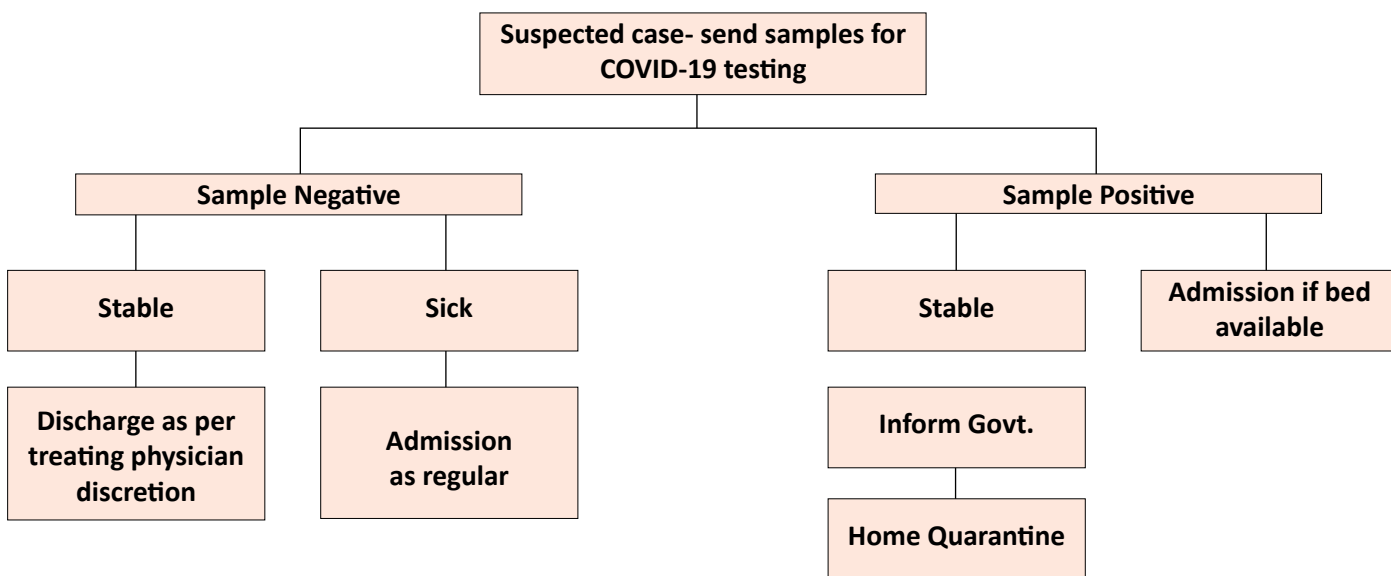
- Lopinavir/ritonavir (200mg/50 mg) - 2 tablets twice daily
- For patients who are unable to take medications by mouth, lopinavir 400 mg/ ritonavir 100 mg 5-ml suspension twice daily

**Duration: 14 days or for 7 days after becoming asymptomatic**

## When to discharge?

- If the laboratory results for COVID-19 are negative, discharge is to be decided as per discretion of the treating physician based on his provisional/confirmed diagnosis
- In case of high suspicion of COVID-19 repeat samples are to be sent
- Confirmed case- Resolution of symptoms, radiological improvement with a documented virological clearance in 2 samples at least 24 hours apart

## 7.0 Protocol for Managing a Suspected Case



**Note:** This document is dynamic and may be modified as per progression of the disease in India and when more data are available regarding epidemiology, transmission, and treatment.

## 8.0 Patient Admission Policy

- Patients requiring admission for suspected/positive COVID-19 shall be admitted in F7 (Stable patients) and (Unstable Patients) under privileged doctor and stable patients at psychiatric ward, SRH .
- International department, MHC, Northeast and Bangladesh shall admit patients with approval from Medical director.
- All patients shall be admitted under General Medicine / Pediatrics department and shall form multidisciplinary teams with Pulmonology and other specialties as required.
- Restrict elective admissions apart from COVID 19.

