

Broad guidelines for primary care practitioners/standalone private health facilities/frontline healthcare facilities in view of COVID-19 pandemic

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ABSTRACT

In view of India unlocking, to secure a large population of this country, the healthcare facilities delivering primary care as well standalone health facilities need to be secured from impacts of COVID-19 pandemic. This document dwells on the broader guidelines for primary care practitioners/standalone private health facilities/frontline healthcare facilities to mitigate the impact of COVID-19 Pandemic. The authors understand that the situation is evolving, so the guidelines too will keep evolving.

Keywords: COVID-19 pandemic, frontline healthcare facilities, guidelines, primary care practitioners, standalone private health facilities

Introduction

Overall objectives

This document provides information on how Primary Care Physicians (PCPs), General Practitioners (GPs) in private or public sector and doctors in the outpatient department (OPD) on general duty can fulfill their role in patient care while keeping themselves safe from infections arising out of pandemics like the COVID-19. Primary care facilities and GPs managing patients during the pandemic can use this guide to review their preparedness. These guidelines will also help, if necessary, to

update their epidemic response plans and their capacity to implement these plans. Those facilities and practitioners which do not have response plans can use these guidelines to start planning the mitigation process.

Specific objective

The current pandemic because of coronaviruses, hereafter referred to as COVID-19 has spread across countries and territories till date literally sparing none.^[1] COVID-19 is stretching health systems across the world and health systems are being confronted by a rapidly increasing demand for health resources. Healthcare professionals will continue to work on the frontlines with a responsibility to look after both low and high-risk patients, identifying suspected cases, preventing spread and providing opportunistic patient education.

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Target audience

The main target audience for this guide is GPs in private or public sector, standalone healthcare facilities, and healthcare professionals in the general OPDs who are at the frontline to maintain health in an epidemic. The information is also relevant for small clinics and hospitals, both public and private. The document, however has been prepared with a view to reach a wider audience including state and central government health authorities, financial institutions, disaster management organizations, and local supply chain management which support and contribute to healthcare preparedness.

Background of the disease

A pandemic (COVID-19) involving almost all the nations on this planet since it began in December 2019 at Wuhan, the capital of Hubei Province of China, as an outbreak of atypical pneumonia caused by COVID-19 (SARS-CoV-2 or 2019 nCov) has transmitted nationwide and internationally involving about 199 countries and territories.^[1] The virus causing the pandemic primary spreads through respiratory droplets when an infected person talks, sings, whistles, coughs, or sneezes. As of now, no specific vaccines or treatments for COVID-19 are available even though a number of clinical trials/vaccine trials evaluating potential benefits are underway.^[2]

About the virus

The virus causing COVID-19 belongs to a large family of enveloped viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). Coronavirus disease (COVID-19) causing virus is a new strain identified in late 2019 only, with no report suggesting its earlier existence.^[2]

Like some other viruses of this family, COVID-19 virus spreads by droplet generally between people who are in close contact with one another (within about 6 feet).^[2] People can catch COVID-19 virus also by touching contaminated surfaces or objects—and then touching their eyes, nose, or mouth.

People are thought to be most contagious when they have symptoms and are sick. Despite absence of symptoms, an infected person can still pass the virus.

Current situation

The overwhelmed health delivery systems are likely to influence both direct mortality from the outbreak itself and indirect mortality from other preventable and treatable conditions. Reports regarding 2014–2015 Ebola outbreaks suggested that the increased number of deaths caused by measles, malaria, HIV/AIDS, and tuberculosis could be attributed to health system failures exceeded deaths from Ebola.^[3,4] Maintenance of essential health services in presence of a pandemic will depend on our ability and capacity to ensure delivering healthcare, whether primary or emergency care. Nations across the world

are realizing the importance of being able to deliver healthcare despite a potential threat to healthcare workers itself.

Symptoms of COVID-19

COVID-19 patients have reported the following signs and symptoms: fever, cough, fatigue, shortness of breath, expectoration, myalgia, rhinorrhea, sore throat, and diarrhea. Loss of smell (anosmia) and or loss of taste (ageusia) preceding the onset of respiratory symptoms has also been reported.

