



ASSOCIATION OF
HEALTHCARE
PROVIDERS
INDIA



PUBLIC
HEALTH
FOUNDATION
OF INDIA

Post Lockdown Lifting: **Resumption of Hospital Services**

A Protocol Document by
Association of Healthcare Providers (India) & Public Health Foundation of India (PHFI)

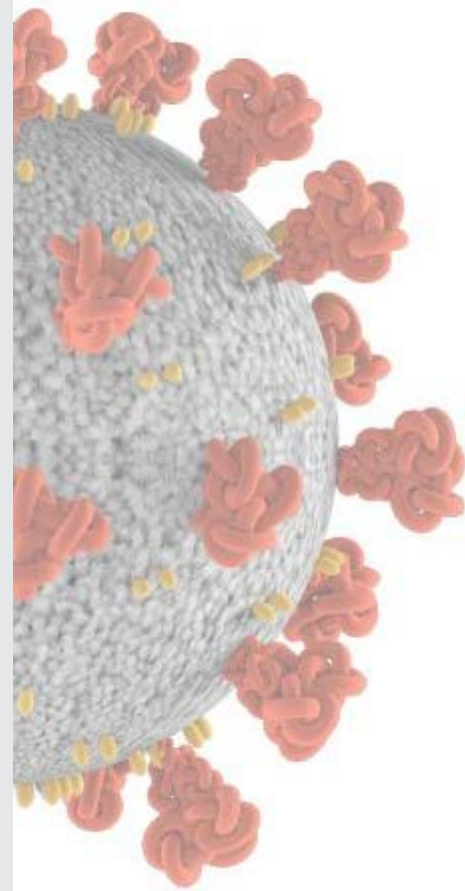


TABLE OF CONTENTS

FOREWORD	5
INTRODUCTION	6
BACKGROUND - HEALTH SYSTEM RESPONSE TO COVID-19	7
SECTION A: HOSPITAL SPACE	10
Universal precautions in Corona Times "The new normal" for Staff, patients and attendants	10
Infection Prevention protocols including biomedical waste (BMW) management	12
DEPICTION OF VISITOR FLOW IN A HOSPITAL SYSTEM BEFORE AND AFTER TRIAGING	18
SECTION B HOSPITAL SYSTEM – RESUMPTION OF HOSPITAL SERVICES WITH DEPARTMENT WISE PRECAUTIONS	20
Guidelines for General areas in a hospital including laboratory services	20
Guidelines for Special situations (aerosol generating and non- aerosol generating procedure)	22
Guidelines for Home health ,elderly care and teleconsultation	25
Measures to guide handling of dead patients	25
Action to be taken on detection of COVID -19 case in non-COVID health facility	26
SECTION C : HOSPITAL SUPPLIES	27
Guidelines on rational use of PPE	27
Guidelines on Reuse of PPE	31
SECTION D : HOSPITAL STAFF	34
Ensuring safety and protection of HCWs including mental health needs	34
Interim Operational Considerations for Public Health Management of Healthcare Workers Exposed to or Infected with COVID-19	36
RECOMMENDATIONS	39
ANNEXURE	40
ACKNOWLEDGEMENT	41
LIST OF CONTRIBUTORS	42

DISCLAIMER

This document has been prepared with the information that is available from published literature and online advisories by national and international agencies (references given). As with all guidelines, during the COVID Pandemic, this also has to be considered a dynamic one and may need changes as per the behavior of the pandemic, health care resources and governmental notifications. Hospital emergency preparedness is a continuous process that needs to link to the overall national preparedness program. Many of the principles and recommendations outlined in this document are generic and applicable to other contingencies. The guidelines given are intended to complement comprehensive, all hazard, multi-sectoral hospital emergency preparedness planning program and are not meant to replace them.



FOREWORD

The COVID-19 pandemic which has gripped the entire universe has resulted in an unprecedented situation of great magnitude not experienced anytime during the past one hundred year.

This pandemic has disrupted normal life and the fear of spread has brought the entire world to a grinding halt also affecting the inflow of other patients into the hospital. Even patients requiring regular follow up and review are unable to visit the hospital.

Scientists studying the virus predict that it would take some time for us to conquer the pandemic and for the virus to exit the human population.

During this transition period, all precautions that have been put in place in the active phase of the pandemic have to be continued till the final exit of the virus. The universal precautions will however have to be adhered to as usual.

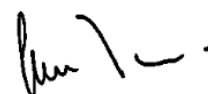
Quoting Stephen King

“There is no harm in hoping for the best if you are prepared for the worst”.

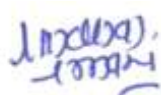
This document titled “Resumption of hospital services after lockdown” provides a comprehensive set of action plans and key guidelines to be followed in the context of continuous hospital preparedness. It specifically addresses the action plan for resuming of services, in the safest and most effective manner to safeguard both patients and healthcare worker.



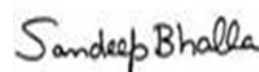
Prof. K Srinath Reddy, President, PHFI



Dr. Alex Thomas, President, AHPI



Dr. Girdhar Gyani, Director General, AHPI



Dr. Sandeep Bhalla, Director, Training, PHFI



INTRODUCTION

**“What's clear that the infection is going to stay with us as it is already wide spread”
Dr. Soumya Swaminathan, Chief Scientists, World Health Organization**

How long is the virus going to be with us? is anybody's guess and it all depends on an interplay of many complex factors, given the fact that India is a Country with a population of more than 1.3 billion.

However, continuing to prevent the spread of the virus, (even after lifting of the lockdown) in an organized and scientific manner in the hospital set up can save human lives and hasten exit of the virus from the human population.

This warrants special skills to manage this crisis situation, which we as members of the Medical fraternity are practicing day in and day out, such as effective leadership, communication, teamwork, counselling and guidance.

In this situation counselling to the hospital staff to face unforeseen eventualities is of utmost importance.

This document while enlisting details of the protocols to be followed in a hospital following lifting of the lockdown aims to ensure safety of the patients as also that of the staff working in the hospitals. The recommendations are a set of dynamic suggestions which will change with time and as the pandemic progress.

Together we can conquer the pandemic.

Background - Health System Response to COVID-19 and Ethical Framework

The COVID-19 pandemic is now a major global threat, the full impact of which is yet unknown. The last time, a health catastrophe struck of a similar scale was the 1918–1919 H1N1 influenza pandemic. Valuable lessons have been learnt from the measures adopted then, which include social distancing measures. While our understanding of infectious diseases and their prevention is now very different compared to 1918, most of the countries across the world face the same challenge today with COVID-19, a virus with comparable lethality to H1N1 influenza in 1918. Two fundamental strategies have been deemed to be effective:

Suppression: Here, the aim is to reduce the viral reproduction number (average number of secondary cases, each case generates), R , to below 1.

Mitigation: Here, the aim is to reduce human-to-human transmission substantially, by building up herd immunity.

In India, till now, the above measures to reduce transmission have led to nationwide policy on social distancing and lockdown etc. This is advised to be maintained till the virus stops circulating in the population or until effective drugs and or vaccines become available. However, the slowdown may buy time for the introduction of vaccine and new drugs, these measures carry with them enormous social and economic costs. When the policy mandates that people should stay at home, what are the implications for the millions who need essential healthcare services? When social normalcy is restored, there is bound to be a surge of transmission and an increase in cases complemented with people in need of hospital services. Both these groups will be reaching hospitals seeking safe hospital care, therefore, phased plans for creating surge capacity to help respond to COVID-19 cases while maintaining essential health services, is the need of the hour towards '**Resumption of hospital services after lockdown**'.

Preparation for an emergency on war footing is of paramount importance. However, it is a huge task for a country, like India, with its large population and complex health-care system. While in the long term, improving the national health-care system with increased budget allocation for health is the way forward, immediate fund allocation and action to effectively revamp and use available infrastructure is the need of the hour. The health-care system must have the preparations in place before the lockdown opens, and the most vulnerable should be protected efficiently i.e. patients and Health-care workers (HCWs), who are at the frontlines in the fight.



Impact on Healthcare Worker

Latest Figures from India suggest that numerous health-care workers have been infected as of early April, and quite a few have even died. A latest study from Delhi, documents that 1 in every 15 coronavirus cases is a healthcare worker. These are challenging times for HCWs, particularly those directly caring for COVID-19 patients. They are likely to be overworked, which makes them vulnerable to errors and possibly increases their risk of getting infected. Compounding this is the fear and mental exhaustion from overwork, death of patients, colleagues falling ill or dying from the infection, and their own safety. In addition, they could be separated from their family on quarantine or may opt not to go home fearing infection risk to their families. All these may take a heavy toll on the HCWs. HCWs are the most valuable warriors in this battle against the pandemic. While the manufacture of ventilators and other equipment could be escalated, HCWs cannot be created at short notice and so protecting them against infection and safeguarding their health and morale is crucial. Health systems can be better equipped by building up their **Surge capacity**, which is the ability of a health system to manage a sudden and unexpected influx of patients in a disaster or emergency situation. Creating surge capacity involves a comprehensive approach linking the 4 S's of surge capacity: space, staff, supplies and systems. Therefore, we have divided this document in 4 parts:

- **Hospital Space**, or structure, covers hospitals and beds, but also the facilities that are either already available in those settings or which could be equipped for specific emergency needs; for example, areas for appropriate triage and cohort wards with adequate air ventilation. Space also includes the potential repurposing or requisitioning of structures beyond the hospital setting to provide for excess patient numbers.
- **Hospital Systems** refer to modes of working to ensure ongoing and proactive coordination for optimum surge capacity response. These modes of working ensure that integrated policies and procedures exist and are activated to develop optimized sustainable surge capacity.
- **Hospital Supplies** relate to the (stored) availability of specific equipment for emergency deployment, both for patient care and health worker safety.
- **Hospital Staff** is about ensuring sufficient numbers of appropriately skilled and supervised health care workers during the emergency situation. In addition to the number of staff needed, and where staff can be added or repurposed from, surge capacity must account for varying degrees of staff need, specializations needed and, crucially, analysis of potential shortfalls.