### 8.1 Attender guidelines

- For regular patient admitted in other areas shall be allowed with 2 bystanders.
- No attenders shall be allowed for suspected and positive patient.
- The attenders who come with patient will be counselled and informed to government and will be sent home and to be quarantined.

### 8.2 Visitor policy

- For suspected and Positive patient shall have no visitor.
- Change of visiting hours shall be followed from 4.30pm to 6.00 pm by restricting one visitor per patient and 3 visitors will be allowed at the time of end of life care
- Restricted visitors, allowed only when permitted from Medical Director's office

## 9.0 Staffing Plan

All staffs to be screened every day before work and to be escalated if any symptoms

### ▶ Nursing

To maintain NP ratio 1:1 for suspected and ventilated patients and 1:2 for positive cases with adult and pediatric privileges based on the allocation.

- 6 Batch of staffs to be identified, 1st batch of staff to work for a week shall stay inside the ward.
- 2nd Batch shall take handovers at the end of the week same shall be followed by the 3rd batch.
- 4th batch shall be on backup. In case, of staff unwell/become symptomatic.
- The relieving staff to be tested for COVID negative before handing over duties to the next batch of staff.
- Fitness of staff shall be tested and Consent shall be obtained from all staff before allocation.

### ▶ Physician

- 3 batches of consultants
- 3 batches of residents/medical officers, who shall man patientcare areas.

### ▶ Admin staff

- 3 batches of admin staff

### ▶ Support Staff (Diet, Housekeeping, Pharmacy, Maintenance, Biomedical & Security)

- 3 batches of support staff

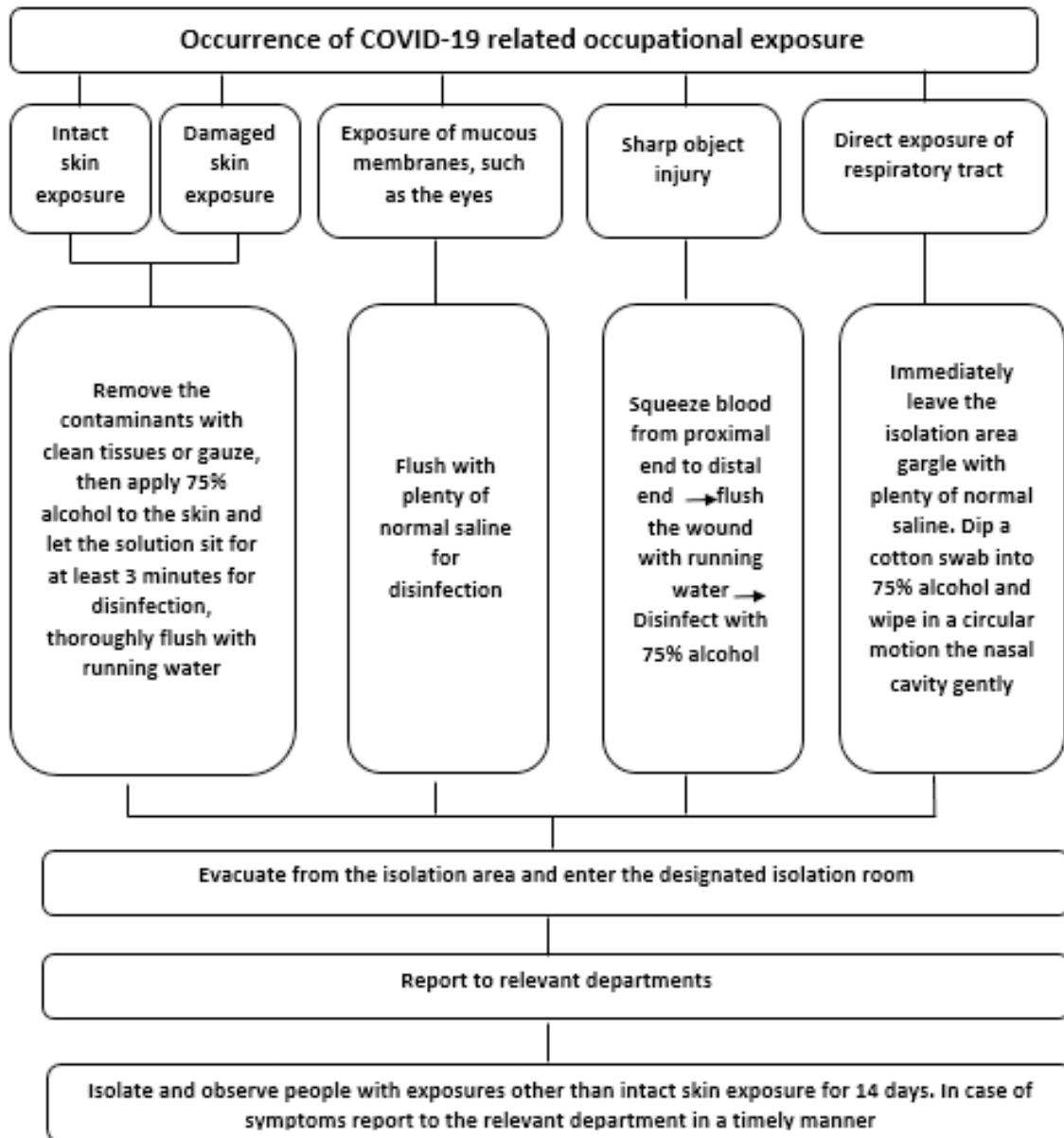
### ▶ Technical Staff (Lab, Radiology, Bronchoscopy, Endoscopy, Non Invasive Cardiology, Dialysis)