In addition, the older people and patients with chronic lung disease, heart disease, liver disease, renal disease, malignancies, immunocompromised status, post-transplant, hematological disorders, HIV and in those on chemotherapy and long-term steroids as well as pregnant females may present with atypical symptoms such as fatigue, reduced alertness, reduced mobility, diarrhea, loss of appetite, delirium, and absence of fever. Children have not been reporting fever or cough as frequently as adults.^[2]

Epidemiology

75–80% of those affected with COVID-19 may develop only mild symptoms and may not require hospitalization. This disease that can occur in all age groups, can spread to children as well through thought the infection is generally mild in children.^[2] Epidemiology of current pandemic; COVID-19 and earlier epidemics like MERS-CoV and SARS clearly point to the fact that hospitals act as amplifying centers for such epidemics. One of the reasons could be a mixing of patients with different risk categorization (for the epidemic) in the high footfall areas of the hospitals and other healthcare facilities like OPDs.

The updated case definitions and contact-categorization^[5]

As per the World Health Organization, the following criteria are used for defining cases as suspect, probable, or confirmed.

Suspect Case

1. An individual meeting the following clinical AND epidemiological criteria. **Clinical criteria:** Acute onset of fever AND cough; OR Acute onset of ANY THREE OR MORE of the following signs or symptoms: Fever, cough, general weakness/fatigue, headache, myalgia, sore throat, coryza, dyspnea, anorexia/nausea/vomiting, diarrhea, altered mental status. **AND Epidemiological criteria:** Residing or working in an area with high risk of transmission of virus: Closed residential settings, humanitarian settings such as camp and camp-like settings for displaced persons; anytime within the 14 days prior to symptom onset; OR Residing or travel to an area with community transmission anytime within the 14 days prior to symptom onset; OR Working in any healthcare setting, including within health facilities or within the community; anytime within the 14 days prior to symptom onset.

2. A patient with severe acute respiratory illness (SARI: Acute respiratory infection with history of fever or measured fever of $\geq 38^{\circ}\text{C}$; and cough; with onset within the last 10 days; and requires hospitalization)

Probable Case

1. A patient who meets clinical criteria above AND is a contact of a probable or confirmed case, or epidemiologically linked to a cluster with at least one confirmed case.
2. A suspect case with chest imaging showing findings suggestive of COVID-19 disease like: **Chest radiography:** Hazy opacities, often rounded in morphology, with peripheral and lower lung distribution; **chest CT:** Multiple bilateral ground glass opacities, often rounded in morphology, with peripheral and lower lung distribution; **lung ultrasound:** Thickened pleural lines, B lines (multifocal, discrete, or confluent), consolidative patterns with or without air bronchograms.
3. Recent onset of anosmia (loss of smell) or ageusia (loss of taste) in the absence of any other identified cause
4. Death, not otherwise explained, in an adult with respiratory distress preceding death AND was a contact of a probable or confirmed case or epidemiologically linked to a cluster with at least one confirmed case.

Confirmed case

Laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.

Contact

Individual who has experienced any one of the following exposures during the 2 days before and up to 14 days after the onset of symptoms of a probable or confirmed case: 1. face-to-face contact with a probable or confirmed case within 1 m and for at least 15 min; 2. direct physical contact with a probable or confirmed case; 3. direct care for a patient with probable or confirmed COVID-19 disease without using recommended PPE; 4. Situations as indicated by local risk assessments (WHO interim guidelines 20 August).

Categories of Illness^[6]

Critical COVID-19

Acute respiratory distress syndrome (ARDS), sepsis, septic shock, or other conditions that would normally require the provision of life-sustaining therapies, such as mechanical ventilation (invasive or non-invasive) or vasopressor therapy.

