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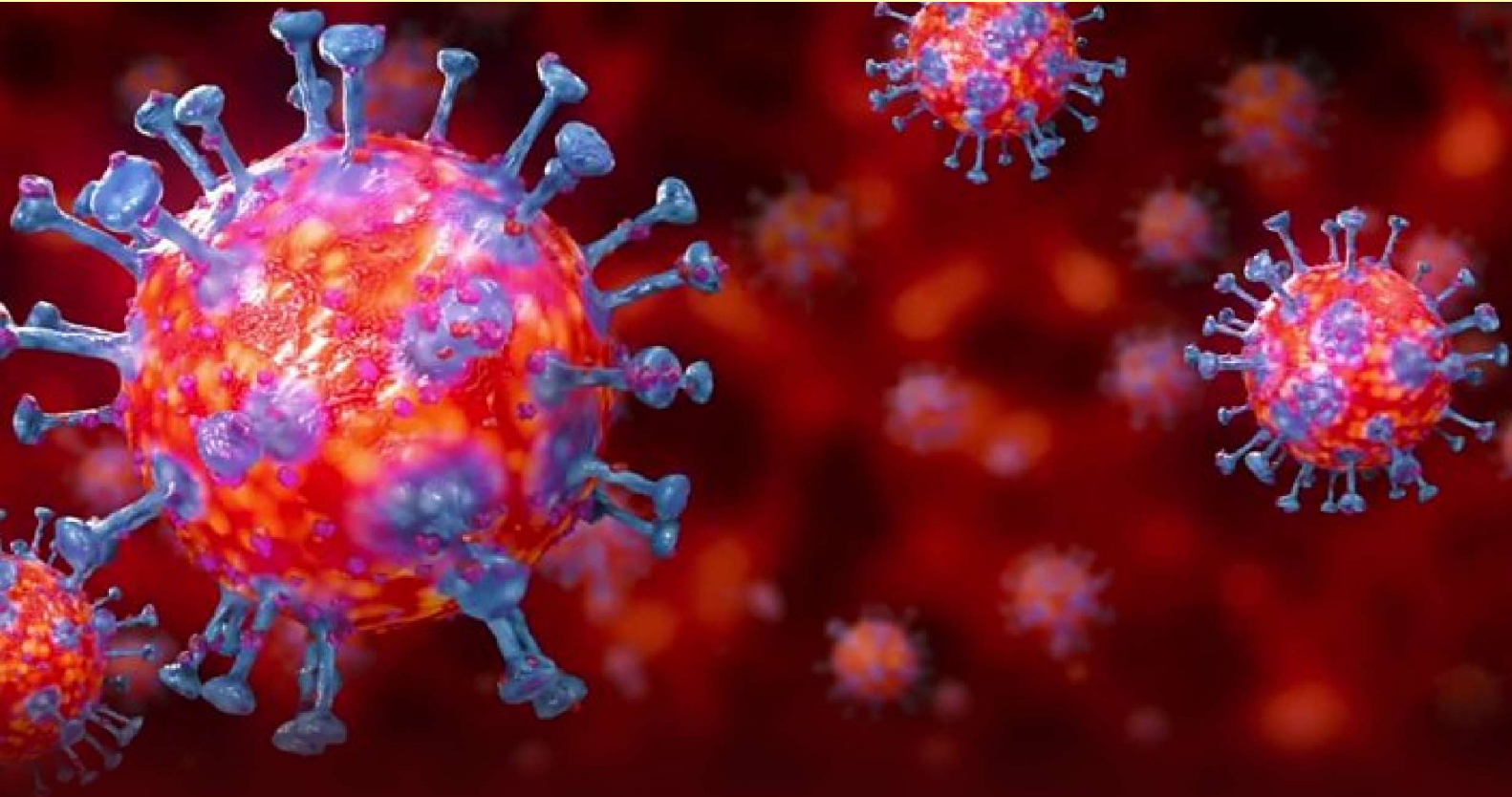
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3rd rank in **Dental Category**, 24th rank in **Medical Category** and 46th rank in **University Category** in India (NIRF-2020)

(Declared as **Category - I University** by UGC Under Graded Autonomy Regulations, 2018)

(An ISO 9001 : 2015 and 14001 : 2015 Certified University)



Institutional Guidelines for Covid-19

Edited by


Department of Respiratory Medicine

**Dr. D.Y. Patil Medical College, Hospital and
Research Centre, Pimpri, Pune.**

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BOOK SPECIFICATIONS

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PREFACE

Dr. D. Y. Patil Vidyapeeth has been re-accredited by National Assessment and Accreditation Council (NAAC) with a CGPA of 3.62 on a four point scale at 'A' Grade. The Vidyapeeth has also reached a higher position in the Institutional Ranking Framework (NIRF), conducted by Ministry of Human Resource Development (MHRD), New Delhi. It has achieved 18th rank in Medical Category, 52nd rank in University Category and 79th rank in Overall Category in India in NIRF 2018.

Dr. D. Y. Patil Medical College, Hospital and Research Centre, Pimpri, Pune, is considered one of the Avant garde teaching and research institutions in the country, recognized by the Medical Council of India. The new hi-tech hospital has twenty-one Operation Theaters and ten super specialty OPDs with highly sophisticated facilities for quality patient care.

Dr D Y Patil Medical College, Hospital and Research Centre has been designated for management of non COVID-19 hospital. As per the MOU with YCM Hospital, patients who tests negative for COVID 19 at YCM Hospital will be referred to us for further management.

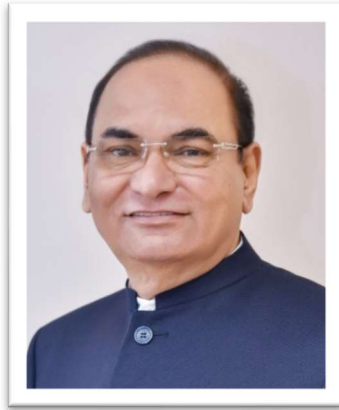
Pune and Pimpri-Chinchwad are one of the worst affected cities in the country with steady rise of cases every day. In view of this present scenario, large numbers of patients visiting this hospital are likely to have COVID 19 infection. Our hospital will have a huge responsibility in screening these patients and also managing patients who are seriously ill till they are confirmed as having COVID 19 infection. Considering the nature of this highly contagious COVID 19 disease and for smooth, effective and uniform management of such patients, Institutional guidelines have been prepared.

This document has been prepared based on guidelines issued by MOHFW / ICMR / WHO / NCDC. We have made an honest attempt to make these guidelines practical and easily comprehensible for effective implementation.

Dr. Madhusudan Barthwal

Dr. Tushar Sahasrabudhe

Dr. Sachinkumar Dole



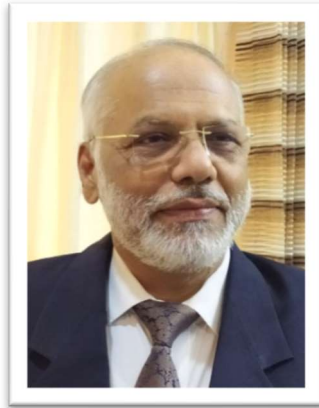
Message from the Chancellor

The COVID-19 pandemic has transformed and upended our lives more swiftly than we could have imagined. It has sickened more than two million people around the world, including over one lakh citizens in India. Apart from affecting the health of so many people, the pandemic has also led to deep economic recession and insecurity for significant individuals and their families. It has changed the way we live, study, work and connect with each other. Now, we are coming to grips with the fact that many of these changes and costs will be felt far into the future.

Doctors and paramedics are working to the best of their services & we fall short of words in expressing our sincere gratitude to them. We will leave no stone unturned in ensuring that they remain protected while rendering their service to patients. No matter how difficult the situation may be, we should employ science and human ingenuity with determination and courage to overcome the problems that confront us. Faced with threats to our health and well-being, it is natural to feel anxiety and fear. Nevertheless, I take great solace in the following wise advice to examine the problems before us: If there is something to be done—do it, without any need to worry; if there's nothing to be done, worrying about it further will not help.

I complement the editors of this book who have put in best of their efforts in formulating guidelines & protocols in a comprehensible manner. I request all of you to follow these guidelines sincerely so that we all stay safe & healthy

Dr. P. D. Patil
Chancellor
Dr. D. Y. Patil Vidyapeeth, Pune



Message from the Vice Chancellor

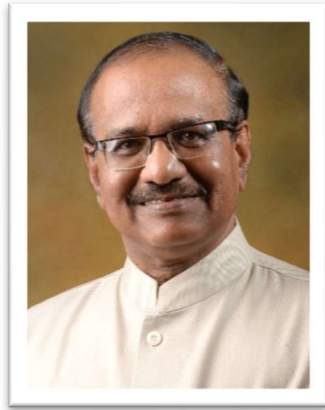
Covid-19 has affected almost all continents and countries on the globe. In the absence of medicine, vaccine or herd immunity; the pandemic is spreading like a wildfire. Besides the loss of lives, there is a great impact on the economies of most countries.

Our education sector needs to adapt the challenges imposed by the pandemic. We may have to make a paradigm shift in the ways of delivering education, as also the assessment of the skills inculcated by the students.

Needless to say, although we may adopt the new modalities within the domains of communication, education and assessment; physical interactions are inevitable though they can be minimized to a great extent. It is therefore prudent to develop our own guidelines and strategies to protect our faculties, staff and students from coming in to the clutches of the pandemic. This becomes all the more important as we also have medical institutes and hospitals under our university. This book provides all the essential guidelines to be followed at personal, administrative and institutional levels and addresses the needs of faculties, students, hospital staff, security, class 4 workers and support staff.

I convey my sincere thanks and good wishes to all the contributors and editors of this book.

Dr. N. J. Pawar
Vice Chancellor
Dr. D. Y. Patil Vidyapeeth, Pune



Message from the Registrar

Dr. D. Y. Patil Vidyapeeth, Pune has achieved an important position in the educational landscape of Maharashtra and India. This is a matter of gratification for the faculty, students, staff and other stakeholders of the Vidyapeeth. It motivates them to take this institution to greater heights of excellence and accomplishments. Our Vidyapeeth is dedicated to the triple mission of education, research and community service. It is committed to maintaining a conducive educational environment, which prepares students for a career of excellence in the health sciences and other disciplines

While our scientific community is working overtime to dig out solution to this problem, we should strictly follow the preventive protocol at least at every level of our functioning – at home, in our institutions and organizations. This is how, I believe, the spread of this pandemic can be restricted or eliminated. I am sure, our academic activity will restart soon and the losses that our students have suffered will be covered up. In fact we have already given guidelines our colleges and institutes to extensively use hybrid models by using technology to impart the curricula.

This book, I am sure, will help you follow the desired preventive measures at your workplace. I sincerely urge you all to religiously follow these protocols.

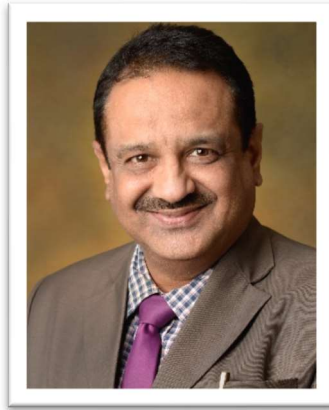
All the editors of this book need to be applauded for the efforts they have taken in formulating these guidelines. I convey my sincere thanks and good wishes to them.