During the current outbreak of COVID-19, an interruption of critical hospital support services and supplies would potentially disrupt the provision of acute health care by an unprepared health-care facility. Experiences in the COVID-19 outbreak indicate that 'business-as-usual' approaches are not going to protect and optimize output of HCW workforce, which are our

most valuable resources, it is paramount that we develop structured guidelines. In this document, we look at the preparation of the health-care settings to cope with the epidemic and resume hospital services with utmost confidence. This document has been made to facilitate resumption of hospital procedures during the COVID period and after the lockdown using the 4 S model.

The guiding principles in preparation of this protocol are that

- All steps should have the safety of HCW as a priority
- All steps taken should have patient safety as a priority
- No patient should suffer additional morbidity or mortality due to lack or unplanned hospital care

Despite the difficult demands and obstacles foreseen, the proactive and systematic implementation of key generic and specific actions suggested in this document can facilitate effective hospital-based management during a rapidly evolving outbreak.

Section A: **Hospital SPACE**



Key issues: At the level of health-care centers, allotting appropriate and adequate space would be of paramount importance in the care of patients and to reduce transmission. Ensuring allocation of beds in hospitals for COVID-19 patients and providing essential hospital services to other patients in a safe manner is quintessential.

Universal precautions – Staff, patients and attendants (Corona Times– the new normal)

GENERAL MEASURES DURING COVID PANDEMIC	
1.	<p>Only one entry for patients. There can be a separate entry for staff to the extent possible.</p> <ul style="list-style-type: none"> • Screen patients and visitors for symptoms of acute respiratory illness (e.g., fever, cough, difficulty in breathing) before entering your healthcare facility. • Encourage retina scan for staff attendance instead of Biometric and attendance registers • Gate passes to be provided for any deliverable item/equipment received by the hospital. Ensure cleaning of the surface of the item/equipment before they reach the end user. Personal Couriers/Parcels to be discouraged
2.	<p>Ensure all patients, staff and others are thermal screened at all points of entry.</p> <ul style="list-style-type: none"> • Set up a Screening and triage area before entry to main area of hospital • Staff screening is crucial and should not be taken lightly • Ensure enough IR thermometers at hospital entry • Ensure enough printed checklists for symptom questionnaire at hospital entry.
3.	<p>Ensuring Testing of all suspects</p> <ul style="list-style-type: none"> • Designate an area for fever clinic / care of COVID–19 patients • Direct patients with COVID symptoms to Fever clinic. • If dedicated flu clinic is not established, separate the patients with respiratory symptoms so that they are not waiting among other patients seeking care. Identify a separate, well-ventilated space that allows waiting patients and visitors to be separated.
4.	<p>Ensure all patients, staff and others wear mask before entering the hospital. It is advisable to make masks and hand sanitizers available at the hospital entrance.</p>

5.	All staff members and visitors should have Aarogya Setu app for Contact tracing. Encourage self-reporting of symptoms and location for patients, staff and others (Use of Aarogya Setu app or Hospital own self reporting forms).
6.	<p>Ensure social distancing</p> <ul style="list-style-type: none"> • Adequate marking to be done in all common areas including lifts. (keeping minimum 3 feet distance) • Queue management rules to be followed. • Ensure that there is no overcrowding of places within the hospital • Recommend patients to take stairs or wait for the next lift. • Both spatial separation and adequate ventilation can help reduce the spread of many pathogens in the health care setting
7.	Visual alerts (signs, posters, digital) at all strategic places providing instruction on hand hygiene, respiratory hygiene, wearing mask and cough etiquette.
8.	<p>Disinfection and cleaning</p> <ul style="list-style-type: none"> • Individuals in charge of respective areas to ensure proper disinfection of the concerned area is carried out periodically as advised. • Provide sanitizing hand rub dispensers and provision for hand wash with soap and water in prominent places. • Regular check on stock of disinfectants, tissues, liquid soaps, thermal scanner, masks, gloves & PPE is ensured and monitored • Clean and disinfect public areas, toilets and high touch points once in 2 hours using standard disinfectants. • Clean & disinfect every work space, corners, lifts, staircase handles, door knobs, chair handles, electrical switch points, wash rooms etc. • All double doors should be kept open to prevent touching doors or knobs. • Closed dustbins (pedal push type) are kept in all lunch areas and washrooms. • Cleaning frequency to be increased at all public areas (example washrooms, waiting areas, cafeterias, etc.)
9.	Ensure adequate supply of Personal protective equipment (PPE) and hand sanitizers. Rational use policy of PPE should be in place.
10.	<p>Follow strict treatment protocols</p> <ul style="list-style-type: none"> • Treat – According to the severity, hospitalize only those requiring in-house care • Ensure Isolation of COVID-19 cases • Advising Quarantine for contacts and mild cases • Consent from every patient whether IPD or OPD Annexure 1 • Segregation of COVID patients from the patients needing routine care • Promoting Tele/Video Consultations, Online trainings, Video Counselling etc. for routine patients.

Infection Prevention protocols including BMW management– All areas of hospital

Due to the potential survival of the virus in the environment for several days, the premises and areas potentially contaminated with the 2019-nCoV should be cleaned before their re-use, using products containing antimicrobial agents known to be effective against coronaviruses. Although there is lack of specific evidence for their effectiveness against 2019-nCoV virus, cleaning with water and household detergents and use of common disinfectant products should be sufficient for general precautionary cleaning. Tests carried out using SARS-CoV showed that sodium hypochlorite is effective. Hydrogen Peroxide fogging is also effective against COVID virus and can be used. (Ref EIROXTM Air Fogging Disinfectant). These guidelines provide guidance for environmental cleaning in facilities housing people who are exposed to/have a potential exposure to COVID-19.

Area/Items	Item/Equipment	Process	Method/ Procedure
General Areas in Hospital			
General clinical areas Floors (clinical areas) – daily mopping	Dust mops, Mop (No broom will be used for sweeping) Detergent/ sanitizer–hot water, sodium hypochlorite(1%) Three buckets (one with plain water and one with detergent solution; one bucket for sodium hypochlorite(1%))	Sweeping Cleaning Daily mopping	<ul style="list-style-type: none"> • Sweep with the dust mop or damp mop to remove surface dust. Sweep under the furniture and remove dust from corners. Gathered dust must be removed using a hearth brush and shovel. • The sweep tool should be cleaned or replaced after use. • Prepare cleaning solution using Detergent with warm water • Use the three-bucket technique for mopping the floor, one bucket with plain water and one with the detergent solution. • First mop the area with the warm water and detergent solution. • After mopping clean the mop in plain water and squeeze it. • Repeat this procedure for the remaining area. • Mop area again using sodium hypochlorite 1% after drying the area. • In between mopping if solution or water is dirty change it frequently. • Mop the floor starting at the far corner of the room and work towards the door. • Clean articles between cleaning. <p>Note: Mopping should be done twice a day</p>

Ceiling and Walls	Sweeping tool Duster Bowl/ small bucket of soap solution Plain water	Damp dusting	<ul style="list-style-type: none"> Damp dusting with a long handled tool for the walls and ceiling done with very little moisture, just enough to collect the dust. Damp dusting should be done in straight lines that overlap one another. Change the mop head/cover when soiled. <p>Note: Should be done once a week or after examining a suspect case</p>
	Care of mop	Hot water Detergent Sodium hypochlorite 1%	<ul style="list-style-type: none"> Clean with hot water and detergent solution, disinfect it with sodium hypochlorite and keep for drying upside down.
Doors and door knobs	Damp cloth or Sponge squeeze mop Detergent	Thorough washing	<ul style="list-style-type: none"> The doors are to be washed with a brush, using detergent and water once a week (on one defined day); gently apply cloth to soiled area, taking care not to remove paint, then wipe with warm water to remove excess cleaning agent. Door knobs and other frequently touched surfaces should be cleaned daily.
Isolation room	Detergent/ Sanitizer– warm water, sodium hypochlorite (1%) Three buckets (one with plain water and one with detergent solution); separate bucket for sodium hypochlorite (1%)	Terminal cleaning	<ul style="list-style-type: none"> Before cleaning an isolation room, liaise with infection control team for details of any special requirements. Staff will be instructed on specific cleaning procedures required with reference to Safety uniform to be worn. Chemicals or disinfectants to be used. Also, if bed screen and shower screen are to be cleaned or changed, refer cleaning in isolation rooms. Wait for 15mts prior to entering the room, post patient discharge. Keep the room vacant post terminal cleaning for 30mts, before allotment.
All clinical areas/ Laboratories/ Wherever spill care is required	Sodium hypochlorite (1%) Rag piece Absorbent paper Unsterile gloves Spill care kit Mop Hot water	Blood and body fluid spill care	<ul style="list-style-type: none"> Wear non-sterile gloves. For large spills, cover with absorbent paper/ rag piece if any broken glass and sharps, using a pair of forceps and gloves, carefully retrieve. Use a large amount of folded absorbent paper to collect small glass splinters. Place the broken items into the puncture proof sharps container. Cover the spill with sodium hypochlorite (1%) for 10–20 minutes contact time. Clean up spill and discard into infectious waste bin, and mop area with soap and hot water.