Severe COVID-19

Any of the following:

Oxygen saturation $< 90\%$ on room air

Respiratory rate > 30 breaths per minute in adults and children > 5 years old; ≥ 60 in children less than 2 months; ≥ 50 in children 2–11 months; and ≥ 40 in children 1–5 years old.

Signs of severe respiratory distress (i.e., accessory muscle use, inability to complete full sentences; and in children, very severe chest wall indrawing, grunting, central cyanosis, or presence of any other general danger signs).

Non-severe COVID-19

Absence of any signs of severe or critical COVID-19.

Testing^[7]

A. Routine surveillance in containment zones and screening at points of entry:

Choice of Test (in order of priority):

- i. Rapid Antigen Test (RAT) [as per attached algorithm]
- ii. RT-PCR or TrueNat or CBNAAT
 1. All symptomatic (ILI symptoms) cases including healthcare workers and frontline workers.
 2. All asymptomatic direct and high-risk contacts (in family and workplace, elderly ≥ 65 years of age, immunocompromised, those with comorbidities, etc.) of a laboratory confirmed case to be tested once between day 5 and day 10 of coming into contact.
 3. All asymptomatic high-risk individuals (elderly ≥ 65 years of age, those with co-morbidities etc.) in containment zones. *RAT for containment zone: Ideally, it is suggested that 100% people living in containment zones should be tested by RAT particularly in cities where there has been widespread transmission of infection.

B. Routine surveillance in non-containment areas

Choice of Test (in order of priority):

- i. RT-PCR or TrueNat or CBNAAT
- ii. Rapid Antigen Test (RAT)*
 1. All symptomatic (ILI symptoms) individuals with history of international travel in the last 14 days.
 2. All symptomatic (ILI symptoms) contacts of a laboratory confirmed case.
 3. All symptomatic (ILI symptoms) healthcare workers/frontline workers involved in containment and mitigation activities.
 4. All symptomatic ILI cases among returnees and migrants within 7 days of illness.
 5. *All asymptomatic high-risk contacts (contacts in family and workplace, elderly ≥ 65 years of age, those with comorbidities, etc., [RAT is recommended as the first choice of test in order of priority])

C. In Hospital Settings Choice of Test (in order of priority):

- i. RT-PCR or TrueNat or CBNAAT
- ii. Rapid Antigen Test (RAT)
 1. All patients of Severe Acute Respiratory Infection (SARI).
 2. All symptomatic (ILI symptoms) patients presenting in a healthcare setting.

3. Asymptomatic high-risk patients who are hospitalized or seeking immediate hospitalization such as immunocompromised individuals, patients diagnosed with malignant disease, transplant patients, patients with chronic comorbidities, elderly ≥ 65 years.
4. Asymptomatic patients undergoing surgical/non-surgical invasive procedures (not to be tested more than once a week during hospital stay).
5. All pregnant women in/near labor who are hospitalized for delivery. Points to be noted:

No emergency procedure (including deliveries) should be delayed for lack of test. However, sample can be sent for testing if indicated as above, simultaneously. Pregnant women should not be referred for a lack of testing facility. All arrangements should be made to collect and transfer samples to testing facilities. Mothers who test positive for COVID-19 should be advised to wear a mask and undertake frequent handwashing while handling their baby for 14 days. They should also be advised on breast cleaning before feeding the neonate. These measures are likely to reduce transmission of COVID-19 to their babies.

All symptomatic neonates presenting with acute respiratory/sepsis like illness. (Features suggestive of acute respiratory illness in a neonate are respiratory distress or apnea with or without cough, with or without fever. Neonates may also manifest with only non-respiratory symptoms like fever, lethargy, poor feeding, seizures, or diarrhea).

Patients presenting with atypical manifestations [stroke, encephalitis, hemoptysis, pulmonary embolism, acute coronary symptoms, Guillain–Barre syndrome, Multiple Organ Dysfunction Syndrome, progressive gastrointestinal symptoms, Kawasaki Disease (in pediatric age group)] based on the discretion of the treating physician.