Stay well and stay safe!

Dr. A. N. Suryakar

Registrar

Dr. D. Y. Patil Vidyapeeth, Pune



Message from the Dean

Dear Colleagues and Friends,

India braces for the Covid-19 pandemic; healthcare workers on the frontlines are particularly vulnerable to this infection. The virus that causes COVID -19 was initially called as 2019-nCoV and was then termed as syndrome coronavirus 2 (SARS-CoV2). The World Health Organization (WHO) declared coronavirus disease as a pandemic on March 11, 2020

Educational institutions will have to ensure that they bring back their sheen. In the process of implementing academic endeavors, utmost care at every juncture will have to be enforced. Necessary preventive protocol will be put in place to ensure safety of all students, faculty, non-teaching, administrative staff and all concerned.

It is my profound pleasure to present the book on institutional guidelines for Covid-19. This book has been written keeping in view almost all areas of operations and governance of an educational institution. I request all to follow the standard operating procedures and preventive protocol envisaged in different chapters of this book. It contains administrative, clinical and infection control policies.

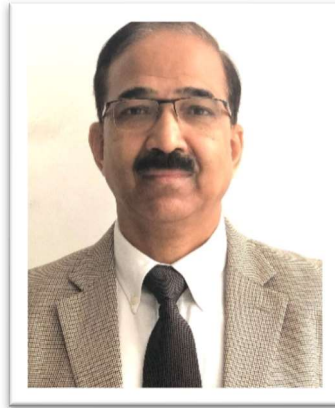
At the end, I congratulate all the editors and contributors of this document and they deserve a big applause, for taking all the efforts in making these guidelines practical and covering all possible sections, groups in all colleges and institutes.

Best wishes!

Dr. J. S. Bhawalkar

Dean

Dr. D. Y. Patil Medical College, Pune



Message from the Chairman, COVID 19 Task Force

Starting from Spanish flu of the 20th century, the world has faced several pandemics like Asian Flu, HIV, SARS, Swine flu, MERS & Ebola. Covid-19 pandemic, caused by severe acute respiratory syndrome coronavirus 2, is being considered as the most crucial global health calamity & the greatest challenge that the human mankind faced since 2nd world war. It has affected more than 5.5 million & caused around 3 lakhs deaths worldwide. The pandemic has changed the way in which most of us live, work or perform our basic daily activities. It has caused an unprecedented economic recession, business disruption, public seclusion & trade hindrances.

This coronavirus is unique for its highly contagious nature & spreads predominantly by droplets generated by coughing, sneezing & spitting. These droplets may fall on clothing & later transmitted to nose & mouth through hands. The virus also survives for quite some time on surfaces which also serves as potential source of transmission. Since there is no definite treatment for this virus, prevention of infection is the only effective way to contain the spread of this alarmingly rising pandemic. In spite of advisories from government through various platforms, implementation of basic infection control measures, like physical distancing, hand washing & wearing mask, have been far from adequate especially among lower socio-economic class. It is of utmost importance that we all follow infection control measures strictly or rather incorporate it in our lifestyle since corona virus is going to stay with us for a long time.

We have formulated these comprehensive & practical guidelines based on inputs from members of Covid-19 Task force of DPU & guidelines issued by MOHFW/ICMR. I would like to express my heartfelt thanks to our chancellor for his inspiration to initiate this project. My sincere thanks to our vice-chancellor, registrar & dean for providing us all kinds of support. Last but not the least, thanks to my co-editors.

Dr. M. S. Barthwal
Prof & Head, Department of Respiratory Medicine
Dr. D. Y. Patil Medical College, Pimpri, Pune

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The editorial team conveys their sincere thanks to following advisors, whose names do not appear in the contributor's list, for their timely guidance and motivation in preparing this book.

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8. Dr. Varsha Shinde, Professor and Head, Dept of Emergency Medicine, DYPMC
9. Col. Tripti Suri, Nursing Director, Dr. D. Y. Patil Hospital

SECTION-I.A

MANAGEMENT OF COVID-19 PATIENTS

SCOPE OF THE DOCUMENT	
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1. INTRODUCTION

DEFINITIONS

A. Suspect Case:

A patient with acute respiratory illness {fever and at least one sign/symptom of respiratory disease (e.g., cough, shortness of breath)}, **AND** a history of travel to or residence in a country/area or territory reporting local transmission of COVID-19 disease during the 14 day prior to symptom onset;

OR

A patient/Health care worker with any acute respiratory illness **AND** having been in *contact* with a confirmed COVID-19 case in the last 14 days prior to onset of symptoms;

OR

A patient with severe acute respiratory infection {fever and at least one sign/symptom of respiratory disease (e.g., cough, shortness breath)} **AND** requiring hospitalization **AND** with no other etiology that fully explains the clinical presentation;

OR

A case for whom testing for COVID-19 is inconclusive.

B. Laboratory Confirmed case:

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

C. **Contact** is a person that is involved in any of the following:

- Providing direct care without proper personal protective equipment (PPE) for COVID-19 patients
- Staying in the same close environment of a COVID-19 patient (including workplace, classroom, household, gatherings).
- Traveling together in close proximity (1 m) with a symptomatic person who later tested positive for COVID-19.

C-1. High Risk Contact:

- Touched body fluids of the patient (Respiratory tract secretions, blood, vomit, saliva, urine, feces)
- Had direct physical contact with the body of the patient including physical examination without PPE.
- Touched or cleaned the linens, clothes, or dishes of the patient.
- Lives in the same household as the patient.
- Anyone in close proximity (within 1 m) of the confirmed case without precautions.
- Passenger in close proximity (within 1 m) of a conveyance with a symptomatic person who later tested positive for COVID-19 for more than 6 hours.

C-2. Low Risk Contact:

- Shared the same space (Same class for school/worked in same room/similar and not having a high risk exposure to confirmed or suspect case of COVID-19).
- Travelled in same environment (bus/train/flight/any mode of transit) but not having a high-risk exposure.

Strategy for COVID-19 testing in India

1. All symptomatic (ILI symptoms) individuals with history of international traveling last 14 days.
 2. All symptomatic (ILI symptoms) contacts of laboratory confirmed cases.
 3. All symptomatic (ILI symptoms) healthcare workers /frontline workers involved in containment and mitigation of COVID-19.
 4. All patients of Severe Acute Respiratory Infection (SARI).
 5. Asymptomatic direct and high risk contacts of a confirmed case to be tested once between day 5 and day 10 of coming into contact.
 6. All symptomatic ILI within hotspots/containment zones.
 7. All hospitalized patients who develop ILI symptoms.
 8. All symptomatic ILI among returnees and migrants within 7 days of illness.
 9. No emergency procedure (including deliveries) should be delayed for lack of test. However, sample can be sent for testing if indicated as above (1-8), simultaneously.
- *ILI case is defined as one with acute respiratory infection with fever $\geq 38^{\circ}\text{C}$ & Cough.*
- *SARI case is defined as one with acute respiratory infection with fever $\geq 38^{\circ}\text{C}$ & cough and requiring hospitalization.*

2. FEVER CLINIC/ FLU CLINIC

1. Entry of Patients

Entry Points: a) Hi-Tech building-Main entrance (left side)

b) Casualty/Emergency Entrance

Manpower: a) Security personnel-1

b) Nursing staff-1

Protocol:

- Security personnel will ensure all patients are wearing mask properly
- Nursing staff will ask patients for history of fever and do thermal scanning of the patient.
- If fever detected, patient will be directed to fever clinic registration counter.
- If NO fever, then patient will go to main registration counter (1st floor).

2. Registration at Fever Clinic

Location: Casualty waiting area

Manpower a) Nursing staff-1

b) Data Entry Operator-1

Protocol:

- Nursing staff-will enter details of patient coming to fever clinic which includes name, age, mobile number, present address, Aadhar card no.
- Data Entry Operator- Will enter details in HIS system and issue referral letter to the patient.
- Patient will be directed to fever clinic screening area.

3. Fever/Flu Clinic

Location: Casualty

Manpower:

A. Administrative: 1. HOD, Medicine. 2. Coordinator (Dr. Basweshwar)
(Reporting channel: Coordinator →HOD, Medicine→ Chairman, COVID-19 committee →Dean)

B. Healthcare Workers - 1 Resident, 1 Nursing staff and 1 housekeeping staff each for 8 hours shift.

Morning : 8:00AM to 4:00 PM
Afternoon : 4:00PM to 12:00 PM
Night : 12:00AM to 8:00 AM

- Residents from dermatology, psychiatry, radiology, general surgery, orthopedics, ENT, ophthalmology department will be posted in fever clinic.
- Faculty on call of general medicine/respiratory medicine.
- **Nursing incharge:1**

PROTOCOL:

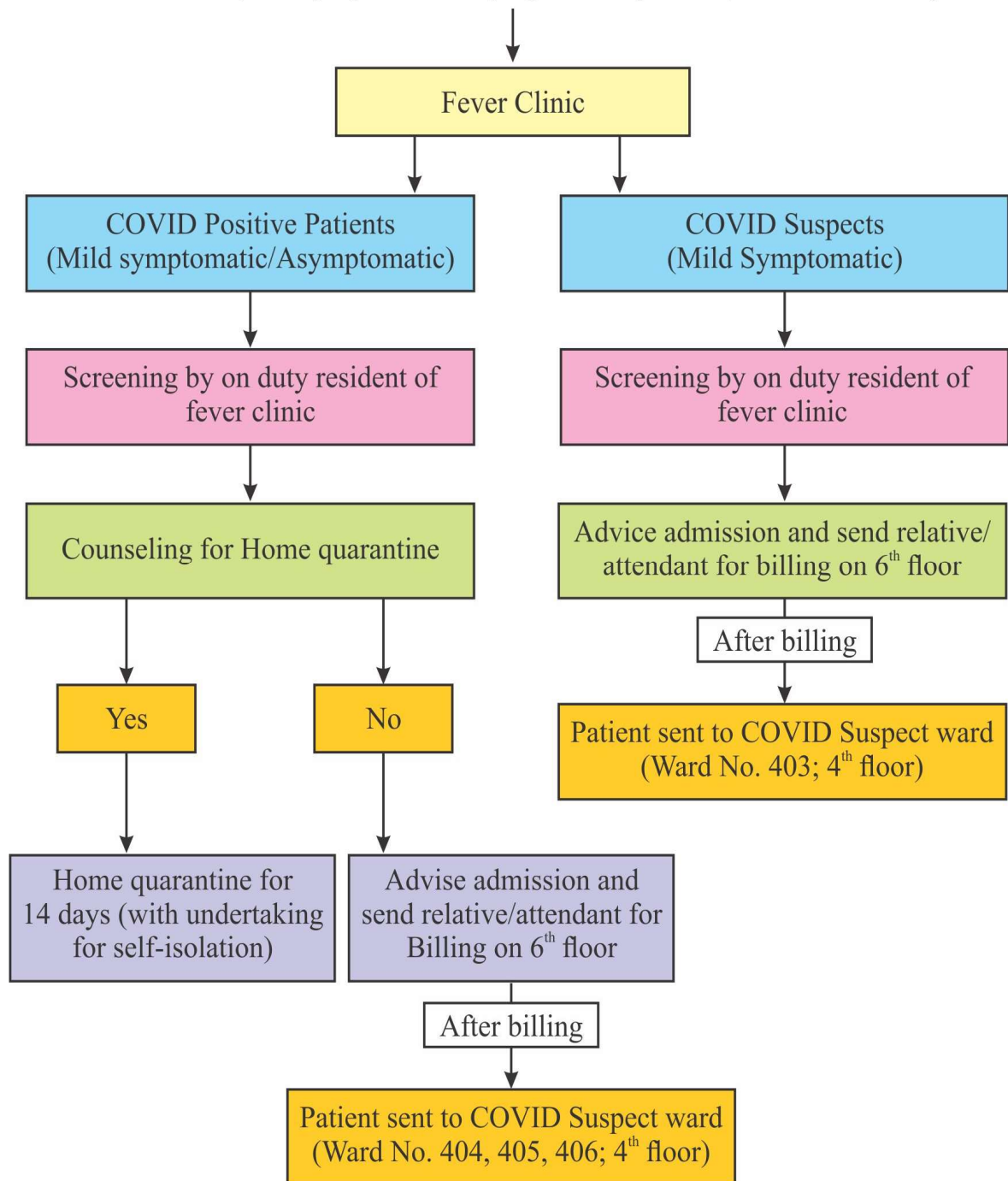
- Ensure personal protection equipment to all HCWs including on duty resident of fever clinic
- Ensure patient has worn mask.
- Maintain two meter distance with the patient while taking history.
- Patients coming to the fever clinic will be screened for symptoms of COVID-19 suspect (*fever, cough, breathlessness and/or Influenza Like Illness (ILI which includes sore throat, bodyache etc)*) and their respiratory rate and SpO₂ by pulse oximetry will be documented.
- On duty resident should consult with faculty posted in fever clinic in case of difficulty in patient assessment and other issues.
- Depending on whether patient is asymptomatic positive or clinically assigned as **Mild**, patient will be counseled for home isolation/admission to COVID Hospital after confirmation of bed availability from on call faculty of respective ward of 4th floor. (Plz see attached protocol below)
- Patients clinically assigned as **moderate and or severe** should be sent to emergency department.