			<ul style="list-style-type: none"> • Clean the mop and mop area with 1% sodium hypochlorite. • Wash mop with detergent and hot water and allow it to dry.
Stethoscope	Alcohol-based rub/Spirit swab	Cleaning	<ul style="list-style-type: none"> • Should be cleaned with detergent and water. • Should be wiped with alcohol based rub/spirit swab before each patient contact.
BP cuffs and covers	Detergent Hot water	Washing	<ul style="list-style-type: none"> • Cuffs should be wiped with alcohol- based disinfectant and regular laundering is recommended for the cover.
Thermometer	Detergent and water Alcohol rub Individual thermometer holder	Cleaning	<ul style="list-style-type: none"> • Should be stored dry in individual holder. • Clean with detergent and tepid water and wipe with alcohol rub in between patient use. • Store in individual holder inverted. • Preferably one thermometer for each patient.
Injection and dressing trolley	Detergent and water Duster Disinfectant (70% alcohol)	Cleaning	<ul style="list-style-type: none"> • To be cleaned daily with detergent and water. • After each use should be wiped with disinfectant.
Refrigerators	Detergent and water Absorbent paper or clean cloth	Cleaning (weekly)	<ul style="list-style-type: none"> • Empty the fridge and store things appropriately. • Defrost, decontaminate and clean with detergent. • Dry it properly and replace the things. • Weekly cleaning is recommended.
In-Patient Rooms			
General cleaning	Detergent and warm water Mop Two buckets Clean utility gloves Hand mops	Daily mopping floors Thorough washing	<ul style="list-style-type: none"> • Scrub floors with hot water and detergent with using minimal water. (Do not pour the water.) • Clean with plain water. • Allow to dry • Hypochlorite 1% mopping can be done. <p>Note: Recommend general cleaning procedure should be done twice a day</p>
Lockers, tables, cupboard, wardrobes, benches, shelves and cots	Damp duster Warm water Detergent Dry duster	Damp dusting	<ul style="list-style-type: none"> • Damp dust with warm water and detergent.

Railings	Detergent/ Sanitizer–hot water, sodium hypochlorite 1% Three small buckets/ or big bowls One with plain water One with detergent solution One for sodium hypochlorite 1%	Daily dusting	<ul style="list-style-type: none"> Damp dust with warm water and detergent followed by disinfection with hypochlorite
Mirrors and Glass	Warm water Detergent water/cleaning solution Damp cloth Wiper	Cleaning	<ul style="list-style-type: none"> Using warm water and a small quantity of detergent and using a damp cloth, wipe over the mirror and surround, then using a dry lint-free cloth, buff the mirror and glass to a clean dry finish.
Sluice room Stainless steel/ Any other sink	Powder cleanser Detergent powder Wiper Cloth	Cleaning	<ul style="list-style-type: none"> Sinks are to be cleaned with a powder cleanser. First wet the sink. Sprinkle on a little powder cleanser and work around the surface with a cloth, include the plughole. Do not use the powder cleanser on dry sink. After removing spillage and any stains, flush away with running water. Wipe down the surface of the sink.
Pantry furniture	Duster	Dusting	<ul style="list-style-type: none"> Damp dust
Telephone	Warm water detergent solution Duster	General cleaning	<ul style="list-style-type: none"> Damp dust with warm water and detergent. Paying special attention to the ear and mouth piece and dry it properly.
Desks	Damp cloth Furniture polish	Dusting	<ul style="list-style-type: none"> Wipe top sides and draw handles with a damp cloth. Wooden desks should be cleaned with furniture polish and buffed to clear glows. Pen holder etc. to be cleaned or dusted.
Chairs (Vinyl)	Warm water and detergent	Cleaning	<ul style="list-style-type: none"> Wipe down with warm water and detergent. Remove any marks under arms and seat. Check for damage to stoppers, if stopper require replacement, report to maintenance department.
Furniture and fittings	Warm water and detergent Rag piece	Dusting	<ul style="list-style-type: none"> Using warm water and detergent, damp dust all furniture and fittings, including chairs, stools, beds, tables, cupboards, wardrobes, lockers, trolleys, benches, shelves and storage racks, waste/ bins, fire extinguishers, oxygen cylinders, televisions window sills and dry properly.

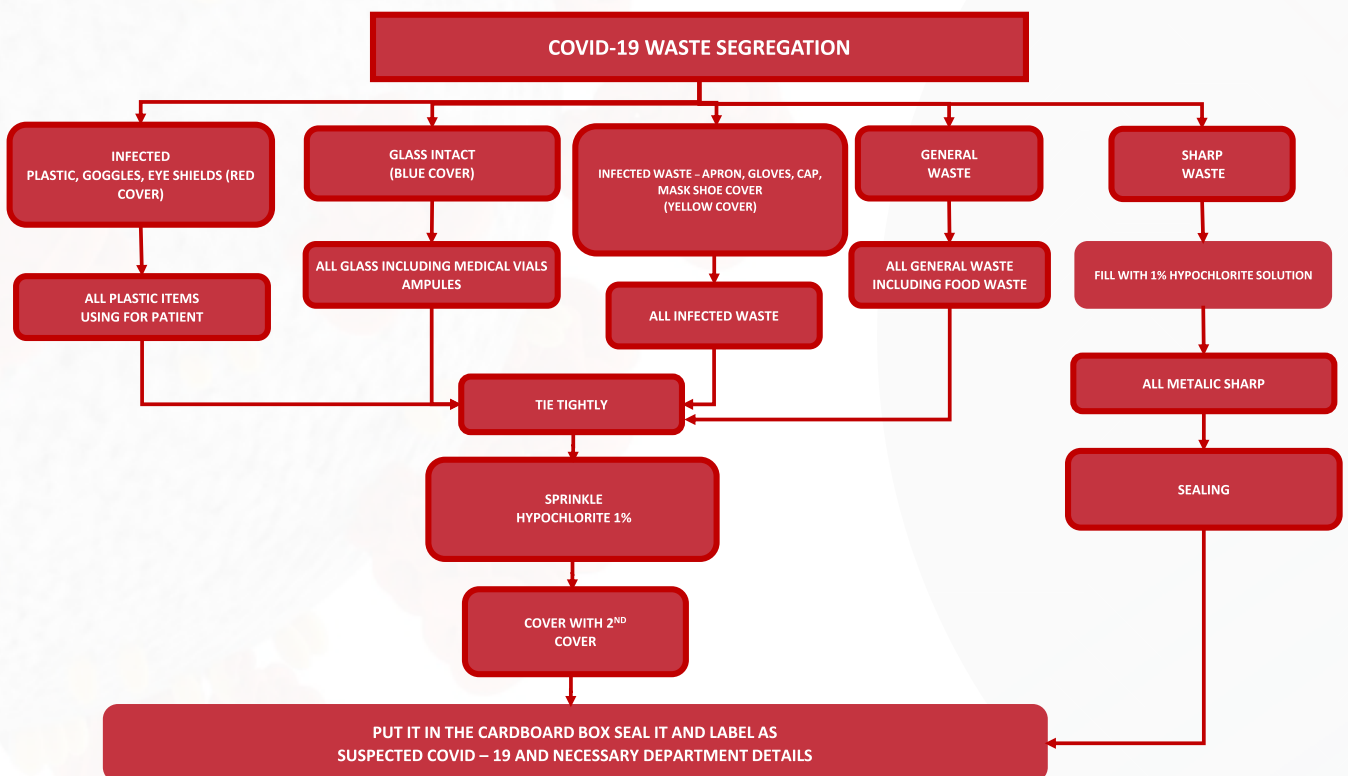
Bed tables, bedside lockers	Warm water and detergent Wiper Duster	Cleaning	<ul style="list-style-type: none"> Wipe down over bed table. Wipe top and underneath base and stand, using warm water and detergent. Dry on completion. Wipe down the bedside. Remove marks from fronts of draws and sides. Using warm water and detergent, wash the top to remove any sticky marks and dust.
Light switches and over-bed lights	Damp cloth (never wet) Detergent Warm water	Cleaning	<ul style="list-style-type: none"> Light switches to be cleaned of dust, spots and finger marks. Clean with a damp cloth (never wet) and detergent. Over-bed lighting to be damp dusted. Clean with warm water and detergent.
Curtains	Soft clothes Water Mild soap solution	Cleaning	<ul style="list-style-type: none"> Clean with water and soap for curtains
White clothes	Sodium hypochlorite 1% Tap water	Washing	<ul style="list-style-type: none"> Should be washed under running water and soaked in 1% sodium hypochlorite for 20 minutes. <p>Note: PPE should be worn while washing soiled linen.</p>
Mattress and pillow covers (cloth)	Tap water	Washing	<ul style="list-style-type: none"> Mattress and pillows should be covered with a reusable mattress cover. It should be changed for each patient and when soiled sent to the laundry according to schedule.
Mattress/ Pillow with rexin cover Normal/ without rexin	Sodium hypochlorite 1% Sunlight	Terminal Damp dusting and cleaning Drying in sunlight	<ul style="list-style-type: none"> If with rexin cover, can be cleaned with 1% sodium hypochlorite before use for next patient If routine mattress, dry it in bright sunlight for 1-2 days before using for next patient
Water jars	Vim powder Soap and water	Cleaning	<ul style="list-style-type: none"> Recommended boiled water for drinking Water jars should be scrubbed/ cleaned with soap and water and boiled water before filling with water.