D. Testing on demand (State Governments to decide simplified modalities):

1. All individuals undertaking travel to countries/Indian states mandating a negative COVID-19 test at point of entry.
2. All individuals who wish to get themselves tested. Tracking and contact tracing mechanisms should be ensured by the testing laboratories by notifying the public health authorities.

Frequency of testing: A single RT-PCR/TrueNat/CBNAAT/RAT positive test is to be considered confirmatory, without any repeat testing. No re-testing is recommended prior to discharge from a COVID-19 facility after clinical recovery, including for transfer from a COVID area/facility to a non-COVID area/facility. If symptoms develop following a negative RAT test, a repeat RAT or RT-PCR should be done

Points to be noted:

WHO case definition for ILI: Individual presenting with acute respiratory infection with fever $\geq 38^{\circ}\text{C}$ AND cough with onset within the last 10 days.

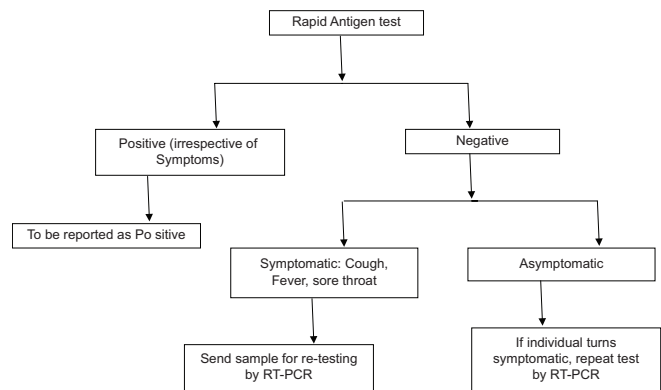
WHO case definition for SARI: Individual presenting with acute respiratory infection with history of fever $\geq 38^{\circ}\text{C}$

AND cough with onset within the last 10 days

AND requires hospitalization.

All healthcare workers and frontline workers coming in contact with suspect/confirmed COVID-19 patients should ensure use of appropriate PPE. Home quarantine for 14 days is recommended for all individuals before undergoing elective surgery to minimize chances of infection before the procedure.

Algorithm for COVID-19 test interpretation using Rapid Antigen point of care test



E. Personal Protective Equipment (PPE): Personal Protective Equipments (PPEs) are protective gears designed to safeguard the health of workers by minimizing the exposure to a biological agent.^[8]

Components of PPE: Goggles, face-shield, mask, gloves, coverall/gowns (with or without aprons), head cover, and shoe cover.

Face shield and goggles: Contamination of mucous membranes of the eyes, nose, and mouth is likely in a scenario of droplets generated by cough, sneeze of an infected person or during aerosol generating procedures carried out in a clinical setting. Inadvertently touching the eyes/nose/mouth with a contaminated hand is another likely scenario. Hence protection of the mucous membranes of the eyes/nose/mouth by using face shields/goggles is an integral part of standard and contact precautions.

The flexible frame of goggles should provide good seal with the skin of the face, covering the eyes and the surrounding areas and even accommodating for prescription glasses.

Masks: Respiratory viruses that includes coronaviruses target mainly the upper and lower respiratory tracts. Hence protecting the airway from the particulate matter generated by droplets/aerosols prevents human infection. Contamination of mucous membranes of the mouth and nose by infective droplets or through a contaminated hand also allows the virus to enter the host. Hence the droplet precautions/airborne precautions using masks are crucial while dealing with a suspect or confirmed case of COVID-19/performing aerosol generating procedures.

Masks are of different types. The type of mask to be used is related to particular risk profile of the category of personnel and his/her work. There are two types of masks which are recommended for various categories of personnel working in hospital or community settings, depending upon the work environment:

1. Triple layer medical mask
2. N-95 Respirator mask

Triple layer medical mask: A triple layer medical mask is a disposable mask, fluid-resistant; provides protection to the wearer from droplets of infectious material emitted during coughing/sneezing/talking.