CATEGORIZATION OF PATIENTS

- **Group 1:** Suspect and confirmed cases clinically assigned as **mild and very mild** are defined as patients presenting with *fever, cough, breathlessness and/or Influenza Like Illness (ILI)*.
- **Group 2:** Suspect and confirmed cases clinically assigned as **moderate** are defined as *Pneumonia with NO signs of severe disease (Respiratory Rate 15 to 30/minute, SpO₂ 90%-94%)*.
- **Group 3:** Suspect and confirmed cases clinically assigned as **severe** are defined as *severe Pneumonia (with respiratory rate ≥ 30 /minute and/or SpO₂ < 90% in room air) or ARDS or Septic shock*

FLOW OF PATIENTS

COVID Positive (mild symptomatic /asymptomatic positive) and COVID Suspects



3. DEDICATED COVID HOSPITAL (4th Floor)

I. GENERAL SOPs

1. Dedicated COVID Hospital (DCH) has been started on 4th floor of Hi-Tech Building
2. Complete 4th floor will be used as COVID hospital with various COVID care facilities
3. COVID Patients are categorized into three groups and managed in the respective COVID care facilities, these includes-

Group 1: Suspect and confirmed cases clinically assigned as **mild** are defined as patients presenting with fever and/or upper respiratory tract illness (Influenza Like Illness, ILI).

Group 2: Suspect and confirmed cases clinically assigned as **moderate** are defined as Pneumonia with no signs of severe disease (Respiratory Rate 15 to 30/minute, SpO₂ 90%-94%).

Group 3: Suspect and confirmed cases clinically assigned as **severe** are defined as severe Pneumonia (with respiratory rate ≥ 30 /minute and/or SpO₂ < 90% in room air) or ARDS or Septic shock

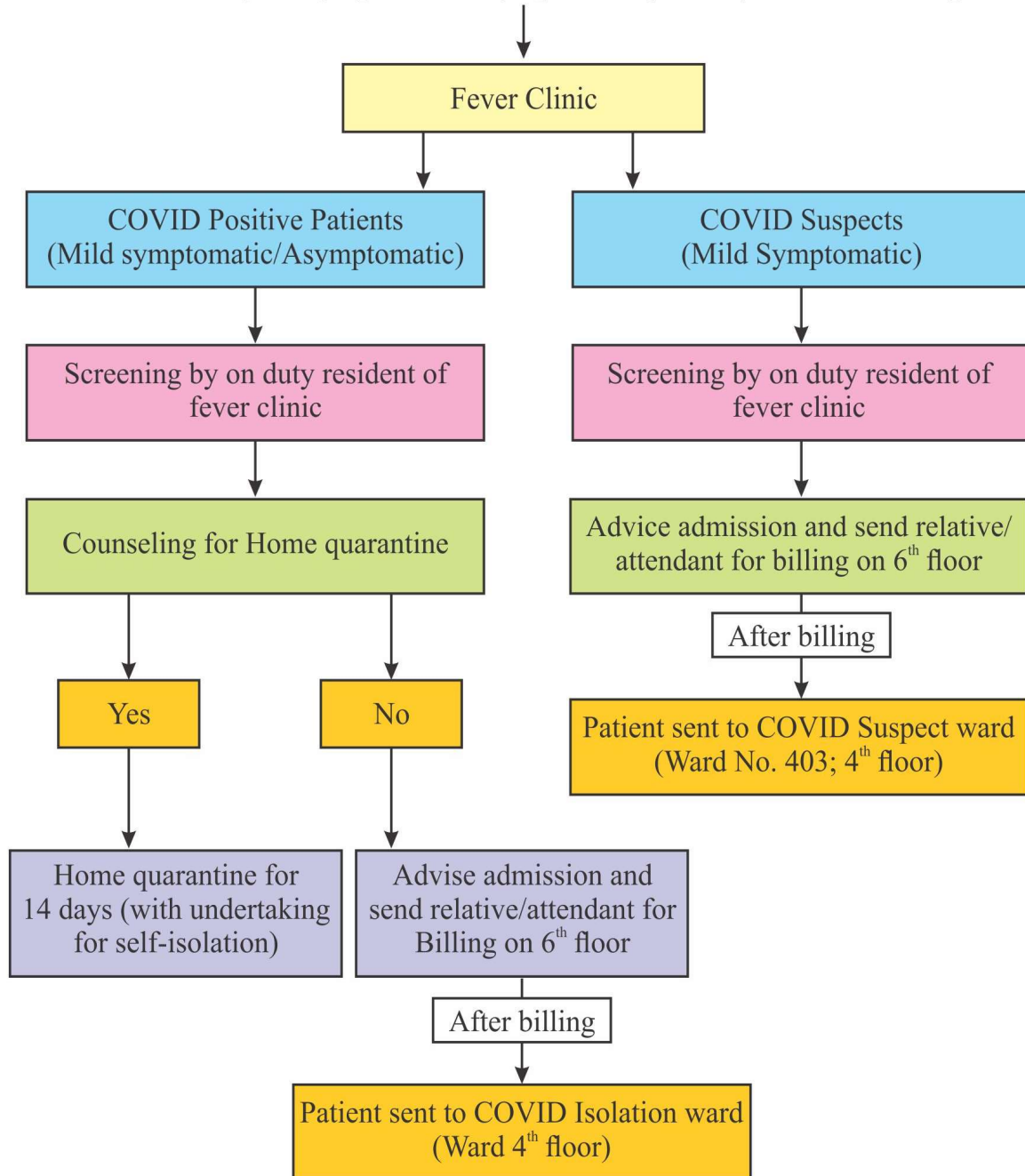
4. COVID Hospital on 4th floor has been divided into various components-

a)	COVID Positive (Isolation) ward (For mild to moderate patients/on oxygen.)	Ward no-401.
a)	COVID ICU (For Moderate to severely ill Patients)	Ward no-402
b)	COVID Suspect ward	Ward no-403
c)	COVID Positive (Isolation) ward (For Mild symptomatic and asymptomatic patients)	Ward no-404,405,406
e)	Quarantine for Doctors (Mild/Symptomatic)	Doctors duty rooms

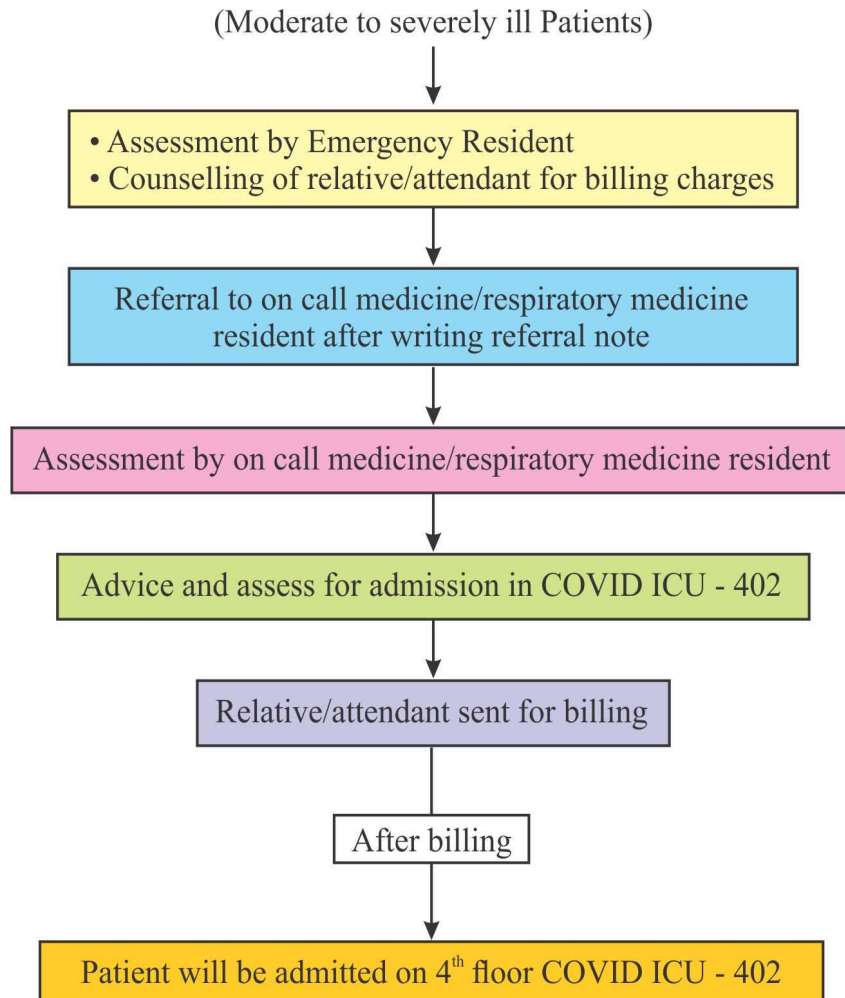
FLOW OF PATIENTS

A] From Fever Clinic

COVID Positive (mild symptomatic /asymptomatic positive) and COVID Suspects



B] From Emergency Dept



C] If IPD Patient turns COVID Positive

- I. If IPD patients turns positive then, he/she will be discharged from respective ward.
- II. Patient will be assessed for affordability and relative will be sent to billing department on 6th Floor for admission in COVID Hospital.
- III. Once billing done, patient can be shifted to respective ward/ICU of 4th Floor (COVID Hospital)

D] If HCWs/College staff turns COVID positive

- I. If HCWs/College staff turns COVID positive then, he/she will report to FEVER CLINIC.
- II. He/she will be screened by on call medicine resident and counseled for home/institutional quarantine.
- III. HCWs will be sent to home quarantine for 14 days after obtaining undertaking for self-isolation.
- IV. If home quarantine is not feasible, he/she will be admitted to COVID Positive ward (ward no-404, 4th Floor).