Cleaning of toilets

Toilet pot/ commode	Sodium hypochlorite 1%/ Soap powder / long handle angular brush	<ul style="list-style-type: none"> Inside of toilet pot/commode: Scrub with the recommended agents and the long handle angular brush. Outside: Clean with recommended agents; use a nylon scrubber.
Lid/commode	Nylon scrubber and soap powder	<ul style="list-style-type: none"> Wet and scrub with soap powder and the nylon scrubber inside and outside
Toilet floor	Soap powder and scrubbing brush/ nylon broom	<ul style="list-style-type: none"> Scrub floor with soap powder and the scrubbing brush Wash with water Use sodium hypochlorite 1% dilution

Tap	Nylon scrubber and soap powder	<ul style="list-style-type: none"> Wet and scrub with soap powder and the nylon scrubber.
Showers area / Taps and fittings	Warm water Detergent powder Nylon Scrubber	<ul style="list-style-type: none"> Thoroughly scrub the floors/tiles with warm water and detergent Wipe over taps and fittings with a damp cloth and detergent. Care should be taken to clean the underside of taps and fittings. Taps should be dried after cleaning
Soap dispensers	Detergent and water	<ul style="list-style-type: none"> Daily dusting Should be cleaned weekly with detergent and water and dried.
Note: Dry the floors with a separate drying mop.		

Biomedical Waste Management: Manage biomedical waste as per existing Biomedical waste management Rules. However for COVID 19 waste, following guideline may be referred :



Ideal Visitor Flow in a Hospital

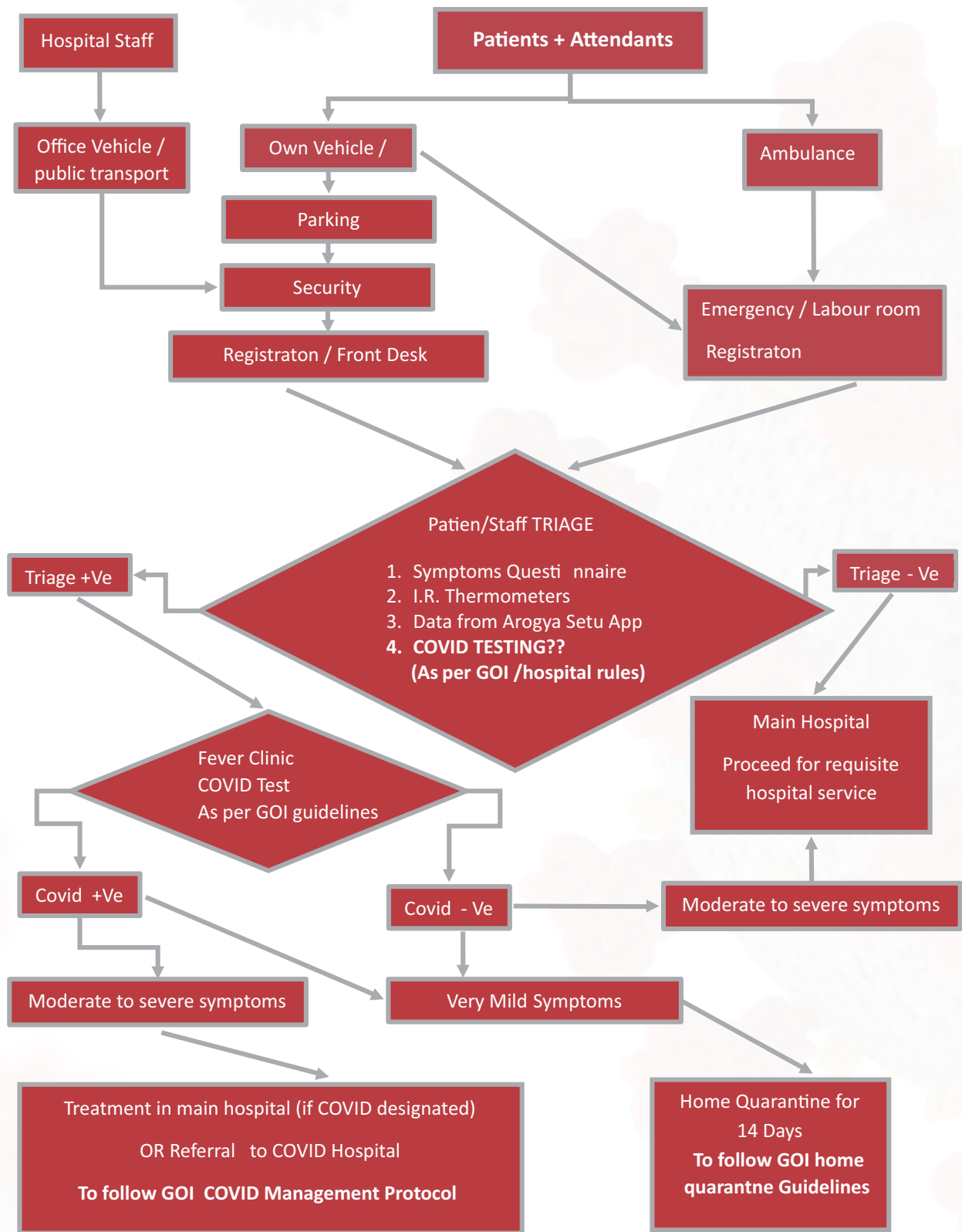


Figure 1: Staff /Patient Flow in a Hospital for Triaging

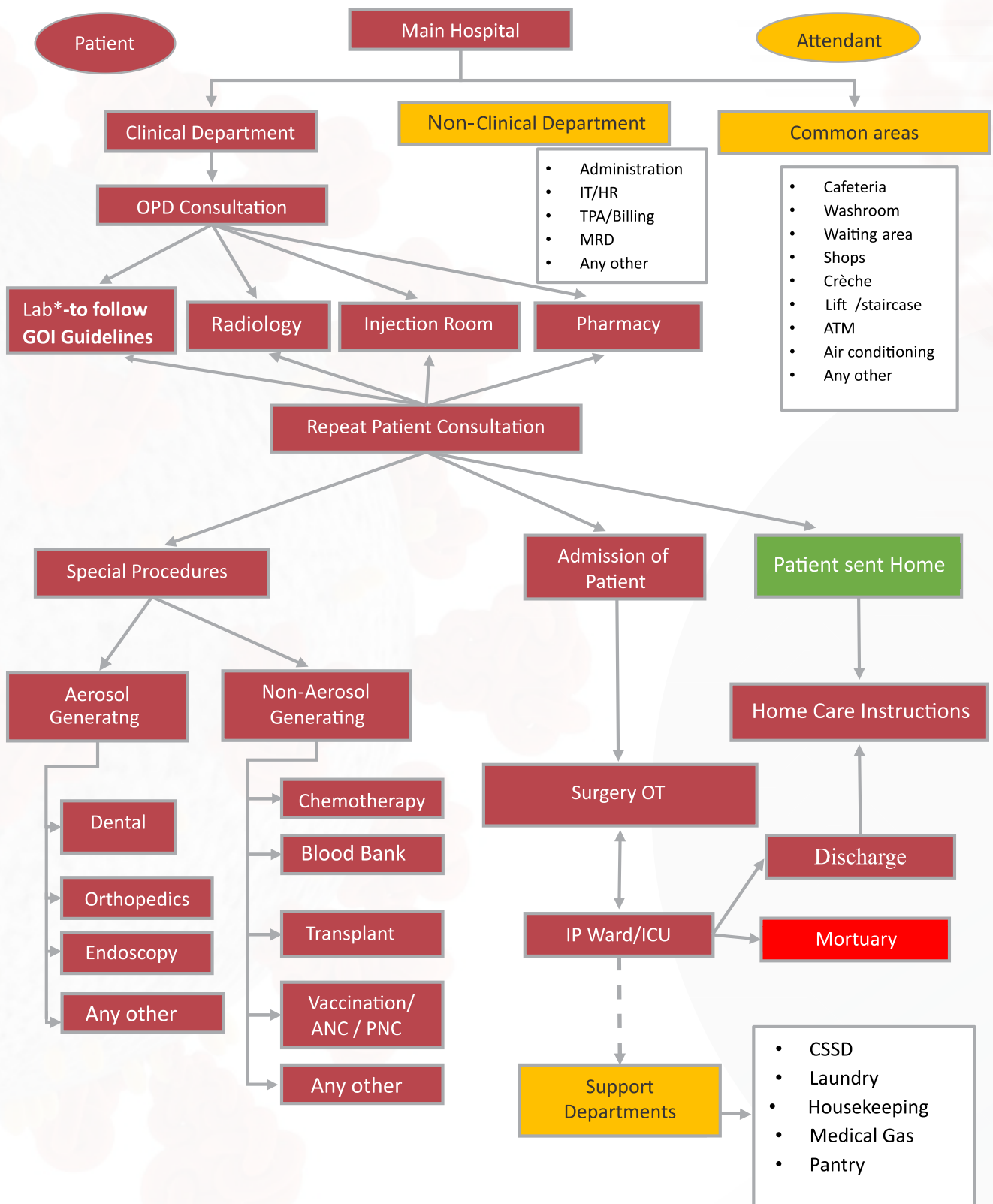


Figure 2: Patient Flow in a Hospital after Triage

- Only one caregiver should be allowed to accompany the patient (while using the prescribed PPE).
- Ambulance and equipment should be thoroughly cleaned and disinfected using 1% Sodium Hypochlorite solution.
- Hydrogen Peroxide fumigation after wiping with Sodium Hypochlorite solution.
- Reusable patient-care equipment should be disinfected before use on another patient with alcohol based rub.
- Keeping the ambulance open for 20 minutes in sunlight is also effective.