Respirator mask: N-95 respirator mask is a respiratory protective device with high filtration efficiency to airborne particles. To provide the requisite air seal to the wearer, such masks are designed to achieve a very close facial fit. Such mask should have high fluid resistance, good breathability (preferably with an expiratory valve), clearly identifiable internal and external faces, duck bill/cup-shaped structured design that does not collapse against the mouth.

If correctly worn, the filtration capacity of these masks exceeds those of triple layer medical masks. Since these provide a much tighter air seal than triple layer medical masks, they are designed to protect the wearer from inhaling airborne particles.

Gloves: When a person touches an object/surface contaminated by COVID-19 infected person, and then touches his own eyes, nose, or mouth, he may get exposed to the virus. Although this is not thought to be a predominant mode of transmission, care should be exercised while handling objects/surface potentially contaminated by suspect/confirmed cases of COVID-19.

Nitrile gloves are preferred over latex gloves because they resist chemicals, including certain disinfectants such as chlorine. There is a high rate of allergies to latex and contact allergic dermatitis among health workers. However, if nitrile gloves are not available, latex gloves can be used. Non-powdered gloves are preferred to powdered gloves.

Coverall/Gowns: Coverall/gowns are designed to protect torso of healthcare providers from exposure to virus. Although coveralls typically provide 360° protection because they are designed to cover the whole body, including back and lower legs and sometimes head and feet as well, the design of medical/isolation gowns do not provide continuous whole-body protection (e.g, possible openings in the back, coverage to the mid-calf only). By using appropriate protective clothing, it is possible to create barrier to eliminate or reduce contact and droplet exposure, both known to transmit COVID-19, thus protecting healthcare workers working in close proximity (within 1 meter) of suspect/confirmed COVID-19 cases or their secretions.

Coverall and gowns are deemed equally acceptable as there is a lack of comparative evidence to show whether one is more effective than the other in reducing transmission to health workers. Gowns are considerably easier to put on and for removal. An apron can also be worn over the gown for the entire time the health worker is in the treatment area. Coveralls/gowns have stringent standards that extend from preventing exposure to biologically contaminated solid particles to protecting from chemical hazards.

Shoe covers: Shoe covers should be made up of impermeable fabric to be used over shoes to facilitate personal protection and decontamination.

Head covers: Coveralls usually cover the head. Those using gowns, should use a head cover that covers the head and neck while providing clinical care for patients. Hair and hair extensions should fit inside the head cover.

Use of PPE: The PPEs are to be used based on the risk profile of the healthcare worker.

The document describes the PPEs to be used in different settings.^[8]

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

#All hospitals should identify a separate triage and holding area for patients with Influenza like illness. If there is no triage area/holding area for patients because of resource constraints, such hospitals will follow the above guidance for general OPD.

Risk and Recommendations:^[8]

Setting	Activity	Risk	Recommended PPE	Remarks
Individual Isolation rooms/ cohorted isolation rooms	Clinical management	Moderate risk	N-95 mask Gloves	Patient masked. Patients stable. No aerosol generating activity.
ICU/Critical care	Critical care management	High risk	Full complement of PPE	Aerosol generating activities performed.
ICU/critical care	Dead body packing	High risk	Full complement of PPE	
ICU/Criticalcare	Dead body transport to mortuary	Low Risk	Triple Layer medical mask Gloves	
Sanitation	Cleaning frequently touched surfaces/floor/changing linen	Moderate risk	N-95 maskGloves	
Other Non-COVID Treatment areas of hospital	Attending to infectious and non-infectious patients	Risk as per assessedprofile of patients	PPE as per hospital infection prevention control practices.	No possibility of exposure to COVID patients. They should not venture into COVID-19 treatment areas.
Care taker accompanying the admitted patient	Taking care of the admitted patient	Low risk	Triple layer medical mask	The care taker thus allowed should practice hand hygiene, maintain a distance of1 meter

Other Supportive/Ancillary Services^[8]