5. On call faculty and residents will be posted for 1 week. This will be followed by quarantine for 1 week which may be home/institutional quarantine.
6. Residents and faculties posted in COVID Duty will not do biometric punching during the period of 15 days (1 week duty + 1 week quarantine period).
7. Sample for COVID testing will be collected by ENT resident in morning till 10.30 AM. All Medical and nursing staff should comply with this
8. There will ONLY ONE entry and exit separately for patients and doctors on COVID duty to and from ground floor through dedicated lifts and this should be followed strictly.
9. Relatives are not allowed to enter on 4th floor. They will communicate with duty doctors through audio/video conversation.
10. Daily needs of patients will be delivered by dedicated security staff stationed on ground floor twice in a day (Morning 8AM-9AM & Evening 7PM-8PM) under the supervision of floor in-charge. The same security staff will handover it to the respective ward/ICU nursing staff.
11. Management of Patients- will be done as per guidelines issued by govt of Maharashtra on 22nd June 2020

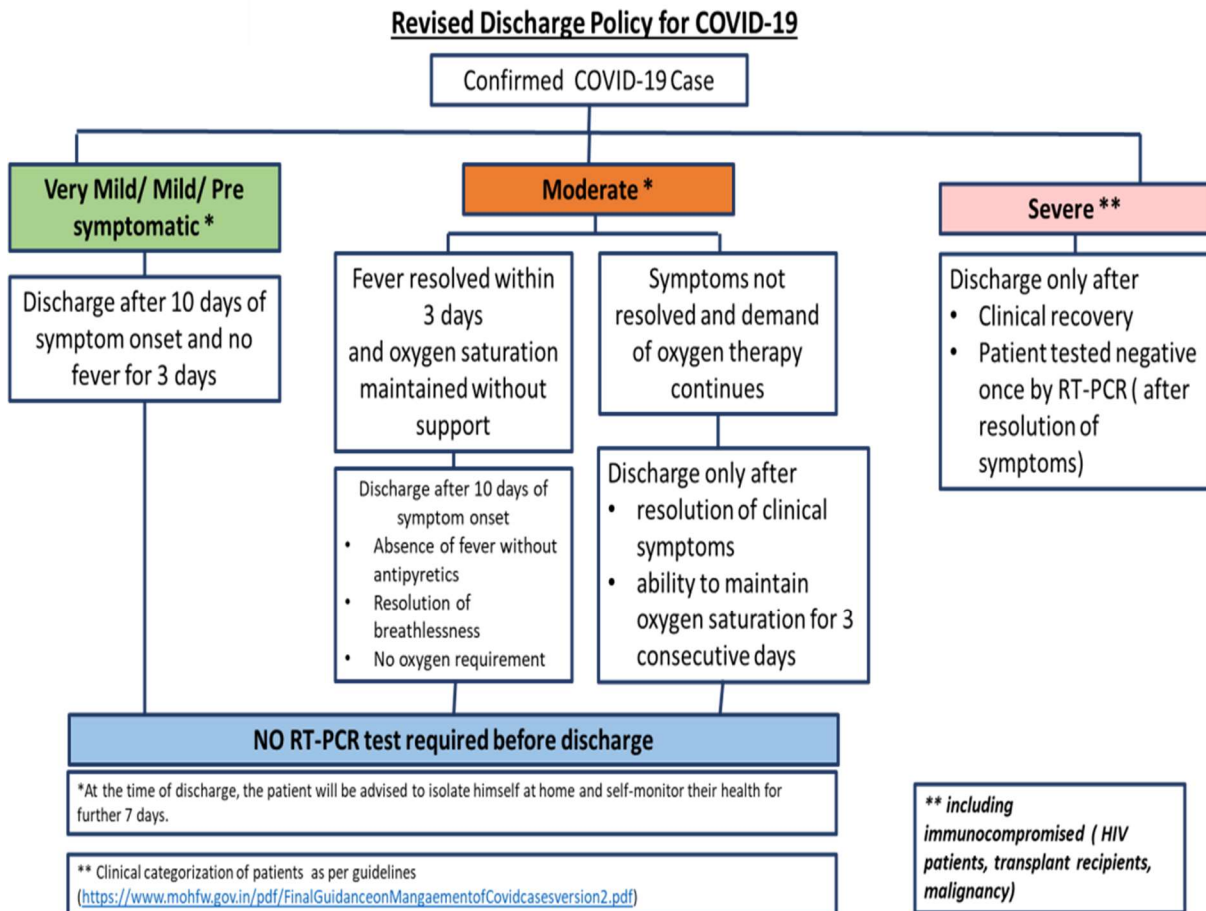
II. SOPs FOR COVID WARDS

COVID POSITIVE (ISOLATION) WARD – 401

- Patients admitted in this ward are *positive symptomatic mild to moderate* (401)
- Faculty and resident on duty will examine the patients and enter clinical notes in IPD paper.
- Clinical notes includes symptoms, vital parameters (Temperature, Pulse, BP, respiratory rate, SpO₂) and treatment plan.
- Patients with risk factors: Age > 60 years (increasing with age), diabetes, hypertension, cardiac disease, chronic lung disease, cerebrovascular disease, chronic kidney disease, immunosuppression and cancer should be monitored closely
- **Investigations advised:** CBC, LFT, RFTS, BSL, CXR, ECG, inflammatory markers like CRP, D-dimer, serum Ferritin and other investigations if required.
- **Supplemental oxygen therapy**-should be given to any patient with breathlessness with RR> 20/min, SpO₂ < 94%) with use of oxygen mask, nasal cannula (upto 4lit/min) etc. and to be shifted immediately to WARD 401 after consulting with on call faculty/resident of 401.
- **IV fluids**-Only given in patients with COVID-19 with tissue hypoperfusion (dry skin and mucous membranes, low BP, tachycardia, cold skin, agitation, altered mentatiion
- If patient develops warning signs OR become **SEVERE** (RR>30/ min, SpO₂ <90 On room air OR <94 % on 2 lit O₂),then he/she should be shifted to COVID ICU 402 immediately
- **Treatment:**
 - A. Adequate nutrition and appropriate hydration.
 - B. **Antibiotics (oral/inj)**
 - i. Amoxi-clav 625 mg TDS/1.2.g inj OR
 - ii. C.Amox 500 mg TDS OR
 - iii. Tab Taxim-O 200MG BD OR
 - iv. Inj Taxim 1gm/Inj monocef 1gm iv BD OR
 - v. Tab Azee 500mg once a day for 3 days
 - C. **Symptomatic treatment- e.g.**
 - i. For Fever-Tab PCM 500 mg sos
 - ii. For running nose/cold-Tab cetirizine 10 mg HS/OD
 - D. **Multivitamins and Supplements**
 - a. Tab B-Complex BD
 - b. Tab Vitamin C 100 mg BD
 - c. Tab Calcium lactate 500 mg TDS
 - d. Tab Zinc Sulphate 20 mg OD
 - E. **Specific drugs** - like HCQs, Favipiravir in selected patients

DISCHARGE POLICY FOR WARD 401.

- *Mild symptomatic cases* admitted will undergo regular temperature and pulse oximetry monitoring.
- The patient can be discharged after 10 days of symptom onset and no fever for 3 days.
- There will be no need for testing prior to discharge.
- At the time of discharge, the patient will be advised to isolate himself at home and self-monitor their health for further 7 days.
- Cases clinically classified as “*moderate cases*” will undergo monitoring of body temperature and oxygen saturation.
- If the fever resolve within 3 days and the patient maintains saturation above 95% for the next 4 days (without oxygen support), such patient will be discharged after 10 days of symptom onset in case of:
 - Absence of fever without antipyretics
 - Resolution of breathlessness
 - No oxygen requirement



SOPs for COVID ICU (WARD NO-402)

- For moderate to severely ill patients (both positive and suspects)
- Faculty and resident on duty will examine the patients and enter clinical notes in IPD paper.
- Clinical notes includes symptoms (if any), vital parameters (Temperature, Pulse, BP, respiratory rate, SpO₂) and treatment plan.
- Temperature and SpO₂ of each patient will be recorded in each shift and whenever necessary.
- Nasopharyngeal / throat swab testing will be done for all patients if not done already
- Patients with risk factors: Age > 60 years (increasing with age), diabetes, hypertension, cardiac disease, chronic lung disease, cerebrovascular disease, chronic kidney disease, immunosuppression and cancer should be monitored closely
- If throat swab report comes positive, patient will remain in 402 and if negative patient should be shifted to respiratory ICU.
- **Investigations advised:**
 - a. CBC, LFT, RFTS, R-BSL, CXR, ECG, ABG
 - b. Nasopharyngeal/throat swab for COVID 19 testing.
 - c. Specific investigations like CRP, Ferritin, D-dimer, USG, 2D ECHO etc
 - d. Other investigations as per advice by faculty
- **Treatment:**
 - A. Adequate nutrition and appropriate hydration.
 - B. **Antibiotics (oral/inj)**
 - i. Amoxi-clav 625 mg TDS/1.2.g inj OR
 - ii. C. Amox 500 mg TDS OR
 - iii. Tab Taxim-O 200MG BD OR
 - iv. Inj Taxim 1gm/Inj monocef 1gm iv BD OR
 - v. Tab Azee 500mg once a day for 3 days
 - C. **Symptomatic treatment- e.g.**
 - i. For Fever-Tab PCM 500 mg sos
 - ii. For running nose/cold-Tab cetirizine 10 mg HS/OD
 - D. Inj LMWH 0.6mg SC OD/BD
 - E. Inj Dexamethasone 6mg OD IV
 - F. Specific drugs like remdesivir, tocilizumab in selected cases.
 - G. Other specific therapies for critically ill patients as per guidelines.
- If the fever resolve within 3 days and the patient maintains saturation above 95% for the next 4 days (without oxygen support), such patient will be discharged after 10 days of symptom onset in case of: Absence of fever without antipyretics, Resolution of breathlessness, No oxygen requirement.

- **Specific Therapies-**

1. **Tab HCQ** (for patients more than 60yrs age and or having diabetes, high blood pressure, kidney disease, cancer patients...)
Dose: 400mg BD on Day 1 followed by 200 mg BD for 4 days.

2. **Remdesivir-** may be considered in patients with moderate disease (those on oxygen)
Dose: 200 mg IV on day 1 followed by 100 mg IV daily for 4 days (total 5 days)

Contraindications:

- a. AST/ALT > 5 times Upper limit of normal (ULN)
- b. severe renal impairment (i.e., eGFR < 30ml/min/m²)
- c. pregnancy or lactating females
- d. children (< 12 years of age)

3. **Tocilizumab-** may be considered in patients with moderate disease with progressively increasing oxygen requirements and in mechanically ventilated patients not improving despite use of steroids.