- 3 batches of technical staff

### 9.1 Staff Clinic

Screen voluntary reporting, Fit test, Referral to consultants and seen in staff clinic itself, Quarantine guidance, Vaccination of staff

**10.0 Procedures for Taking Remedial Actions against Occupational Exposure to COVID-19**



## 11.0 Personal Protection Management (PPM) Protocol

Protection Level	Protective Equipment	Scope of Application
Level 1	<ul style="list-style-type: none"> <li>• Disposable surgical cap</li> <li>• Disposable surgical mask</li> <li>• Work uniform</li> <li>• Disposable latex gloves or/and disposable isolation clothing if necessary</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-examination triage, outpatient department</li> </ul>
Level 2	<ul style="list-style-type: none"> <li>• Disposable surgical cap</li> <li>• Medical protective mask (N95)</li> <li>• Work uniform</li> <li>• Disposable medical protective uniform</li> <li>• Disposable latex gloves</li> <li>• Goggles</li> </ul>	<ul style="list-style-type: none"> <li>• Fever outpatient department</li> <li>• Isolation ward area (including isolated intensive ICU)</li> <li>• Non-respiratory specimen examination of suspected/confirmed patients</li> <li>• Imaging examination of suspected/confirmed patients</li> <li>• Cleaning of surgical instruments used with suspected/confirmed patients</li> </ul>
Level 3	<ul style="list-style-type: none"> <li>• Disposable surgical cap</li> <li>• Medical protective mask (N95)</li> <li>• Work uniform</li> <li>• Disposable medical protective uniform</li> <li>• Disposable latex gloves</li> <li>• Full-face respiratory protective devices or powered air-purifying respirator</li> </ul>	<ul style="list-style-type: none"> <li>• When the staff performs operations such as tracheal intubation, tracheotomy, bronchofibroscope, gastroenterological endoscope, etc., during which, the suspected/confirmed patients may spray or splash respiratory secretions or body fluids/ blood</li> <li>• When the staff performs surgery and autopsy for confirmed/ suspected patients</li> <li>• When the staff carries out NAT for COVID-19 (Lab staff)</li> </ul>

## 12.0 Diet protocol

All diets shall be supplied by the diet kitchen based on the nutritional needs.