<https://www.mohfw.gov.in/pdf/StandardOperatingProcedureSOPfortransportingasuspectorconirmedcaseofCOVID19.pdf>

Laboratory:

- Set up a kiosk to collect swabs from suspected cases within flu clinic or a designated area closer to OPD as well as emergency department
- For specimen collection: Use N95 or higher-level respirator (or facemask if a respirator is not available), eye protection, gloves, and a gown.
- Minimum number of staff at reception counter
- For specimen handlers: Follow Standard Precautions; laboratory coats or gowns, gloves, and eye protection.
- Staff trained in safe collection and transport of specimen, safe disposal of biomedical waste and in handling spills.
- Spills of small volume of blood/body fluids (<10 ml) are cleaned with chlorine containing (5000mg/L) disinfecting wipes, while for large volume spills, higher concentrations of chlorine containing disinfectant (10,000 mg/L) or peroxyacetic acid is used.

Radiology Department:

- Use portable equipment wherever feasible.
- Equipment are sanitized using standard cleaning procedures between patients.
- For patients requiring airborne/contact precautions, radiology technologists will perform room sanitizing after imaging while still wearing the same set of PPE as used during patient transfers.
- Use N95 + Eye shield for all Aerosol generating procedures within the imaging rooms. Post use the room should kept vacant for 1hr before next patient is taken in.

<https://doi.org/10.1148/radiol.2020201326>

<https://pubs.rsna.org/doi/10.1148/radiol.2020201326>



Dietary Department

- Limit the number of personnel in the kitchen.
- Use disposable trays, plates and other materials
- All other utensils are to be washed using hot water and soap before each use

https://fssai.gov.in/upload/uploadfiles/files/Guidance_Note_COVID_15_04_2020.pdf

Inpatient Areas

- Minimize entries to patient rooms by bundling treatment and patient care activities
- Ensure provision for identification and frequent monitoring of early warning scores.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/long-term-care.html>

2. Guidelines for Special situations (aerosol generating and non- aerosol generating procedure) Dialysis

- Facilities should maintain at least 6 feet of separation between patients with suspected or confirmed COVID-19 and other patients during dialysis treatment.
- Ideally, patients with suspected or confirmed COVID-19 would be dialyzed in a separate room with door closed or treated at a corner or end-of-row station
- Standard precautions for linen management and cleaning of equipment as per manufacturer's guidelines.
- If separate rooms are not available, maintain a distance of 6ft between suspect or confirmed COVID cases.
- Wet cleaning after each patient of all surfaces should take place

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/dialysis.html>

Endoscopy

- Only essential personnel should be present during procedures
- For patients defined as suspected, probable or confirmed COVID-19, enhanced PPE should be practiced during endoscopy, including the use of a N95 mask; isolation gown with water resistance; head cover; eye protection and face shield. The procedure should be conducted in negative pressure room when available.
- For patients who are not suspected to have COVID-19, healthcare providers should perform endoscopy with PPE, including a face mask; isolation gown with water resistance; eye protection.
- All specimen from patients with COVID-19 should be handled with extra precaution and with appropriate protective equipment.

- Standard room disinfection should be conducted at the end of the session in rooms where non-COVID or low-risk patients had endoscopy.
- For patients with suspected or confirmed COVID-19 who require emergency endoscopy, the endoscopic procedure should be performed at the end of the session and the room should be cleaned after these procedures with staff using appropriate PPE.
- The disinfection and reprocessing of the endoscope and instruments used for a patient with COVID-19 will be similar to those used in standard practice.
- Ethanol (62–71% concentration), 2% glutaraldehyde and 0.1–0.5% sodium hypochlorite are commonly used as disinfectants and can reduce the concentrations of coronavirus within 1 min of exposure time. *

Aerosol generating procedures

These high-risk procedures include tracheal intubation, non-invasive ventilation, tracheostomy, cardiopulmonary resuscitation, and bronchoscopy. These procedures are all associated with increased risk of transmission of COVID-19, and should be carried out in an adequately ventilated room (natural ventilation with airflow of at least 160 L/sec per patient) or in airborne infection isolation rooms (AIIR) which are negative pressure rooms with 12 air changes per hour and controlled direction of airflow when using mechanical ventilation. HCWs conducting such procedures should be wearing full-body PPEs including N95 particle-filtering masks.

- Bronchoscopes should be disinfected with 0.23% of peroxyacetic acid followed by high level of disinfection in an automatic washing and disinfection machine if available, and sterilized finally with ethylene oxide.

References:

- 1.*Siddharta A, Pfaender S, Vielle NJ, et al. Virucidal activity of World Health Organization-recommended formulations against enveloped viruses, including Zika, Ebola, and emerging coronaviruses. *J Infect Dis* 2017; 215:902–6. <https://doi.org/10.1093/infdis/jix046> pmid:28453839
2. Chiu PWY, Ng SC, Inoue H, et al Practice of endoscopy during COVID-19 pandemic: position statements of the Asian Pacific Society for Digestive Endoscopy (APSDE-COVID statements) *Gut* Published Online First: 02 April 2020. <https://doi.org/10.1136/gutjnl-2020-321185>
3. How to protect the protectors: 10 lessons to learn for doctors fighting the COVID-19 Coronavirus?

<https://doi.org/10.1016/j.mjafi.2020.03.009>



Transplantation

- Elective Deceased Donor transplant should be done only if donor is COVID-19 negative (both RT-PCR and Serologic test)
- Transplant should only be carried out if both donor and recipient test negative (both serology (when available) and RT-PCR). The timing of the tests should be immediately before the transplant operation.
- The transplant operation should be carried out with full personal protective gear as specified by the hospital guidelines.

Reference:

[https://www.icmr.gov.in/pdf/covid/techdoc/Guidelines for Liver Transplantation and COVID 13042020.pdf](https://www.icmr.gov.in/pdf/covid/techdoc/Guidelines%20for%20Liver%20Transplantation%20and%20COVID%2013042020.pdf)

Obstetric Care:

- If ultrasound equipment is used, it should be decontaminated after use as per manufacturer's guidelines.
- For COVID suspect or confirmed case: Where GA is planned for Caesarean section from the outset, all staff in theatre should wear full PPE, including a filtering face piece level 3 (FFP3) mask. In caesarean birth where regional anesthesia is planned, all staff in theatre should then don PPE with a fluid-resistant surgical mask and eye protection.
- For non-suspect case, PPE as per institutional HIC should be followed.
- If mother is suspect or confirmed then precautions should be taken while breast feeding or handling the new born

Reference:

[https://www.icmr.gov.in/pdf/covid/techdoc/Guidance for Management of Pregnant Women in COVID19 Pandemic 12042020.pdf](https://www.icmr.gov.in/pdf/covid/techdoc/Guidance%20for%20Management%20of%20Pregnant%20Women%20in%20COVID19%20Pandemic%2012042020.pdf)

Guidelines for Operation theatre:

- Minimum number of staff and equipment must be used in Operating room (OR).
- A dedicated OR closest to the entrance may be dedicated for performing emergency procedures in suspect cases.
- OR and surrounding donning/doffing areas must be sanitized as soon as possible after each procedure.
- After each procedure, all involved personnel, whenever possible, should shower.
- COVID suspect cases to be operated upon in standalone theatres and after each use hydrogen peroxide fumigation also to be carried out.
- If the AC system is shared, the same protocol has to be carried out in other theatres which share AC.

Reference: Coccolini F, Perrone G, Chiarugi M, et al. Surgery in COVID-19 patients: operational directives. *World J Emerg Surg.* 2020;15(1):25. Published 2020 Apr 7. doi:10.1186/s13017-020-00307-2

3. Guidelines for Home health, elderly care and teleconsultation

- If possible and where appropriate, encourage communication with the patient remotely through use of a mobile telephone or other similar device before a visit to check that they have no new symptoms on that day
- Healthcare staff should be told how to deal with the situation, if they arrive at a patient's home and find that the patient's condition has deteriorated or other symptoms that suggest COVID-19
- Staff has to perform hand hygiene first and last after each visit to a patient's home and therefore ensure that they have an adequate supply of alcohol hand rub for all visits. Hand hygiene must be performed as per the 5 moments of hand Hygiene
- Surgical masks should be worn by healthcare workers when providing care to patients within 2m of a patient, regardless of the COVID-19 status of the patient.
- Surgical masks should be worn by all healthcare workers for all encounters, of 15 minutes or more, with other healthcare workers in the workplace where a distance of 2m cannot be maintained.
- Disposable gloves and a plastic apron are recommended for certain tasks including contact with body fluids such as bathing a person who is incontinent, handling soiled personal clothing and bed linen and clearing up spills of urine, faeces, vomit and handling waste
- Normal household laundry practices can be expected to inactivate the COVID-19 virus and most other common pathogens.

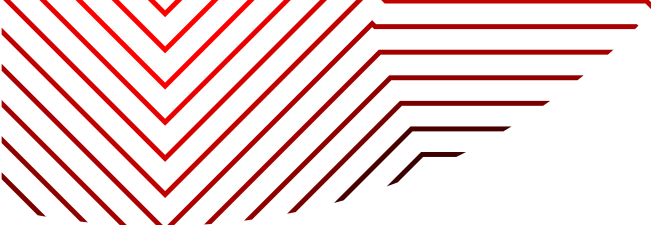
Reference:

COVID -19 Infection Prevention and Control Guidance for all healthcare and social care workers who visit homes to deliver healthcare

<https://www.hpsc.ie/az/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/healthandsocialcareworkers/GuidanceHealthSocialCareWorkersWhoVisitHomes.pdf>

4. Dead Body Management

Being a new disease, there is knowledge gap on how to dispose of dead body of a suspect or confirmed case of COVID-19. 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. This document serves as a guide to handle COVID 19 dead patients at hospitals.