Special considerations before its use include:

- Presence of raised inflammatory markers (e.g., CRP, Ferritin,IL-6)
- Patients should be carefully monitored post Tocilizumab for secondary infections and neutropenia.
- The drug is contraindicated in PLHIV, those with active infections
- Tuberculosis, active hepatitis, ANC < 2000/mm³ and Platelet count < 1,00,000/mm³

Dose: 8mg/kg (maximum 800 mg at one time) given slowly in 100 ml NS over 1 hour; dose can be repeated once after 12 to 24 hours if needed.

COVID SUSPECT WARD – 403

- Patients admitted in this ward are *COVID Suspects*.
- Faculty and resident on duty will examine the patients and enter clinical notes in IPD paper.
- Clinical notes includes symptoms, vital parameters (Temperature, Pulse, BP, respiratory rate, SpO₂) and treatment plan.
- Nasopharyngeal / throat swab testing will be done for all patients.
- Temperature and SpO₂ of each patient will be recorded in each shift and whenever necessary
- Patients with risk factors: Age > 60 years (increasing with age),diabetes, hypertension, cardiac disease, chronic lung disease, cerebrovascular disease, chronic kidney disease, cancer immunosuppression and should be monitored closely
- **Investigations advised:** CBC, LFT, RFTS, BSL, CXR, ECG, inflammatory markers like CRP, D-dimer, serum Ferritin and other investigations if required.
- **Supplemental oxygen therapy**-should be given to any patient with breathlessness with RR> 20/min, SpO₂ < 94%) with use of oxygen mask, nasal cannula (upto 4lit/min) etc.
- **IV fluids**-Only given in patients with COVID-19 with tissue hypoperfusion (dry skin and mucous membranes, low BP, tachycardia, cold skin, agitation, altered mental status etc..)
- If throat swab report comes positive, patients should be shifted to ward 401 and if negative patient should be shifted to Medicine unit of admission day
- If patient develops warning signs OR become **SEVERE** (RR>30/ min, SpO₂ <90 On room air OR <94 % on 2 lit O₂),then he/she should be shifted to COVID ICU 402 immediately
- **Treatment:**
 - A. Adequate nutrition and appropriate hydration.
 - B. Antibiotics (oral/inj)**
 - i. Inj Amoxi-clav 625 mg TDS/1.2.g OR
 - ii. C.Amox 500 mg TDS OR
 - iii. Tab Taxim-O 200MG BD OR
 - iv. Inj Taxim 1gm/ Inj monocef 1gm iv BD OR
 - v. Tab Azee 500mg once a day for 3 days
 - C. Symptomatic treatment- e.g.**
 - i. For Fever- Tab PCM 500 mg sos
 - ii. For running nose/cold - Tab cetirizine 10 mg HS/OD
 - D. Multivitamins and Supplements**
 - i. Tab B-Complex BD
 - ii. Tab Vitamin C 100 mg BD
 - iii. Tab Calcium lactate 500 mg TDS
 - iv. Tab Zinc Sulphate 20 mg OD
 - E. Specific drugs-** like HCQs, Favipiravir in selected patients as per treatment guidelines

COVID POSITIVE (ISOLATION) WARDS - 404,405,406,407,408,409

- Patients admitted in these wards are *positive asymptomatic*.
- Faculty and resident on duty will examine the patients and enter clinical notes in IPD paper.
- Clinical notes includes symptoms (if any), vital parameters (Temperature, Pulse, BP, respiratory rate, SpO₂) and treatment plan.
- Temperature and SpO₂ of each patient will be recorded in each shift and whenever necessary
- Patients with risk factors: Age > 60 years (increasing with age), diabetes, hypertension, cardiac disease, chronic lung disease, cerebrovascular disease, chronic kidney disease, immunosuppression and cancer should be monitored closely
- **Investigations advised:** CBC, LFT, RFTS, BSL, CXR, ECG
- Patients should be monitored for symptoms like fever, cough, dyspnea etc.
- **Supplemental oxygen therapy**-should be given to any patient with breathlessness with RR> 20/min, SpO₂ < 94%) with use of oxygen mask, nasal cannula (upto 4lit/min) etc. and to be shifted immediately to WARD 401 after consulting with on call faculty/resident of 401.
- **IV fluids**-Only given in patients with COVID-19 with tissue hypoperfusion (dry skin and mucous membranes, low BP, tachycardia, cold skin, agitation, altered mental status etc..)
- If patient develops warning signs OR become **SEVERE** (RR>30/ min, SpO₂ <90 On room air OR <94 % on 2 lit O₂),then he/she should be shifted to COVID ICU immediately
- **Treatment:** Medications to be given-
 - i. Tab Vitamin- B complex OD
 - ii. Tab Vitamin C 500 mg BD
 - iii. Tab Shelcal 500mg BD
 - iv. Tab Zinc Sulfate 20 mg
- These patients (asymptomatic positive) can be discharged after 14 days from date of testing.

III. SOPs FOR HOME ISOLATION

1. *Asymptomatic/pre-symptomatic cases* admitted in isolation ward can be given option of home isolation after 7 days, if insisting.
2. In case decision is made about home isolation, on duty resident will collect:
 - a. Photograph of room where patient is opting to stay as home quarantine
 - b. Undertaking form for self isolation.(ANNEXURE-I)
3. Patients suffering from immune compromised status (HIV, Transplant recipients, Cancer therapy etc) are not eligible for home isolation.
4. Elderly patients aged more than 60 years and those with co-morbid conditions such as Hypertension, Diabetes, Heart disease, Chronic lung/liver/ kidney disease, Cerebro-vascular disease etc shall only be allowed home isolation after proper clinical evaluation.
5. Incharge sister/duty staff will maintain record of patient opting for home isolation which includes (xerox of photograph of room, original undertaking form ,discharge card xerox)
6. Xerox copy of discharge card, xerox copy of undertaking form, instructions for the patients (ANNEXURE -II) and (dietary supplements and multivitamins) medications should be given to patients opting for home isolation at time of discharge.
7. If such patient remain admitted for 14 days in wards after date of testing, then he/she should be discharged as per routine protocol.
8. Designated doctor can be contacted by patient and relatives 24* 7 if requires medical attention.
9. Designated doctor will take follow up of these patients daily twice a day (morning & evening)and monitor for serious signs/symptoms. These include difficulty in breathing, fall in oxygen saturation (SpO2 < 95%), persistent pain/pressure in the chest, mental confusion or inability to arouse, slurred speech/seizures, weakness or numbness in any limb or face, developing bluish discolorations of lips/face

In such conditions home isolation will be discontinued and patient will be readmitted

Annexure I

Undertaking on self-isolation

I S/W of, resident of

being diagnosed as a confirmed/suspect case of COVID-19, do hereby voluntarily undertake to maintain strict self-isolation at all times for the prescribed period. During this period, I shall monitor my health and those around me and interact with the assigned surveillance team/ with the call center (1075), in case I suffer from any deteriorating symptoms or any of my close family contacts develops any symptoms consistent with COVID-19.

I have been explained in detail about the precautions that I need to follow while I am under self- isolation.

I am liable to be acted on under the prescribed law for any non-adherence to self-isolation protocol.

Signature

Date

Contact

Number

Countersignature by Treating Medical Officer

A. Instructions for the patient

1. Patient should at all times use triple layer medical mask. Discard mask after 8 hours of use or earlier if they become wet or visibly soiled.
2. Mask should be discarded only after disinfecting it with 1% Sodium Hypo-chlorite.
3. Patient must stay in the identified room and away from other people in home, especially elderlies and those with co-morbid conditions like hypertension, cardiovascular disease, renal disease etc.
4. Patient must take rest and drink lot of fluids to maintain adequate hydration
5. Follow respiratory etiquettes all the time.
6. Hands must be washed often with soap and water for at least 40 seconds or clean with alcohol based sanitizer.
7. Don't share personal items with other people.
8. Clean surfaces in the room that are touched often (tabletops, door knobs, handles, etc) with 1% hypochlorite solution.
9. The patient must strictly follow the physician's instructions and medication advice.
10. The patient will self-monitor his/her health with daily temperature monitoring and report promptly if develops any deterioration of symptoms.

Instructions for care-givers

1. Mask:

- 1.1 The care giver should wear a triple layer medical mask appropriately when in the same room with the ill person.
- 1.2 Front portion of the mask should not be touched or handled during use.
- 1.3 If the mask gets wet or dirty with secretions, it must be changed immediately.
- 1.4 Discard the mask after use and perform hand hygiene after disposal of the mask.
- 1.5 He/she should avoid touching own face, nose or mouth.

2. Hand hygiene

- 2.1 Hand hygiene must be ensured following contact with ill person or his immediate environment.
- 2.2 Hand hygiene should also be practiced before and after preparing food, before eating, after using the toilet, and whenever hands look dirty.
- 2.3 Use soap and water for hand washing at least for 40 seconds. Alcohol-based handrub can be used, if hands are not visibly soiled.
- 2.4 After using soap and water, use of disposable paper towels to dry hands is desirable. If not available, use dedicated clean cloth towels and replace them when they become wet.
- 2.5 Perform hand hygiene before and after removing gloves.

3. Care of the patient and family members

- 3.1 The care giver will make sure that the patient follows the prescribed treatment.
- 3.2 The care giver and all close contact will self-monitor their health with daily temperature monitoring and report promptly if they develop any symptom suggestive of COVID-19 (fever/cough/difficulty in breathing)

4 PROTOCOL FOR HEALTH CARE WORKERS (DOCTORS)

1. All the Healthcare workers must report every exposure to COVID-19 to the nodal officer and HOD of the concerned department immediately.
2. The Nodal officer (Dr. Shahzad Mirza) will get the exact details of exposure to ascertain whether the exposure constitutes a *high risk* or *low risk* exposure as described below:
3. *High risk exposure:*
4. HCW or other person providing care to a COVID-19 case or lab worker handling respiratory specimens from COVID-19 cases without recommended PPE or with possible breach of PPE
5. Performed aerosol generating procedures without appropriate PPE.
6. HCWs without mask/face-shield/goggles:
 - a. Having face to face contact with COVID-19 case within 1 meter for more than 15 minutes
 - b. Having accidental exposure to body fluids

Low risk exposure: Contacts who do not meet criteria of high risk exposure.

7. A sub-committee formed under the Chairman, COVID Task force will assess the level of exposure and the risk as per assessment. Currently, it includes Dr. Sachinkumar Dole, Dr. Shahzad Mirza, Dr. Basweshwar Hagre.

A. SOPs to be followed for asymptomatic HCWs

1. High risk contacts will be quarantined for 14 days, tested as per ICMR testing protocol, actively monitored for development of symptoms and managed as per laid down protocol.
 - If they test positive but remain asymptomatic they will be kept in quarantine facility
 - If they test negative and remain asymptomatic, complete 14 day home quarantine and return to work.
2. Low risk contacts shall continue to work. They will self-monitor their health for development of symptoms. In case symptoms develop, the above protocol shall apply.