## 13.0 Spill Protocol

### **For spills of a small volume (< 10 ml) of blood/bodily fluids:**

Option 1: The spills should be covered with chlorine-containing disinfecting wipes (containing 5000 mg/L effective chlorine) and carefully removed, then the surfaces of the object should be wiped twice with chlorine-containing disinfecting wipes (containing 500 mg/L effective chlorine);

Option 2: Carefully remove the spills with disposable absorbent materials such as gauze, wipes, etc., which have been soaked in 5000 mg/L chlorine-containing disinfecting solution.

### **For spills of a large volume (> 10 ml) of blood and bodily fluids:**

(1) First, place signs to indicate the presence of a spill;

(2) Perform disposal procedures according to Option 1 or 2 described below:

Option 1: Absorb the spilled fluids for 30 minutes with a clean absorbent towel and then clean the contaminated area after removing the pollutants.

Option 2: Completely cover the spill with disinfectant powder or bleach powder containing water-absorbing ingredients or completely cover it with disposable water-absorbing materials and then pour a sufficient amount of 10,000 mg/L chlorine-containing disinfectant onto the water-absorbing material (or cover with a dry towel which will be subjected to high-level disinfection). Leave for at least 30 minutes before carefully removing the spill.

- (2) Fecal matter, secretions, vomit, etc. from patients shall be collected into special containers and disinfected for 2 hours by a 20,000 mg/L chlorine-containing disinfectant at a spill-to-disinfectant ratio of 1 :2.
- (3) After removing the spills, disinfect the surfaces of the polluted environment or objects.
- (4) The containers that hold the contaminants can be soaked and disinfected with 5,000 mg/L active chlorine-containing disinfectant for 30 minutes and then cleaned.
- (5) The collected pollutants should be disposed of as medical waste.
- (6) The used items should be put into double-layer medical waste bags and disposed of as medical waste.

## 14.0 Biomedical waste Clearance

- 2 hourly clearance of bins/ linen with appropriate labelling to be done
- Transported in a demarked bin to laundry.

## 15.0 Disinfection Protocol

- All surfaces in contact by patients at screening counter, admission counter, ER-44, F7, psychiatric ward to be disinfected on two hourly basis or as when contamination is suspected.
- All devices, equipments used for suspected/ positive patients to be disinfected after every use for a patient.
- Patient forms, case sheets to be handled as per handling contamination medical records policy.
- Wheelchair, trolley to be disinfected at designated areas after shifting suspected/ positive COVID-19 patients and before re-entering lift. The lift surfaces to be disinfected after patient transfer.

### 2.1 Disinfection for Floor and Walls

- (1) Visible pollutants shall be completely removed before disinfection and handled in accordance with disposal procedures of blood and bodily fluid spills;
- (2) Disinfect the floor and walls with 1000 mg/L chlorine-containing disinfectant through floor mopping, spraying or wiping;
- (3) Make sure that disinfection is conducted for at least 10 minutes;
- (4) Carry out disinfection three times a day and repeat the procedure at any time when there is contamination.

### 2.2 Disinfection of Object Surfaces

- (1) Visible pollutants should be completely removed before disinfection and handled in accordance with disposal procedures of blood and bodily fluid spills;
- (2) Wipe the surfaces of objects with 1000 mg/L chlorine-containing disinfectant or wipes with effective chlorine; wait for 30 minutes and then rinse with clean water. Perform disinfection procedure three times a day (repeat at any time when contamination is suspected);
- (3) Wipe cleaner regions first, then more contaminated regions: first wipe the object surfaces that are not frequently touched, and then wipe the object surfaces that are frequently touched. (Once an object surface is wiped clean, replace the used wipe with a new one).

## PROTOCOL FOR DISINFECTION OF SCOPES

### 1 Procedure Room

- Wipe the scope with gauze piece.
- Suck in plain water to remove secretions from inner channels.
- Perform 2 – 3 times to ensure no secretions remaining.

### 2 Wash Room

- Remove the suction button and biopsy valve, wash with enzymatic water and irrigate the inner channels with enzymatic detergents. ( 8ml / Litre )
- Clean the channels by using brush.
- To insure there is no blood clot or tissue debris.
- Visually inspect the device to make sure it is free from debris.