- 
- The health worker attending to the dead body should perform hand hygiene, ensure proper use of PPE (water resistant apron, goggles, mask, and gloves).
 - Place the dead body in leak-proof plastic body bag. The exterior of the body bag can be decontaminated with 1% hypochlorite. The body bag can be wrapped with a mortuary sheet or sheet provided by the family members.
 - 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.
 - The personnel transporting 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.

Reference:

https://www.mohfw.gov.in/pdf/1584423700568_COVID19GuidelinesonDeadbodymanagement.pdf

5. Action to be taken on detection of COVID -19 case in non-COVID health facility

- Inform the local health authorities about the case
- The patient should be immediately isolated to another room. If the clinical condition permits, such patients should be masked and only a dedicated healthcare worker should attend this case, following due precautions.
- If the clinical status of the case permits, transfer such case to a COVID-19 isolation facility (Dedicated COVID Health Centre or dedicated COVID Hospital), informing the facility beforehand about the transfer, as per his/her clinical status, test results (if available), with information to local health authority.
- Complete case records of such patients must be made available to the receiving hospital.
- Follow appropriate standard precautions while transporting the patient
- This should be followed by disinfection procedures at the facility and the ambulance
- All contacts of this patient (other patients being managed in the same room or ward, healthcare workers who have attended to him/her, support staff who may have come in close contact, caretaker/visitors etc.) should be quarantined and followed up for 14 days. Their details must also be shared with the local health authorities.
- All close contacts (other HCWs and supportive staff) of the confirmed case should be put on Hydroxychloroquine chemoprophylaxis for a period of 7 weeks, keeping in mind the contraindications of HCQ.
- Ensure that active screening of all staff at the hospitals is done daily (by means of thermal screening especially at the start of shift)
- All healthcare and supportive staff is encouraged to monitor their own health at all the time for appearance of COVID-19 symptoms and report them at the earliest.

Section C: **Hospital SUPPLIES**



Key Issue: In the context of COVID-19, this covers different types of wards and beds, intubation equipment, mechanical ventilators and essential medications, particular supplies of oxygen, personal protective equipment (PPE) etc. Most patients hospitalized with severe disease will need oxygen, and a smaller proportion will require ventilation. For the establishment of hospitals, a range of supplies will be needed. Insufficient supplies, or procedures to procure them quickly, will severely hinder any surge response. Health workers need to be trained in the use and application of supplies and, for some equipment, specialists will be required.

PPE shortages have been described in almost all affected facilities. Many physicians are forced to put themselves at risk and are already managing these patients using equipment which does not measure up to standard recommendations. The majority of the deaths in HCWs in Wuhan and Northern Italy occurred at the start of the outbreak when the importance of PPE whilst dealing with these patients had not yet been clearly recognized.

Rational use of PPE

This guideline is for health care workers and others working in Non COVID hospitals and Non-COVID treatment areas of a hospital which has a COVID block. These guidelines are in continuation of guidelines issued previously on 'Rational use of Personal Protective Equipment'

(<https://www.mohfw.gov.in/pdf/GuidelinesonrationaluseofPersonalProtectiveEquipment.pdf>)

This guideline uses “settings” approach to guide on the type of personal protective equipment to be used in different settings.

Rational use of PPE for Non COVID hospitals and Non-COVID treatment areas of a hospital which has a COVID block

The PPEs are to be used based on the risk profile of the health care worker. This section describes the PPEs to be used in different settings.

Out Patient Department

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Help desk/ Registration counter	Provide information to patients	Mild risk	<ul style="list-style-type: none"> Triple layer medical mask Latex examination gloves 	Physical distancing to be followed at all times
2	Doctors chamber	Clinical management	Mild risk	<ul style="list-style-type: none"> Triple layer medical mask Latex examination gloves 	No aerosol generating procedures should be allowed.
3	Chamber of Dental/ENT doctors/ Ophthalmology doctors	Clinical management	Moderate risk	<ul style="list-style-type: none"> N-95 mask Goggles Latex examination gloves + face shield 	Aerosol generating procedures anticipated. Face shield, when a splash of body fluid is expected
4	Pre-anesthetic check-up clinic	Pre-anesthetic check-up	Moderate risk	<ul style="list-style-type: none"> N-95 mask Goggles* Latex examination gloves 	* Only recommended when close examination of oral cavity/dentures is to be done
5	Pharmacy counter	Distribution of drugs	Mild risk	<ul style="list-style-type: none"> Triple layer medical mask Latex examination gloves 	Frequent use of hand sanitizer is advised over gloves.
6	Sanitary staff	Cleanig frequently touched surfaces/ Floor	Mild risk	<ul style="list-style-type: none"> Triple layer medical mask Latex examination gloves 	

#All hospitals should identify a separate triage and holding area for patients with Influenza like illness so that suspect COVID cases are triaged and managed away from the main out-patient department.

In-patient Department (Non-COVID Hospital & Non-COVID treatment areas of a hospital which has a COVID block)

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Ward/Individual Rooms	Clinical Management	Mild Risk	<ul style="list-style-type: none"> • Triple layer medical mask • Latex examination gloves 	Patients stable. No aerosol generating activity.
2	ICU/Critical care	Critical Care Management	Moderate Risk	<ul style="list-style-type: none"> • N-95 mask • Goggles • Nitrile examination gloves + Face shield 	<p>Aerosol generating activities performed.</p> <p>Face shield, when a splash of body fluid is expected</p>
3	Ward/ICU/Critical Care	Dead Body Packing	Low Risk	<ul style="list-style-type: none"> • Triple Layer medical mask • Latex examination gloves 	
4	Ward/ICU/Critical Care (Non-COVID)	Dead Body Transport to Mortuary	Low Risk	<ul style="list-style-type: none"> • Triple Layer medical mask • Latex examination gloves 	
5	Labor Room	Intra-partum Care	Moderate Risk	<ul style="list-style-type: none"> • Triple Layer medical mask • Face shield • Sterile latex gloves <p>N-95 mask*</p>	<p>Patient to be masked in the Labor room</p> <p>*If the pregnant woman is a resident of containment zone</p>
6	Operation Theater	Performing Surgery, Administering General Anesthesia	Moderate Risk	<ul style="list-style-type: none"> • Triple Layer medical mask • Face shield (- wherever feasible) • Sterile latex gloves <p>+ Goggles</p> <p>N-95 mask*</p>	<p>Already OT staff shall be wearing</p> <p>For personnel involved in aerosol generating procedures</p> <p>*If the person being operated upon is a resident of containment zone</p>
7	Sanitation	Cleaning Frequently Touched Surfaces/ Floor/Changing Linen	Low Risk	<ul style="list-style-type: none"> • Triple Layer medical mask • Latex examination gloves 	

Emergency Department (Non-COVID)

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Emergency	Attending emergency cases	Mild risk	<ul style="list-style-type: none"> Triple Layer medical mask Latex examination gloves 	No aerosol generating procedures are allowed
2		Attending to severely ill patients while performing aerosol generating procedure	High risk	<ul style="list-style-type: none"> Full complement of PPE (N-95 mask, coverall, goggle, Nitrile examination gloves, shoe cover) 	

Other Supportive/Ancillary Services

S.No.	Setting	Activity	Risk	Recommended PPE	Remarks
1.	Routine Laboratory	Sample collection and transportation and testing of routine (non-respiratory) samples	Mild risk	<ul style="list-style-type: none"> Triple layer medical mask Latex examination gloves 	
		Respiratory samples	Moderate risk	<ul style="list-style-type: none"> N-95 mask Latex examination gloves 	
2	Radio- diagnosis, Blood bank, etc.	Imaging services, blood bank services etc.	Mild risk	<ul style="list-style-type: none"> Triple layer medical mask Latex examination gloves 	
3	CSSD/Laundry	Handling linen	Mild risk	<ul style="list-style-type: none"> Triple layer medical mask Latex examination gloves 	
4	Other supportive services incl. Kitchen	Administrative Financial Engineering** and dietary** services, etc.	Low risk	<ul style="list-style-type: none"> Face cover 	** Engineering and dietary service personnel visiting treatment areas will wear personal protective gears appropriate to that area

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	Low risk	<ul style="list-style-type: none"> • Triple layer medical mask • Latex examination gloves 	
		Management of SARI patient	High risk	<ul style="list-style-type: none"> • Full complement of PPE (N-95 mask, coverall, goggle, latex examination gloves, shoe cover) 	While performing aerosol generating procedure
		Driving the ambulance	Low risk	<ul style="list-style-type: none"> • Triple layer medical mask • Latex examination gloves 	Driver helps in shifting patients to the emergency

Points to remember while using PPE

1. Standard precaution to be followed at all times
2. PPEs are not alternative to basic preventive public health measures such as hand hygiene, respiratory etiquettes which must be followed at all times.
3. Always follow the laid down protocol for disposing off PPEs as detailed in infection prevention and control guideline available on website of MoHFW.

In addition, patients and their attendants to be encouraged to put on face cover.

In case a COVID-19 patient is detected in such Non-COVID Health facility, follow MoHFW guidelines

<https://www.mohfw.gov.in/pdf/GuidelinestobefollowedondetectionofsuspectorconfirmedCOVID19case.pdf>

Reuse of PPE in exigency

The face shields, PPE, Coveralls, gowns, surgical masks, N95 masks etc. should be used properly and judiciously. Use of N95 masks may be restricted to fever clinics, suspect and confirmed COVID wards, prioritizing the aerosol generating procedures like the sample collection, intubation of a COVID- 19 positive case, during CPR, during bronchoscopy etc.