B. SOPs for symptomatic Doctors

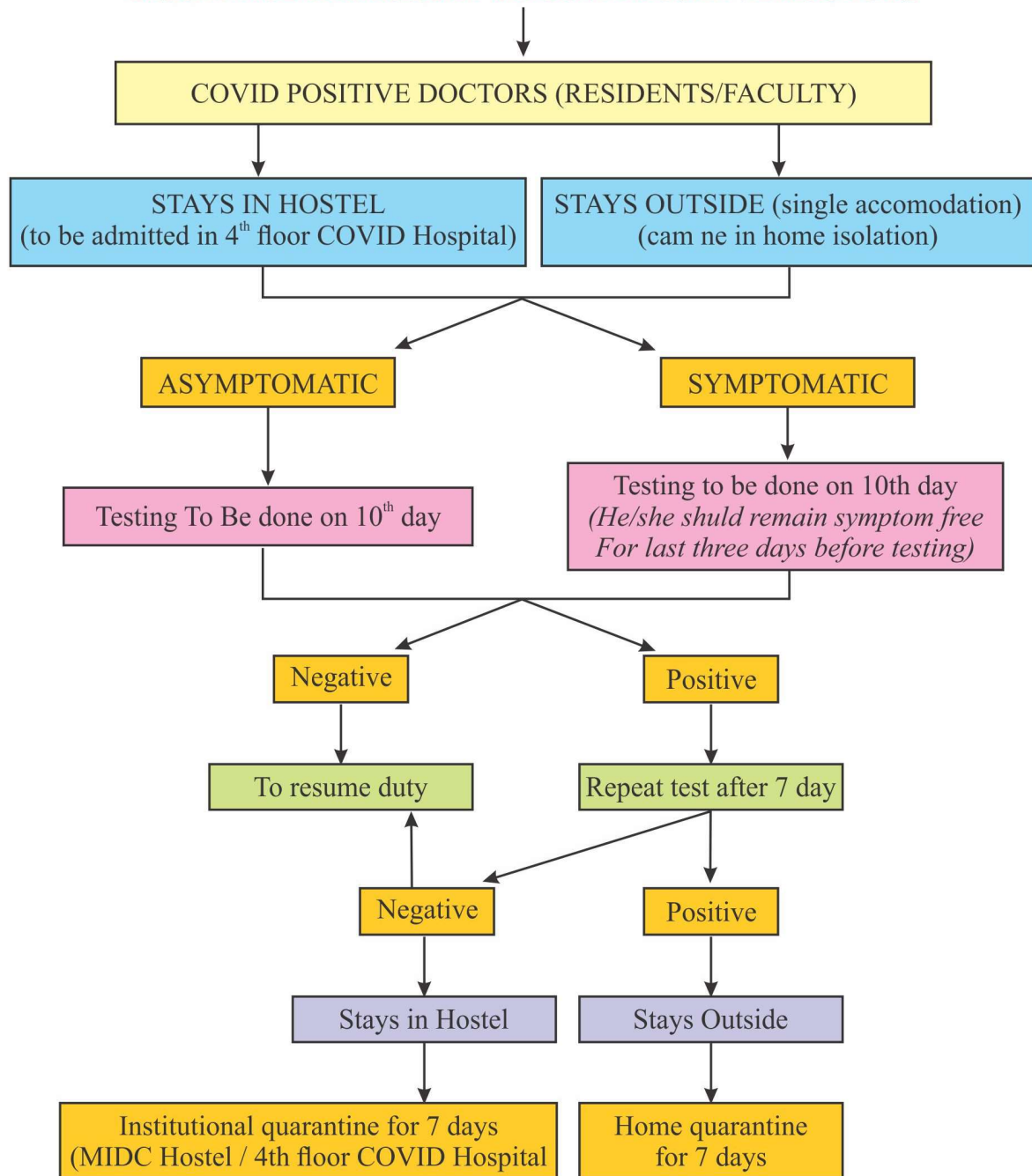
- Admitting unit of medicine will take daily morning and evening rounds while in quarantine.
- If COVID-19 testing report comes negative, then he will be shifted back to private ward.
- If COVID-19 testing report is positive, then he will remain in RICU till he is declared cured.

C. SOP for symptomatic HCWs other than doctors

- In case of mild/very mild/pre-symptomatic case, he/she will have an option of home isolation, subject to the conditions
- In cases where home isolation is not feasible, such mild/very mild/pre-symptomatic cases will be admitted to isolation ward, 3rd floor
- Moderate and Severe cases will be sent to YCM Hospital

Those who test negative will be managed in Isolation ward as per their clinical diagnosis. Their resuming work will be based on the clinical diagnosis and the medical certification by the treating doctor.

DISCHARGE PROTOCOL FOR COVID POSITIVE DOCTORS



5 TESTING FOR COVID-19 IN ELECTIVE INVASIVE PROCEDURES

- a. In the present scenario, all patients coming to hospital for should be considered as COVID 19 suspects and all IPC measures should be taken.
- b. It is advisable to take opinion of faculty from Medicine/Respiratory Medicine in establishing diagnosis of COVID 19suspects
- c. For Private Patients, test can be done in private lab.
- d. For other patients, it will not be feasible to do testing in private lab. The government labs / NIV will not accept these kinds of samples according to ICMR guidelines. In such cases elective procedures should NOT be cancelled / postponed. It needs to bere-emphasized that proper IPC measures be followed strictly in all cases

6 TESTING FOR COVID-19 IN PREGNANT WOMEN

- a. ICMR has recommended that all pregnant women residing in containment zones/ hotspots, who presents with signs of labor or are likely to deliver in next five days should be tested for COVID-19, even if asymptomatic.
- b. COVID 19 testing of all such patients will be sent to NIV/govt. lab as per the protocol.
- c. Further management of these patients will be as per report.

7 Guidelines on rational use of Personal Protective Equipment

Personal protection equipment has been recommended as per the ICMR guidelines for Covid-19 hospital (Appendix-1). Since our hospital is Non Covid-19, PPE guidelines for non Covid-19 hospital (which were issued recently on 02 May-Appendix-II) are applicable to us. The usage of N-95 masks & full PPE has been restricted to only few areas in these guidelines. However, we shall continue following PPE guidelines for COVID-19 hospital as long as we have adequate supply of PPE equipment. In view of this, it needs to be reiterated that rational usage of PPE must be strictly ensured

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

- i. Face shield and goggles
- ii. Masks
 - Triple layer medical mask
 - N 95 Respirator mask
- iii. Gloves
 - Latex gloves
- iv. Coverall/Gowns
- v. Shoe covers
- vi. Head covers-Cover all usually cover the head. Those using gowns, should use a head cover that covers the head and neck while providing clinical care for patients

7.1 APPENDIX-I. Guidelines on rational use of PPE for COVID-19 Hospital

A. Outpatient Services (FEVER/FLUCLINIC)

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Entry Points	Thermal scanning	Moderate Risk	N 95 mask	Patients get masked.
2	Registration counter	Provide information to patients	Moderate risk	N-95 mask Gloves	
4	Holding area/ waiting area	Nurses / paramedic interacting with Patients	Moderate Risk	N 95 mask Gloves	Minimum distance of one meter needs to be maintained.
5	FEVER CLINIC	Clinical management (doctors, nurses)	Moderate Risk	N 95 mask & Face shield Gloves	No aerosol generating procedures should be allowed.
6	House Keeping staff	Cleaning frequently touched surfaces/ Floor/ cleaning Linen	Moderate risk	N-95 mask Gloves	
7	Visitors accompanying young children and elderly	Waiting area	Low risk	Triple layer medical mask	No other visitors should be allowed to accompany patients in OPD settings.

Outpatient Services (other than FEVER / FLUCLINIC)

Suggested protocol is as follows-

- In OPDs of clinical specialties, each OPD room will have maximum 1 faculty and 1 resident. They will wear N95 mask and gloves and will strictly follow IPC protocol
- If any patient found with symptoms suggestive of COVID-19 suspect, patient should be sent directly to FEVER CLINIC for further triage.

B. Isolation ward/Quarantine Facility (ONLYHCWs)

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Isolation ward	Clinical management	Moderate risk	N 95 mask Gloves	Patient masked. Patients stable. No aerosol generating Activity.
2	Healthcare staff		Moderate Risk	N-95 masks Gloves	
3	Support staff		Low Risk	Triple layer mask Gloves	

C. Emergency Department

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Emergency	Attending emergency cases	Moderate risk	N 95 mask Gloves	No aerosol generating activity performed
		Attending to severely ill patients of SARI	High risk	Full PPE	Aerosol generating activities performed
2	DEDICATED COVID HOSPITAL	Attending to severely ill patients of SARI	High risk	Full PPE	Aerosol generating activities performed

D. In Patient Services

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Individual isolation rooms/ cohorted isolation rooms	Clinical management	Moderate risk	N 95 mask Gloves	Patient masked. Patients stable. No aerosol generating activity.
2	ICU/ Critical care	Critical care	High risk	Full PPE	Aerosol generating activity performed
3	ICU /critical Care	Dead body packing	High risk	Full complement of	
4	ICU/ Critical care	Dead body transport to mortuary	Low Risk	Triple Layer mask Gloves	
5	Sanitation	Cleaning frequently touched surfaces/floor/ changing linen	Moderate risk	N-95 mask Gloves	
6	Caretaker accompanying the admitted patient	Taking care of the admitted patient	Low risk	Triple layer medical mask	The caretaker thus allowed should practice hand hygiene, maintaining distance of 1meter

E. Pre-Hospital (Ambulance Services)

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

F. Other Supportive /Ancillary Services

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

Points to remember while using PPE

- a. PPEs are not alternative to basic preventive public health measures such as hand hygiene, respiratory etiquettes which must be followed at all times.
- b. Always (if possible) maintain a distance of at least 1 meter from contacts / suspect / confirmed COVID-19 cases
- c. Always follow the laid down protocol for disposing off PPEs as detailed in infection prevention and control guideline available on website of MOHFW.