Setting	Activity	Risk	Recommended PPE	Remarks
Laboratory	Sample collection and transportation	High risk	Full complement of PPE	
	Sample testing	High risk	Full complement of PPE	
Mortuary	Dead body handling	Moderate Risk	N95 mask Gloves	No aerosol generating procedures should be allowed. No embalming.
	While performing autopsy	High Risk	Full complement of PPE	No post-mortem unless until specified.
Sanitation	Cleaning frequently touched surfaces/Floor/cleaning linen in COVID treatment areas	Moderate risk	N-95 maskGloves	
CSSD/Laundry	Handling linen of COVID patients	Moderate risk	N-95 mask Gloves	
Other Supportive services	Administrative Financial Engineering Security, etc.	No risk	No PPE	No possibility of exposure to COVID patients. They should not venture into COVID- 19 treatment areas.

Health Workers in Community Setting^[8]

Setting	Activity	Risk	Recommended PPE	Remarks
ASHAs/Anganwadi and other field staff	Field Surveillance	Low Risk	Triple layer mask Gloves	Maintain distance of one meter. Surveillance team to carry adequate triple layer masks to distribute to suspect cases detected on field surveillance
Doctors at supervisory level conducting field investigation	Field surveillance Clinical examination.	Medium risk	N95 mask Gloves.	

Points to remember while using PPE^[8]

1. PPEs are not alternative to basic preventive public health measures such as hand hygiene, respiratory etiquettes which must be followed at all times.
2. Always (if possible) maintain a distance of at least 1 meter from contacts/Suspect/confirmed COVID-19 cases.
3. Always follow the laid down protocol for disposing off PPEs\

Hand Hygiene^[9]

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

⌚ Duration of the entire procedure: 40-60 seconds

- 0** Wet hands with water;
- 1** Apply enough soap to cover all hand surfaces;
- 2** Rub hands palm to palm;
- 3** Right palm over left dorsum with interlaced fingers and vice versa;
- 4** Palm to palm with fingers interlaced;
- 5** Backs of fingers to opposing palms with fingers interlocked;
- 6** Rotational rubbing of left thumb clasped in right palm and vice versa;
- 7** Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
- 8** Rinse hands with water;
- 9** Dry hands thoroughly with a single use towel;
- 10** Use towel to turn off faucet;
- 11** Your hands are now safe.

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

⌚ Duration of the entire procedure: 20-30 seconds

- 1a** Apply a palmful of the product in a cupped hand, covering all surfaces;
- 1b** Rub hands palm to palm;
- 2** Rub hands palm to palm;
- 3** Right palm over left dorsum with interlaced fingers and vice versa;
- 4** Palm to palm with fingers interlaced;
- 5** Backs of fingers to opposing palms with fingers interlocked;
- 6** Rotational rubbing of left thumb clasped in right palm and vice versa;
- 7** Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
- 8** Once dry, your hands are safe.

Establishing epidemic prepared clinic/facility^[9]

Advocating basic infection-prevention measures (hand hygiene, respiratory etiquette, physical distancing) among all type of patients attending the facility will be the key through display of information at all key spots of the facility. The facility also needs to highlight information on self-initiated isolation for those with mild respiratory symptoms. This will help limit crowding of the health facility. All healthcare facilities will need to expand their capacity for screening, isolation, and triage. Standard operating procedures in patient care during pandemics like COVID-19 will be crucial in ensuring safety of the healthcare providers.

Infection prevention and control

1. Use of standard precautions like hand hygiene; use of PPE to avoid direct contact with patients' blood, body fluids, secretions (including respiratory secretions), and non-intact skin and including prevention of needle-stick or sharps injury; safe waste management; cleaning and disinfection of equipment; and cleaning of the environment.
2. All COVID-19 suspects should be given a triple layer surgical mask and directed to separate area, an isolation room if available. Use standard social distancing guidelines between patients. Instruction on respiratory hygiene should be passed on to all patients.
3. Use either disposable or dedicated equipment (e.g., stethoscopes, blood pressure cuffs, and thermometers), if possible. Disinfect equipment if it needs to be shared among patients. Advise health care workers to refrain from touching their eyes, nose, and mouth with potentially contaminated gloved or ungloved hands.