In normal circumstances, PPE should not be reused. However, stringent guidelines may be considered in crisis situations in case of shortages, when it is inevitable to reuse PPE. For proper utilization of the PPE, masks etc. these should be decontaminated and reused as per following protocols:

- **Heat sensitive equipment (PPE):** Preferably with Hydrogen peroxide vapor, Ethylene oxide sterilization technique.
 - Single warm cycle (55°C and 725 mg/l 100% EtO gas). Items and a chemical indicator placed in an individual standard poly/paper pouch. EtO exposure for 1 hour followed by 4 hour of aeration.
 - Standard Autoclaving can also be used in facilities where the above methods are unavailable. Taking into account that the PPE may be discarded if the elasticity of the rubber materials of the PPE is lost after repeated autoclaving.
- **Cloth items** (gowns, cloth masks): Preferably Autoclaving or washing with soap and hot water.
- **Face shields and goggles:** Immersion in 0.5% Sodium Hypochlorite solution or cleaning with 70% alcohol.
- **Heat sensitive equipment like N95 masks directly coming in contact of the skin:** Though Hydrogen peroxide vapor is the preferable method, UV C radiation may be utilized, if available.
 - The laminar flow machine can be used for decontamination of the N95 masks, which will be properly labeled with the name of the users, and will be exposed to the UV C rays, 15 minutes each side (outer and inner), to 176–181 mJ cm² exposure of the masks, with a 40- W UV-C light (average UV intensity experimentally measured to range from 0.18 to 0.20 mW cm²). The masks will be kept 3 feet from the 40 W UV-C
- The HCW are advised to wear a surgical mask over the N95 mask for better protection and to prolong the life of the mask. The surgical mask will be discarded after 1 shift (8 hours) of usage and the N95 mask may be reutilized as noted below.
- **Disposable N95 respirators** may be re-used or worn for extended use as long as they are able to seal, were not worn during an aerosol generating procedure or have reached the end of their use by being soiled, damaged or moist from sweat or insensible fluid loss through breathing. The N95 masks can be utilized up to 5 cycles of usage and decontamination. DO NOT use ALCOHOL AND CHLORINE [bleach]-based disinfection methods.

Additional guidelines for N95

- N95 masks should be worn only once. If they are soiled, damaged or wet, they should be replaced immediately. N95 masks should never be shared.
- N95 masks should not be exposed to UV radiations, microwave, autoclave and alcohol sterilization.
- **For extended re-use of N95 masks**, it should be air dried by simply drying in air for 3 days in a safe open paper bag. Do not keep in Sun and use it on 4th day. N95 masks can also be heated in an oven at 70o C for 30 min and keeping the metallic nose clip away. It can also be placed in a traditional rice cooker at 150-160o C. Chemical sterilization at 480 ppm H₂O₂ for 45 minutes can also be done.

Reference:

Guidelines from Department of Health and Family Welfare, Government of Bengal
Amrita Institute of medical sciences

Section D: **Hospital STAFF**



Key issue: Potential staff shortfalls can occur for reasons including nonattendance due to stress, overwork, mental health concerns and prospective sickness. In the context of COVID-19, health care workers may have concerns for their own health and, in turn, for their own families and older parents. Sufficient rest and recuperation for staff, as well as their unavailability to work, need to be accounted for in any surge capacity calculation.

1. Ensuring safety and protection of HCWs including mental health needs

The extreme stresses, uncertainties, and health risks associated with pandemics such as COVID-19 require a special attention to the well-being and needs of healthcare personnel providing care to others. Practicing self-care and encouraging other health care workers to engage in self-care sustains the ability to care for patients in need. On the other hand, self-neglect is likely to be detrimental and impedes the ability to provide care to others as well.

CHALLENGES FACED BY HEALTH CARE PERSONNEL

- **Increased patient care demands:** This is due to increased number of patients with more number of them severe/critically ill. Increased work demands with longer shifts or no breaks, often working under stressful conditions.
- **Risk of acquiring infection** and passing it along to one's family members or relatives.
- **Equipment related challenges:** The protective equipment can be uncomfortable to wear over extended hours, with limited mobility and scope for communication. Occasionally, shortages may occur for one or other protective equipment/s leading to anxieties related to exposure
- **Emotionally challenging experiences:** Patient distress becomes difficult to manage. Mortality in spite of best of efforts put in by health care personnel may be emotionally draining.

	Recommended Actions
1.	Formulate a “Employee Safety Committee” to monitor regular monitoring of Health status of all staff
2.	Addressing concerns related to staff safety - Create an internal helpline/online forum/Email etc. so that staff can direct their concerns/issues/ difficulties if any.
3.	Promote the culture of greeting people with “Namaste” rather than shaking hands among all the employees
4.	Break hours including lunch hours for different categories of staff to be altered ensuring social distancing policy in place at all common areas
5.	Mandatory E-training/Webinar for all staffs regarding operational plan post COVID and post lockdown when they resume work after lock down. Training should include topics like: washing hands, coughing etiquettes, identification of symptoms, no spitting/ cigarette butts discard, lift usage guidelines, lunch hours, way of greeting, disinfection & cleaning of laptops/mobile phones/laptop bags etc.
6.	Housekeeping staff to be addressed & motivated and ensure that they are well equipped to perform enhanced level of cleaning.
7.	Mandatory self-reporting form to be filled by staffs to gather following data: Having symptoms of Fever, cough, cold, body ache etc.? Travel history within the last few weeks by the employee or any of his/her family members? History of close contact with suspected or confirmed case of COVID-19 Any history of attending/participating in any meeting/ gathering by employee or any of his/her own family member, where more than 15 people attended in the past two weeks?
8.	Separate policy for safety of pregnant workers to be framed if required

STAFF STRATEGIES FOR ENSURING SELF-CARE AND WELL-BEING

	DO's
1.	Maintain a regular eating, drinking and sleep schedule, adjusted to your duty shifts.
2.	Take designated break times for deep breathing exercises, relaxation and “Me” Time. Remember that appropriate rest or relaxation leads to proper care of patients after your break is over.
3.	Talk to your colleagues and extend as well as receive support from each another. work on effective solutions to ease the burden of care, and exchange constructive ideas
4.	Remain connected with family and friends who form your support network outside the healthcare system.
5.	Remember sharing your feelings and staying connected with colleagues, family and friends may help in de-stressing you.
6.	Stay informed and updated with latest, credible information from authentic public health resources, such as the Ministry of Health & Family Welfare, Government of India, World Health Organization or Centers for Disease Control and Prevention (CDC), in order to provide accurate, factual information to your patients.
7.	Participate in workplace discussions to stay informed of the latest status and guidelines.
8.	Gauge your mental or emotional health by monitoring yourself over time for any symptoms of excessive anxiety or depression or prolonged stress such as changes in mood, insomnia, intrusive memories, hopelessness etc. Talk to a friend, trusted colleague or seek professional help if needed.

9.	Take care of yourself and your family. Physicians must plan ahead for the possibility that they may need to be quarantined after a possible exposure
10.	Appreciate the 'honor' and 'noble calling' of medical profession. There may be times when it seems challenging to provide constant care for those in need. However, it may help to remember the noble calling of medical profession—taking care of those most in need, which might be reassuring and fulfilling. Give due honor to you and your colleagues 'services towards those in need.
DONT's	
	Limit media exposure as continuous stream of news and updates on social media platforms and variety of news outlets can consume time, increase stress and may reduce effectiveness. Try to monitor the unnecessary exposure to media, setting a strict time limit.

CARING FOR PATIENT PSYCHOLOGICAL WELL-BEING: Physicians should acknowledge this uncertainty and help patients understand the emotional component to their potential health concerns. In addition, physicians may follow the following recommendations to help promote patients' mental well-being:

DO's	
1.	Impart education to patients about basic hygiene such as hand-washing, cough etiquette, social distancing and staying at home to discussions on prevention or early detection. Having proper education empowers the patients to make right decisions which go a long way to protect the families and communities
2.	Correct misconceptions. And rumors which may cause unnecessary panic. If patients share any inaccurate information related to the pandemic, correct their myths or misconceptions and advise them to visit reliable public health resources to gather information.
3.	Counsel patients about stress management.
4.	Refer for specialized mental health care if a patient is found to have severe emotional issues or suspected exacerbation of pre-existing psychiatric illness.

Reference:

- Centers for Disease Control and Prevention (CDC). <https://www.cdc.gov/>
- Center for the Study of Traumatic Stress. <https://www.cstsonline.org/resources/resource-master-list/coronavirus-and-emerging-infectious-disease-outbreaks-response>

2. Interim Operational Considerations for Public Health Management of Healthcare Workers Exposed to or Infected with COVID-19

While new discoveries continue to be made about COVID-19, early reports indicate that person-to-person transmission most often occurs during close contact with an individual infected with COVID-19. Healthcare workers (HCWs) are not only at higher risk of infection but can also amplify outbreaks within healthcare facilities if they become ill. Identifying and managing HCWs who have been exposed to a patient with COVID-19 is of great importance in preventing healthcare transmission and protecting staff and vulnerable patients in healthcare settings. This guidance is only intended to advise on the management of HCWs regarding their work within healthcare facilities.