7.2 APPENDIX-II Guidelines on rational use of PPES in Non-COVID Hospitals

A. Out Patient Department (Non-COVID Hospital)

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Help desk/ Registration counter	Provide information to patients	Mild risk	Triple layer medical mask Latex examination gloves	Physical distancing to be followed at all times
2	Doctors chamber	Clinical management	Mild risk	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	N-95mask 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	N-95mask 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	Triple layer medical mask Latex examination gloves	Frequent use of hand sanitizer is advised over gloves.
6	Sanitary staff	Cleaning frequently touched surfaces/ Floor	Mild risk	Triple layer medical mask Latex examination gloves	

B. In-Patient Department (Non-COVID Hospital)

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Ward/individual rooms	Clinical management	Mild risk	Triple layer mask Latex examination gloves	Patients stable. No aerosol generating activity.
2	ICU/ Critical care	Critical care management	Moderate risk	N-95mask, Goggles Nitrile exam gloves Face shield	Aerosol generating activities performed. Face shield, when a splash of body fluid is expected
3	Ward/ICU/ critical care	Dead body packing	Low Risk	Triple Layer mask Latex examination gloves	
4	Ward/ICU/ Critical care	Dead body transport to mortuary	Low Risk	Triple Layer mask Latex examination gloves	
5	Labor room	Intra-partum care	Moderate Risk	Triple Layer mask Faceshield Sterile latex gloves N-95mask*	Patient to be masked in the Labor room If the pregnant woman is a resident of containment zone
6	Operation Theater	Performing surgery, administering general anesthesia	Moderate Risk	Triple Layer medical mask Face shield (wherever feasible) Sterile latex gloves Goggles N95 mask	Already OT staff shall be wearing For personnel involved in aerosol generating procedures
7	Sanitation	Cleaning frequently touched surfaces/ floor/ changing Linen	Low Risk	Triple Layer medical mask Latex examination gloves	

C. Emergency Department (Non-COVID)

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Emergency	Attending emergency cases	Mild risk	<ul style="list-style-type: none"> • Triple Layer medicalmask • 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 	

D. Other Supportive/ Ancillary Services

Sr. 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 mask • Latexgloves 	
		Respiratory samples	Moderate risk	<ul style="list-style-type: none"> • N-95mask • Latexgloves 	
2	Radio-diagnosis, Blood bank, etc.	Imaging services, blood bank services etc.	Mild risk	<ul style="list-style-type: none"> • Triple layer mask • Latexgloves 	
3	CSSD/ Laundry	Handling linen	Mild risk	<ul style="list-style-type: none"> • Triple layer mask • Latexgloves 	
4	Other Supportive services incl. Kitchen	Administrative Financial Engineering** & dietary**, services etc.	Low risk	<ul style="list-style-type: none"> • Face Cover 	Engineering & dietary services personnel visiting treatment area will wear personnel protective gear appropriate to that area

E. Pre-hospital (Ambulance) Services

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Ambulance Transfer to designated hospital	Transporting patients not on any assisted Ventilation	Low risk	Triple layer medical mask Latex examination gloves	
		Management of SARI patient	High risk	Full complement of PPE (N-95 mask, coverall, goggle, latex examination gloves, shoe cover)	While performing aerosol generating procedure
		Driving the ambulance	Low risk	Triple layer medical mask Latex examination gloves	Driver helps in shifting patients to the emergency

8. REFERENCES

1. Novel Corona virus Disease 2019 (COVID-19): Guidelines on rational use of Personal Protective Equipment, MOHFW (24th March2020)
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3. Guidelines for Quarantine facilities COVID-19,NCDC DELHI (5th April2020)
4. Guidance document on appropriate management of suspect/confirmed cases of COVID-19, MOHFW, Directorate General of Health Services, Govt. of India (7th April2020)
5. The updated case definitions and contact-categorization, National Centre for Disease Control, Govt. of India (April2020)
6. Guidelines on detection of suspect/confirmed COVID-19 case in a non-COVID Health Facility, MOHFW (20th April2020)
7. DisinfectionguidelinesforNonCOVIDhealthInstitute,DHS,Pune,Govt.ofMaharashtra (30th April2020)
8. Additional guidelines on rational use of Personal Protective Equipment (setting approach for Health functionaries working in non-COVID areas) MOHFW (Updated on 15th May 2020)
9. Strategy for COVID19 testing in India (ICMR. dated18/05/2020)
10. Advisory for managing Health care workers working in COVID and Non-COVID areasof the hospital(Dated 15th May,2020)

SECTION-I.B

Protocol for Perioperative Anesthesia management

SCOPE OF THE DOCUMENT	
Name of Document	STANDARD OPERATING PROCEDURE FOR COVID-19
Document No	DYPMCHRC/COVID19Manual/2020/Ver1.0
Date of Issue: May 2020	Date of Implementation: May 2020
Prepared By:	Dr. Aparna Bagle, Professor, Anaesthesiology
Reviewed By	Dr.Mary Samuel, Professor, Anaesthesiology Dr.Smita Joshi, Professor & HOD, Anaesthesiology
Approved By	Dr.J.S.Bhawalkar, Dean Dr. D.Y.Patil Medical College Pimpri, Pune- 18 Dr.P.S.Garcha, Director, Corporate Services
DOCUMENT CONTROL	
Authorized to Hold Master Document	Dr.P.S.Garcha , Director Corporate Services
Document Issued To	<ul style="list-style-type: none"> • Dean office • The Principal Director and CEO • Director Academics • Medical Superintendent • Director Corporate Services • HODs from all clinical Departments • HICC • Nursing Director • Quality Department Representative

All patients posted for surgery must be treated as COVID-19 positive until proven otherwise.

A. Anaesthesia OPD/ Pre Anaesthetic check up in ward:

- 1 Anaesthesiologist must wear cap, N95 mask, face shield and gloves
- 2 Hand sanitization need to be carried out before and after visit of each patient
- 3 One patient will be allowed at a time with mask on face and if needed one relative with mask should be allowed.
- 4 Hand sanitizer should be given to patient and relative immediate before entering the PA clinic by attendant (Mavshi), who will also wearing Cap, mask and gloves
- 5 Only five patients will wait outside PAC at a time with social distancing and rest will be given time slot
- 6 For Patients admitted in the ward, Temperature and oxygen saturation (Spo₂) must be taken in the ward and recorded in the case file below anaesthesia call while sending to OPD
- 7 For PAC rounds, insist to take: Temperature and Spo₂ reading (to rule out Happy Hypoxia) ,Before you start PA assessment
- 8 For Patients coming on OPD basis, Thermal testing and Spo₂ recording need to be done before sending patient to PA clinic.
- 9 **Travel history:** Yes/no need to be recorded for each patient, Containment Zone
- 10 Patients with History of cough, fever, chills and breathlessness need to be recorded in PA form and refer to fever/flu clinic
- 11 **Chest Radiograph (CXR)** is mandatory for every patient except Pregnant patients.(should be advised in pregnant patients with Protective shield for fetus if you suspect COVID 19 symptoms)
- 12 Auscultation should be done, whenever must. Otherwise assess CVS and RS on the basis of Spo₂, CXR, ECG and 2 D ECHO (if needed)
- 13 WBC (leucocytosis or leucopenia), CXR and Spo₂ should be looked for seriously.

B. Pre Operative area:

1. Confirm whether signed COVID 19 transmission possibility consent is attached in the file along with Anaesthesia consent form, before patient taken into the OT.
2. Every patient must enter OT premises with surgical mask on his/her face.
3. Monitor will be attached in the preoperative room and temperature, pulse rate, NIBP and SPO2 must be recorded.

C. Anaesthesia Management:

1. After scrubbing, go to the specified area and wear Personal Protective Equipment (PPE) which include full body covering suit, N95 mask and face shield.
2. Standard routine anaesthesia monitoring to be instituted.
3. Prefer **regional anaesthesia**, where ever possible as per regional anaesthesia protocol.
4. For regional anaesthesia along with PPE use sterile gown and double gloves. Upper gloves should be removed after injecting local anaesthetic.
5. In case supplementary oxygen is needed, the oxygen mask is applied over the surgical mask.

➤ *For General Anaesthesia:*

1. All non-essential staff should exit the room prior to intubation and extubation.
2. a) Monitors and anaesthesia machine should also be covered with transparent plastic sheet, which will be removed and discarded after each case and surfaces should be cleaned hypochlorite solution.
b) Use plastic transparent sheets to cover the patient completely. HME filter must to be attached between tight sealing anaesthesia face mask and ventilating circuit before starting preoxygenation. Patient can be pre oxygenated (3 minutes) by putting both hands below transparent plastic drape or in intubation box.
3. Use closed circuit with minimum flow from beginning and avoid using Bain's circuit
4. Instruct the patient not to cough. It is prudent to cover the patient's nose and mouth with two layers of wet gauze to block some of the secretions.
5. In premedication, anti sialogogues (Glycopyrrolate) should be used and antitussives and antihistamine can be considered.

6. The choice of induction agent is dictated by haemodynamic considerations. Midazolam with propofol, depending upon patient's haemodynamic condition, can be used for induction. Fentanyl is recommended for analgesia, if no contraindications are present.
7. Succinylcholine should be administered for tracheal intubation.
8. Tracheal intubation should be done by experienced anaesthesiologists.
9. Limit the number of anaesthesia team personnel (maximum two) inside the OT. Second clinician with PPE can be available outside the OT for immediate assistance.
10. Rapid sequence induction and tracheal intubation (with cricoid pressure) to be done by experienced anaesthesiologist in the first attempt. Ensure adequate neuromuscular blockade to avoid bucking that can increase aerosolization.
11. Intravenous propofol 20mg should be used to prevent cough following premedication with an opioid, such as fentanyl before tracheal intubation. It has also been used to prevent emergence coughing while tracheal extubation.
12. Avoid manual ventilation to prevent aerosolization of virus from airways. If manual ventilation is required, apply small tidal volumes.
13. Immediately inflate the tracheal tube cuff before starting ventilation to prevent aerosolization. Immediately attach the HME filter with ventilator circuit to tracheal tube.
14. Use intubation box (made up of acrylic/plastic sheet), if available and feasible, same box should be cleaned with sanitizer and can be used for extubation as well.
15. Use plastic transparent sheets to cover the patient completely. Tracheal Intubation can be done by placing hands under the clear transparent plastic sheet, thus minimizing exposure to aerosolized virus.
16. Avoid awake fiberoptic intubation whenever possible. Nebulization with local anesthetic will aerosolize the virus.
17. Video laryngoscope is preferred for tracheal intubation to increase the distance between the patient's airway and that of the anaesthesiologist who performs the intubation. It also improve intubation success rate and avoids multiple attempts at tracheal intubation
18. Resheath the laryngoscope blade immediately post intubation with the outer glove worn by the anaesthesiologist.
19. Proper positioning of tracheal tube is confirmed by EtCO₂ monitoring and chest rise. Auscultation of chest is to be avoided.

20. Use low gas flows and closed circuits. Limit the ventilatory disconnections and, if needed, do at end expiratory phase.
21. A closed airway suction system, if available, is preferable to decrease viral aerosol production. A closed airway suction system should be prescribed to the patients admitted under MJPJAY scheme or any other scheme a day prior.
22. If it is not available, the suction should be done by minimum members of the team for minimum time.
23. Supra glottic airway devices avoid routine use, should be used only in 'cannot ventilate' situations. This will avoid manual bagging and provide rescue oxygenation.
24. Prophylactic administration of antiemetic drug towards the end of surgery is preferred to reduce the risk of vomiting and viral spread. Vomiting is usually accompanied by coughing, which increases aerosolization.

➤ ***Extubation Precautions:***

1. Minimise oropharyngeal suction and do with vigilance as this may generate aerosols.
2. Antitussive drugs such as lidocaine and dexmedetomidine reduce the risk of coughing and minimise agitation on extubation..
3. Extubation using Mask over ET (Endotracheal tube) technique or Threading mask over ET tube and extubation through mask or under transparent plastic drape or in intubation box is advisable, As per the convenience of anaesthesiologist.
4. Place a surgical mask on the patient once the anaesthetic facemask is no longer required.
5. Supplemental oxygen can be delivered under a surgical mask via nasal prongs or over surgical mask with oxygen mask. Dispose of venti mask or nasal prongs after use and use new for every patient.
6. If laryngospasm occurs, consider early use of pharmacological agents to treat the spasm and avoid or minimise need for positive pressure ventilation.
7. If apnoea occurs after extubation necessitating positive pressure support, consider bag mask ventilation with a two-handed technique, attempting to minimise positive pressure with small tidal volumes.
8. Movements in and out from operation theatre should be minimized. Anticipation of required material (drugs, equipment etc) by OT technicians and staff nurse is expected and should be arranged in theatre before starting a case.
9. Case notes should be written at the end of surgical procedure and avoid repeated touching of the patient case file.