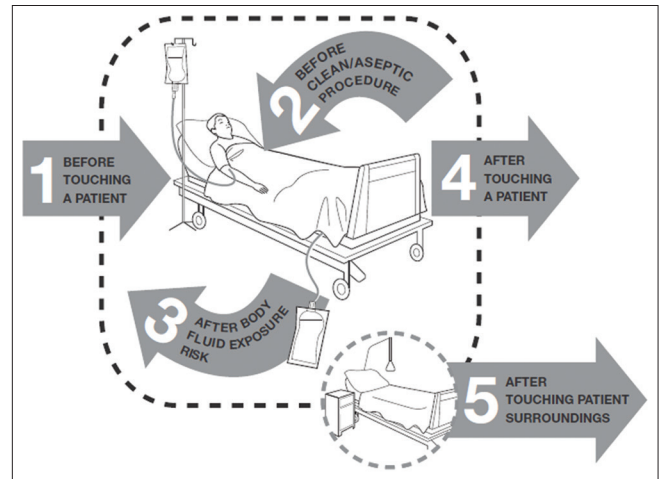
Communication

1. A Plan, a part of the overall Risk Management Program of the facility that identifies communications as an essential function.
2. A risk communication strategy (RCS) that specifies the means required to communicate with patients and with the public.

General guidelines for securing health facility

1. Surfaces like floor, walls and furniture, doors, window handles, etc., to be cleaned using 1% Sodium hypochlorite on regular basis.
2. Elderly (age more than 60 years) pregnant females and children not to permitted entry as attendants.
3. Information material on COVID-19 should be made available at the facility.
4. The Health Care Facility should ensure the availability of materials such as tissues and foot-operated waste bins for adhering to respiratory hygiene and cough etiquette in waiting areas for patients and visitors and make provision for dispensers of Alcohol-Based Hand Rub (hygiene).

Five moments for hand hygiene in clinical settings



Common cleaning agents and disinfectants for environmental cleaning^[9]

Disinfectants	Recommended use	Precautions
Sodium hypochlorite 1% in-use dilution; 5% solution to be diluted 1:5 in clean water	Disinfection of material contaminated with blood and body fluids	<ul style="list-style-type: none"> • Should be used in well-ventilated areas • Protective clothing required while handling and using undiluted • Do not mix with strong acids to avoid release of chlorine gas • Corrosive to metals
Bleaching powder 7g/L with 70% available chlorine	Toilets/bathrooms – may be used in place of liquid bleach if this is unavailable	Same as above
Alcohol (70%) isopropyl, ethyl alcohol, methylated spirit	Smooth metal surfaces, table tops and other surfaces on which bleach cannot be used	<ul style="list-style-type: none"> • Flammable, toxic – to be used in well-ventilated area, avoid inhalation • Keep away from heat source, electrical equipment, flames, hot surfaces • Allow it to dry completely, and avoid diathermy burns
Detergent with enzyme	Cleaning endoscopes, surgical instruments before disinfection is essential	

Biomedical waste management^[9]

Categorization and disposal of waste color coded disposal bags

- **Yellow:** for human anatomical waste, animal anatomical waste, soiled waste, expired or discarded medicines, chemical waste, chemical liquid waste, discarded contaminated beddings and microbiology, biotechnology and other clinical waste;
- **Red:** for contaminated plastic waste;
- **White sharps bin:** for metallic sharps; and
- **Blue sharps bin:** for glass sharps.