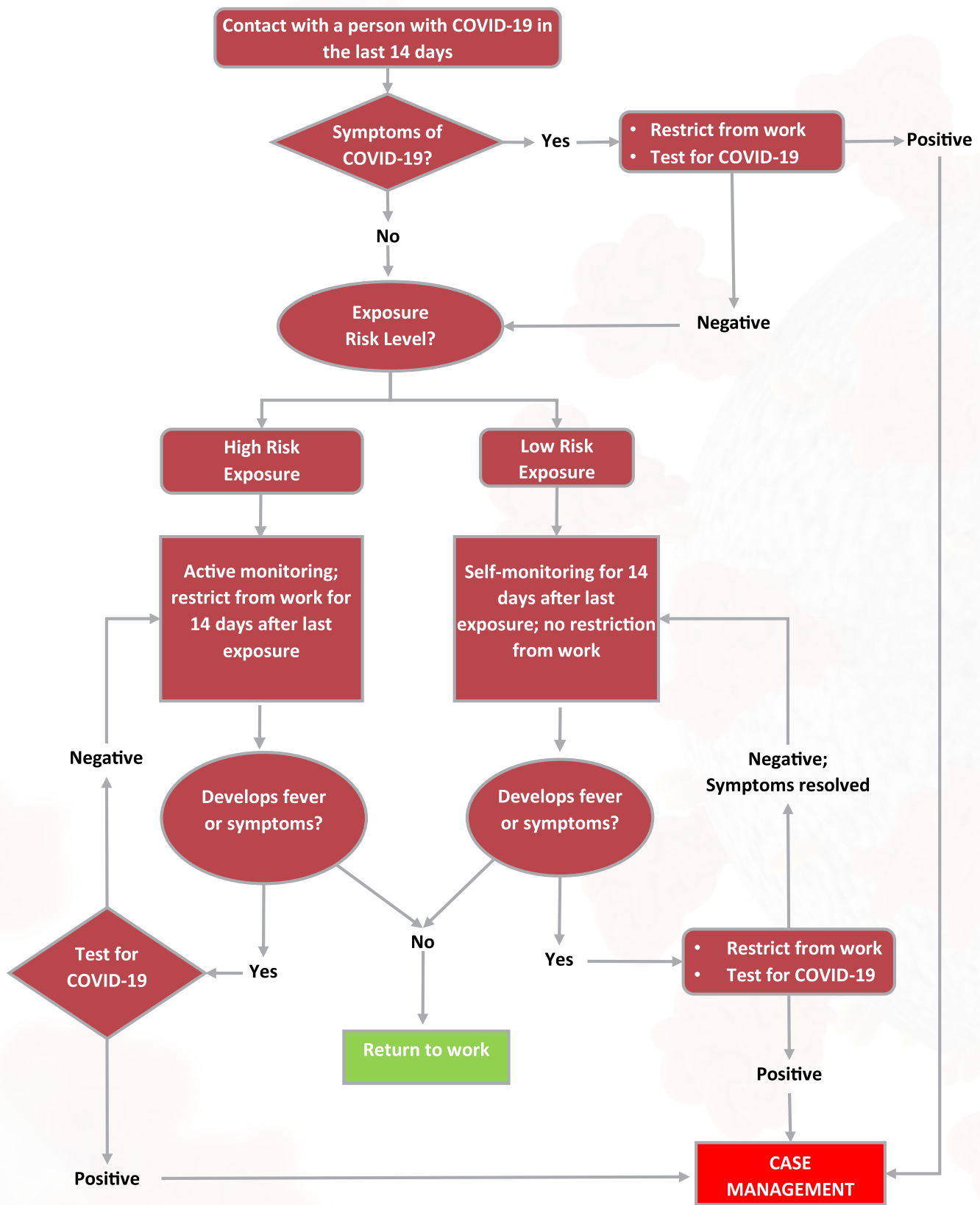
Guidance on management of exposed HCWs outside of healthcare facilities (e.g., quarantine, travel-restriction) is beyond the scope of this document. Recommendations are made based on currently available data and subject to change based on newly available information.

High risk exposure:

- Close contact with a person with COVID-19 in the community; OR
- Providing direct patient care for a patient with COVID-19 (e.g., physical exam, nursing care, performing aerosol generating procedures, specimen collection, radiologic testing), without using proper personal protective equipment(PPE) or not performing appropriate hand hygiene after these interactions;
- Having contact with the infectious secretions from a patient with COVID-19 or contaminated patient care environment, without using proper personal protective equipment (PPE) or not performing appropriate hand hygiene

Low risk exposure – contact with a person with COVID-19 having not met criteria for high-risk exposure.

Reference: Interim Operational Considerations for Public Health Management of Healthcare Workers Exposed to or Infected with COVID-19: non-US Healthcare Settings- CDC



Recommendations

“Courage isn't a matter of not being frightened, you know. It's being afraid and doing what you have to do anyway.” It is important how do we protect the innumerable physicians and HCWs, therefore, hospitals have to ensure that their own army of healthcare workers do not end up becoming patients themselves. To provide safe healthcare to patients while ensuring safety of its employees is paramount and following guidelines given in this handbook will give more confidence to hospitals after lockdown. Following are the key recommendations for staff protection:

1. Establish triage areas and source control
2. Reinforce standard hygiene practices
3. Safety measures whilst dealing with OPD/Clinic patients
4. Safety measures whilst caring for hospitalized COVID-19 patients:
5. Casually exposed HCWs should not be self-quarantined
6. Prophylactic drug for HCWs
7. Special precautions must be followed for aerosol generating procedures (AGP):
8. Environmental and engineering controls involve adequate ventilation of all health care facilities and proper environmental disinfection
9. Access to personal protective equipment (PPE) for health workers
10. Emotional needs of HCWs must not be ignored

For Details Refer: How to protect the protectors: 10 lessons to learn for doctors fighting the COVID-19 Coronavirus <https://doi.org/10.1016/j.mjafi.2020.03.009>



Annexure 1: Consent for any patient being admitted in the hospital or those who undergo OPD procedures

Self-Declaration

Date:

Time:

In the wake of the current Corona Pandemic, I came to the hospital in view of my need to attend to my medical issues, at my own volition. I realize that there is a possibility of me being an asymptomatic carrier or be an undiagnosed patient with COVID 19.

I understand that this may endanger doctors and hospital staff, hence it is my responsibility to take all necessary precautions to prevent the spread of the disease from myself to others. I am here by stating that I would be following all the protocols and the procedures as per the hospital policy for my own safety and as well as that of the others.

I understand that I may get an infection from the hospital or from a healthcare worker and I will take all necessary precautions to prevent myself from getting the disease. But in the unfortunate event of me developing the disease, I will not hold responsible the hospital, hospital staff or the hospital administration accountable.

Patient Name:

Patient Signature

Mobile No:

Address:

Bystander name:

Bystander Signature

Mobile No:

Address:

Additional special consent (to be added) to the standard for surgical consent form

The patient is being operated during the COVID epidemic time. Even though the patient doesn't have clinical evidence of the disease, in the time when the presence of viral infection has not been eliminated, all patients may be potential carriers of virus. The patient may act as source of infection to other persons including the health care professionals. This transmission can occur more during operative procedures and postoperative period. We have formulated a hospital policy to minimize this transmission of virus to the health care professionals or to other patients. You will need to agree for subjecting yourself as well as your caregivers to undertake all these precautions suggested to you. This treatment which may include surgery as well as anesthesia may influence your immunity status pertaining to the viral load and its dissemination in the body. This may have health implications and this has been explained to the patient and family and have been given the alternative option of postponing treatment, with the understanding that this postponement may cause disease progression.

ACKNOWLEDGEMENT

The COVID 19 pandemic has placed unprecedented demands on our health system. While the health facilities and workforce are inundated by a plethora of activities related to controlling the pandemic, at the same time they have to gear up for the new normalcy with COVID-19. Hospitals have to be ready to provide safe and reliable healthcare, but not forgetting safety of its own health workforce. From the very start of the epidemic it has been recognized that health care workers managing this disease are a uniquely high-risk group. There are numerous reports of front line HCWs, both physicians and nurses, contracting the disease from their patients and several have succumbed to it.


As the hospitals resume their services, they have to be most careful about workplace safety, worker safety and patient safety. Keeping these principles of safety in mind the Public Health Foundation of India and Association of Healthcare Providers (India) have jointly formulated this guideline document.

The support and guidance from institutions and contributors has been instrumental in preparation of this document. Our sincere thanks to all the institutions and contributors who have provided their technical inputs and helped in timely completion of this document.

It is our earnest request to all hospital authorities to use this document to screen and manage the patients keeping the staff and patients safe.



List of Contributors

- Dr. Anuradha Aggarwal Monga, Program Manager, Training Division, PHFI
 - Dr. Arun Mavaji, Hospital Administrator, M S Ramaiah Memorial Hospital
 - Dr. Pushkar Kumar, Sr. Public Health Specialist, Training Division, PHFI
 - Dr Devasahayam J. Christopher, Dept. of Pulmonary Medicine, CMC Vellore
 - Dr. Sanjeev K. Singh, Medical Superintendent, Amrita School of Medicine, Kochi
 - Dr Venkatesh Krishnamoorthy, Chairman, N U hospital
 - Sister Gracy Mathai and Sister Beena Antony, Baby Memorial Hospital Ltd
 - Dr. Raju Sivasamy, Vice President (Medical), SIMS Hospital
 - Dr. VC Shanmuganandan, Advisor, AHPI
- 



**ASSOCIATION OF
HEALTHCARE
PROVIDERS
INDIA**



**PUBLIC
HEALTH
FOUNDATION
OF INDIA**

Association of Healthcare Providers (India)

Second Floor, Indian Medical Association House, Indraprastha Marg, New Delhi -110002

Phone: +91-11-23379651, 23379480 | Email: contact@ahpi.in

Public Health Foundation of India (PHFI)

Plot No. 47, Sector 44, Institutional Area Gurugram – 122002, India

Phone: +91-124-4781400 | Email: training.division@phfi.org, covid19training@phfi.org