**3 Wash all parts of the scope with plain water, flush and suck with plain water and then dry the scope with gauze.**

**4 Keep the scope in OPAHYDE fully immersed for 12 minutes.**

Manual processing: Immerse device completely, filling all lumens and eliminating air pockets, in OPAHYDE solution for a minimum of 12 minutes to destroy all pathogenic micro organisms. Remove device from the solution and rinse thoroughly following the rinsing instructions below. ( as per manufacture instructions )

**5** Following removal from OPAHYDE solutions, thoroughly rinse the medical device by immersing it completely in a large volume (e.g. 2 gallons) of water. Potable water is used which is being monitored by microbiological testing. (In case of any issue with potable water provision for sterile water to be made)

- Keep the device totally immersed for a minimum of 1 minute in duration, unless a longer time is specified by the reusable device manufacture.
- Manually flush all lumen with large volumes (not less than 100 ml) of rinse water unless otherwise noted by the device manufacture.
- Remove the device and discard the rinse water. Always use fresh volumes of water for each rinse. Do not reuse the water for rinsing or any other purpose.
- Repeat the rinsing procedure for a total of THREE (3) RINSES, with large volumes of fresh water or remove OPAHYDE solution residue.

Residues may cause serious side effects. SEE WARNINGS, THREE (3) SEPARATE, LARGE VOLUME WATER IMMERSION RINSES ARE REQUIRED.

- OPAHYDE is verified with OPAHYDE strips periodically.
- The entire process takes approximately 27 minutes.
- As an alternative to manual cleaning, endoscopic processor is used

**Note:**

- Water supplied to washing area is filtered prior to use.
- Quality of potable water is being assured through periodic microbiological testing.
- Discussion was done with water work in charge and it was noted that provision for large volume of sterile water was not feasible. Therefore it was decided that potable water be used in step 5.
- Manufacture instruction ids enclosed.

**ENDOCLENS Washing Protocol**

**1 (Procedure room)** Suck in plain water to remove secretions from inner channels.

- Wipe the scope with gauze piece.
- Perform this procedure 2 – 3 times to ensure no secretions are remaining.

**2 (Wash room)**

- Scope is placed in endocleans machine.
- Remove the suction button, air button and biopsy valve place them in a small container box.
- Connect the tubings and start the programme (18 minutes cleaning cycle for washing, disinfection and rinsing).
- Remove the scope and place it in storage area.

**16.0 Dialysis Protocol**

- COVID 19 positive patients shall not be allowed for dialysis on OPD basis

## 17.0 Deceased Handling Protocol

- Staff PPE: The staff must make sure they are fully protected by wearing work clothes, disposable surgical caps, disposable gloves and thick rubber gloves with long sleeves, medical disposable protective clothing, medical protective masks (N95) or powered air purifying respirators (PAPRs), protective face shields, work shoes or rubber boots, waterproof boot covers, waterproof aprons or waterproof isolation gowns, etc.
- Deceased care: Fill all openings or wounds the patient may have, such as mouth, nose, ears, anus and tracheotomy openings, by using cotton balls or gauze dipped in 3000-5000 mg/L chlorine-containing disinfectant.
- Wrapping: Wrap the deceased with a double-layer cloth sheet soaked with disinfectant, and pack it into a double-layer, sealed, leak-proof corpse wrapping sheet soaked with chlorine containing disinfectant.
- The deceased shall be transferred by the staff in the isolation ward of the hospital via the contaminated area to the special elevator, out of the ward and then directly transported to a specified location for cremation by a special vehicle as soon as possible.
- Final disinfection: Perform final disinfection of the ward and the elevator.

## 18.0 Annexures

- Process flow for COVID-19
- Area specific process flow (ER, Lobby, Other areas of Entry) for COVID-19
- Admitting suspected/positive patients with COVID-19
- Area specific checklist for COVID-19
- Imaging
- Bronchoscopy
- Code Blue
- Handling contaminated medical records
- Others

**Note:** This document is dynamic and may be modified as per progression of the disease in india and when more data are available regarding epidemiology, transmission, and treatment