Conclusions

The author's understand that the situation is evolving, placing some limits on developing long sustainable guidelines. Therefore, the guidelines too will evolve with time and that will stay as the bottom line for these guidelines,

Clinical Guidance for Management of Covid-19 Suspect / Confirmed Cases		
Covid-19 Suspect / Confirmed Case		
Stratification on the basis of disease severity		
Mild (Fever / Upper Respiratory Tract Infection)	Moderate • Pneumonia with no signs of severe disease • RR ≥ 24 / min, SpO ₂ < 94% on room air	Severe Respiratory distress requiring mechanical ventilation (non-Rescue & invasive) RR ≥ 30 / min, SpO ₂ < 90% on room air
Admit to Covid Care Center (CCC) / Home Isolation	Admit in Dedicated COVID Health Centre (DCHC)	Admit in Dedicated COVID Hospital (DCH)
<ul style="list-style-type: none"> Contact and droplet precautions Strict hand hygiene Symptomatic management Tab HCQ (400 mg BD x 1 day / 400 mg OD x 4 days) may be considered in patients with high-risk features – preferably after shifting to DCHC or at home under strict medical supervision For home isolation patients, seek medical attention when following warning symptoms/signs occur: <ul style="list-style-type: none"> Difficulty in breathing Persistent pain/pressure in the chest Mental confusion or inability to arouse Developing bluish discoloration of lips / face Decreased urine output As advised by treating medical officer 	<ul style="list-style-type: none"> Oxygen Support <ul style="list-style-type: none"> Target SpO₂: 92-96% (88-92% in patients with COPD) Preferred device for oxygenation: Non-rebreathing face mask (if HFNC or simple nasal cannula is used, NRS mask should be applied over it) Awake Proning may be used as a rescue therapy (NH protocol) All patients should have daily 12-lead ECG Follow CRP, D-dimer & Ferritin every 48-72 hourly (if available); CBC with differential count, Absolute Lymphocyte count, KFT/LFT daily Tab HCQ (400 mg BD x 1 day / 400 mg OD x 4 days) after ECG Assessment Consider IV methylprednisolone 0.5 to 1 mg/kg for 3 days (preferably within 48 hours of admission or if oxygen requirement is increasing) Anticoagulation <ul style="list-style-type: none"> Prophylactic dose of UFH or LMWH (e.g. enoxaparin 40 mg daily SC) Monitor for & shift to DCH if any of the following occurs: <ul style="list-style-type: none"> Increased Work of breathing (use of accessory muscles) Hemodynamic instability Increase in oxygen requirement 	<ul style="list-style-type: none"> Cautious trial of CPAP with oro-nasal mask / NIV with helmet interface/HFNC (if work of breathing is low) Maintain euvolemia Consider IV methylprednisolone 1 to 2 mg/kg per day for 5-7 days (in 2 divided doses), if not given already High prophylactic dose of UFH or LMWH (e.g. enoxaparin 40 mg or 0.5 mg/kg BD SC) if not at high risk of bleeding* Consider intubation if work of breathing is high / not tolerating NIV† Ventilator management <ul style="list-style-type: none"> Use conventional ARDSnet protocol (TV, proning, etc.) If sepsis / septic shock: Manage as per existing protocol and local antibiogram Use sedation and nutrition therapy as per existing guideline
Testing While attending suspect case as per above protocol based on clinical assessment, testing shall be resorted to & if negative - manage in a non-Covid facility according to clinical diagnosis		
High-risk patients for severe disease include: <ul style="list-style-type: none"> Age ≥ 65 years or more Hypertension, DM (diabetes mellitus) & other immunocompromised states Chronic lung / kidney / liver disease Cardiovascular disease Obesity (BMI ≥ 30 kg / m²) 	Discharge After clinical improvement, discharge as per discharge policy	Investigational Therapies! Remdesivir (EUA), Tocilizumab (OFF label) & Convalescent plasma (OFF label)
LMWH: Low Molecular Weight Heparin: If no contraindications high risk of bleeding, UFH is unfractionated heparin *Risk of bleeding on validated score for assessing bleeding risk (eg HAS-BLED score) †Use D-dimer and SIC score for further risk stratification (DIC score ≥ 4 portends high thrombotic risk) ‡ Follow AHA/ACC and ACC/AHA guidelines in case patient is on antiplatelet agents § Higher chance of IV failure ¶ Informed and shared decision making is essential before prescribing any of these therapies		

Clinical management protocol COVID-19^[10]

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Conflicts of interest

There are no conflicts of interest.

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