10. Cover your mobile with disposable plastic cover and avoid or minimize its use in OT.
11. After extubation, monitor patient in OT only and if possible directly shift to ward.
12. Staff members should confirm that PPE integrity has been maintained.
13. Doffing should only occur once the patient has been handed over to another staff member.
14. Go to the designated Doffing area and remove the protective equipment. After removing the protective equipment, avoid touching your hair or face before washing hands
15. All rooms, door handles in the OT premises should be cleaned with 1% hypochlorite solution at least every three hourly; ideally is hourly.

SECTION-I.C

Hospital Infection Control Standard Operating Procedure COVID 19

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1. Scope of the Document, Document Control and Document Revision Policy

This document is being released with special reference to the pandemic caused by the novel Corona virus-2, also known as COVID-19.

The policy is being made according to:

1. Maharashtra State Government, Department of Health Services Guidelines.
2. Guidelines for Handling COVID-19 Bio Medical Waste
3. Guidelines for Disinfection of Quarantine Facility for COVID-19, MOHFW and NCDC.
4. MOHFW, DGHS (Emergency Medical Relief) Guidelines on Rational Use of PPE
5. CDC Guidelines on Cleaning and Disinfection with special reference to COVID-19
6. Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008 (Updated in 2019).

And other guidelines and SOPs from Government Authorities. Guidance has been sought from Guidelines prepared by ICMR, JIPMER, AIIMS

SCOPE OF THE DOCUMENT			
Name of Document	STANDARD OPERATING PROCEDURE FOR COVID-19		
Document No	DYPMCHRC/COVID19Manual/2020/Ver1.0		
Date of Issue:	April 2020	Date of Implementation:	April2020
Prepared By:	Infection Control Officer Dr. Shahzad Mirza, Assistant Prof, Dept. of Microbiology		
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By	Chairman HICC Medical Superintendent	Dean, Dr. J.S. Bhawalkar MS, Dr. H. H. Chavan	
DOCUMENT CONTROL			
Authorized to Hold Master Document	Infection Control Officer Name: Dr. Shahzad Mirza, Assistant Prof. Department of Microbiology		
Controlled Copies Distributed to	<ul style="list-style-type: none"> • Dean Office • Medical Superintendent • Infection Control • HOD's of All Clinical Departments • Nursing Director 		

2. Introduction Basic Definitions and Terminologies

Based on currently available knowledge about the novel corona virus and similar corona viruses that cause SARS and MERS, spread from **person-to person** with these viruses happens **most frequently** among **close contacts (within about 6 feet)**. This type of transmission occurs via **respiratory droplets**. On the other hand, transmission of novel coronavirus to persons from surfaces contaminated with the virus has not been documented. **Transmission of coronavirus occurs much more commonly through respiratory droplets** than through fomites. Current evidence suggests that **novel coronavirus may remain viable for hours to days on surfaces** made from a variety of materials. **Cleaning** of visibly dirty surfaces **followed by disinfection** is a best practice measure for prevention of COVID-19 and other viral respiratory illnesses in households and community settings.

Cleaning: is removal of germs, dirt, and impurities from surfaces. Cleaning does not kill germs, but by removing them, it lowers their numbers and the risk of spreading infection.

Disinfecting: is the use of chemicals to kill germs and pathogens on surfaces, but does not sterilize the surface. This process kills some germs and pathogens on a surface and lowers the risk of spreading infection. Disinfection is to be done only for InanimateSurfaces.

Isolation: is the process of containment of a Symptomatic Patient. The management involves observing the symptoms, drawing samples for COVID-19 testing and treatment in that contained facility. Such patient could be positive for COVID-19, in which case he is shifted to a COVID-19 positive room OR could be COVID-19 negative (two negative samples at least 24– 48 hours apart), in which case he would be shifted to the Quarantine Facility and treated accordingly. Unless proven otherwise, All symptomatic cases would be kept in separate isolation rooms and shall Not be allowed to meet anyone. Confirmed COVID-19 positive patients may share the isolation rooms.

Quarantine: is the process of containment of an Asymptomatic Individual who has history of contact with a confirmed COVID-19 positive or suspected COVID-19 patient or has been exposed to large public gatherings or has a recent history (<14days) of international travel, or was symptomatic but was found COVID-19negative (two negativesamplesatleast24– 48hoursapart).

Terminology

Situations	Terminologies
COVID positive	Isolation
Son of a COVID positive	Quarantine
Lockdown, people are at home, Work from home	Social immobilization
HCW in COVID area - at hospital accommodation	In-work accommodation
HCW, after COVID posting - at hospital accommodation	Off-work accommodation
Hot spot area, forced to stay at home (as a part of cluster containment)	Geographic quarantine (Social immobilization under strict supervision)
Returned from Hotspots, staying at home for 14 days before coming for work	Social Immobilization

WHO Requirement for Quarantine eligibility

- Only contacts of confirmed COVID patient– need to be quarantined for 14 days from the last exposure.
- **Contact** - involved in any of the following type of exposure from -2 to + 14 days of onset of symptoms in COVID patient.
 - Having **face-to-face contact** with a COVID patient within 1 meter and for >15min
 - Providing direct care for COVID patients without using proper PPEs (**BREACH**)
 - Staying in the same **close environment** as a COVID patient (including sharing a workplace, classroom or household or being at the same gathering) for any amount of time.
 - **Travelling** in close proximity with (that is within 1m separation from) a COVID patient in any kind of conveyance.
 - And **other situations**, as indicated by local risk assessments.

3. Transmission Based Precautions

Person-to-person transmission of COVID-19 virus has been proven to occur via droplet and contact transmissions. There is not enough evidence to prove aerosol transmission of COVID-19; however aerosol transmission precautions need to be taken in closed environment.

Droplet Transmission: COVID-19 is predominantly spread by Droplet Transmission. Respiratory droplets are produced when an infected person coughs or sneezes. These droplets can infect the persons (by seeding on their mouths, noses or eyes) who are within 1 meter distance.

Preventable by: Surgical mask (if within 1 mt of infected case) and Hand Hygiene

Contact Transmission: Respiratory droplets (consisting of various bacteria, fungi and viruses) settle on the floor, various surfaces and inanimate objects. Healthcare personnel, patient or attendants after touching these surfaces and objects with their hands transmit these pathogens to other areas and on their face, nose, mouth and eyes.

Preventable by: Hand Hygiene with Soap and Water or Alcohol Based Hand Rub [ABHR]

Airborne Transmission: COVID-19 transmission by Airborne Transmission from person-to-person over long distances is unlikely and not yet proved, however precaution must be taken while performing all Aerosol Generating Procedures (AGP), which include:

- Tracheal intubation
- Open suctioning
- Non-invasive positive pressure ventilation (BiPAP and CPAP)
- Tracheostomy
- CPR: Cardiopulmonary Resuscitation
- Manual ventilation before intubation
- Bronchoscopy
- Airway suction
- Chest physiotherapy
- Nebulizer treatment
- Sputum induction
- Collection of Oropharyngeal & Nasopharyngeal swabs

Preventable By: N95 Respirators

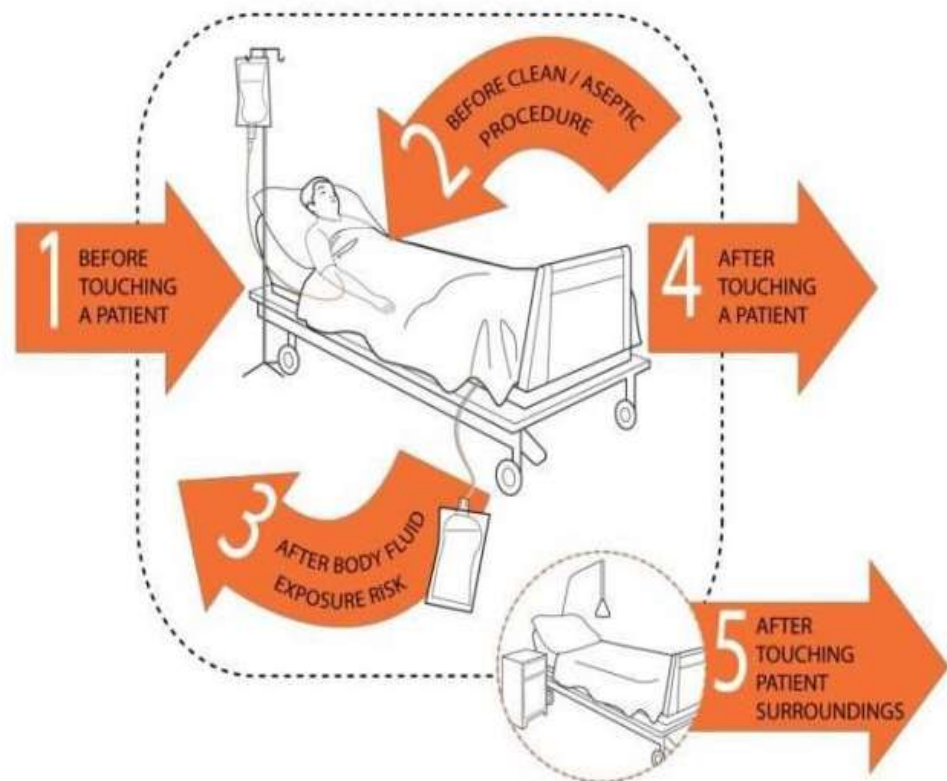
Hand Hygiene is the SINGLE MOST EFFECTIVE and SCIENTIFICALLY PROVEN method for Infection Prevention and Control in All Health Care Settings and at Home.

4. Hand Hygiene Practices

Hand hygiene is the most important measure for the prevention and control of COVID-19. Hand hygiene can be performed with soap and water or alcohol-based hand rub.

Duration – Hand rub: 20seconds & Hand wash: 40seconds.

The “My 5 Moments for Hand Hygiene” approach



Five moments of Hand Hygiene and examples of clinical situations:

Moment-1 and4: Before and after touching a patient Moment	Moment-2and3: Before and after aseptic procedure/body fluid exposure	Moment-5: After touching patient surroundings
Before and after <ul style="list-style-type: none"> • Taking pulse, blood pressure • Auscultation and palpation • Shaking hands • Helping a patient to move around • Applying oxygen mask • Giving physiotherapy • Recording ECG • Use of gloves 	Before and after <ul style="list-style-type: none"> • Oral/dental care • Aspiration of secretions or accessing draining system • Skin lesion care, wound dressing • Giving injection • Drawing of blood or sterile fluid • Handling an invasive device (catheter, central line, ET tube) • Clearing up urines, faeces, vomit • Handling bandages, napkin etc. • Instilling eye drops • Moving from a contaminated body site to another body site during care of the same patient 	After contact with <ul style="list-style-type: none"> • Handling the case sheet • Medical equipment in the immediate vicinity of the patient • Bed or bedrail • Changing bed linen • Decanting uro bag

Indications for using hand rub:

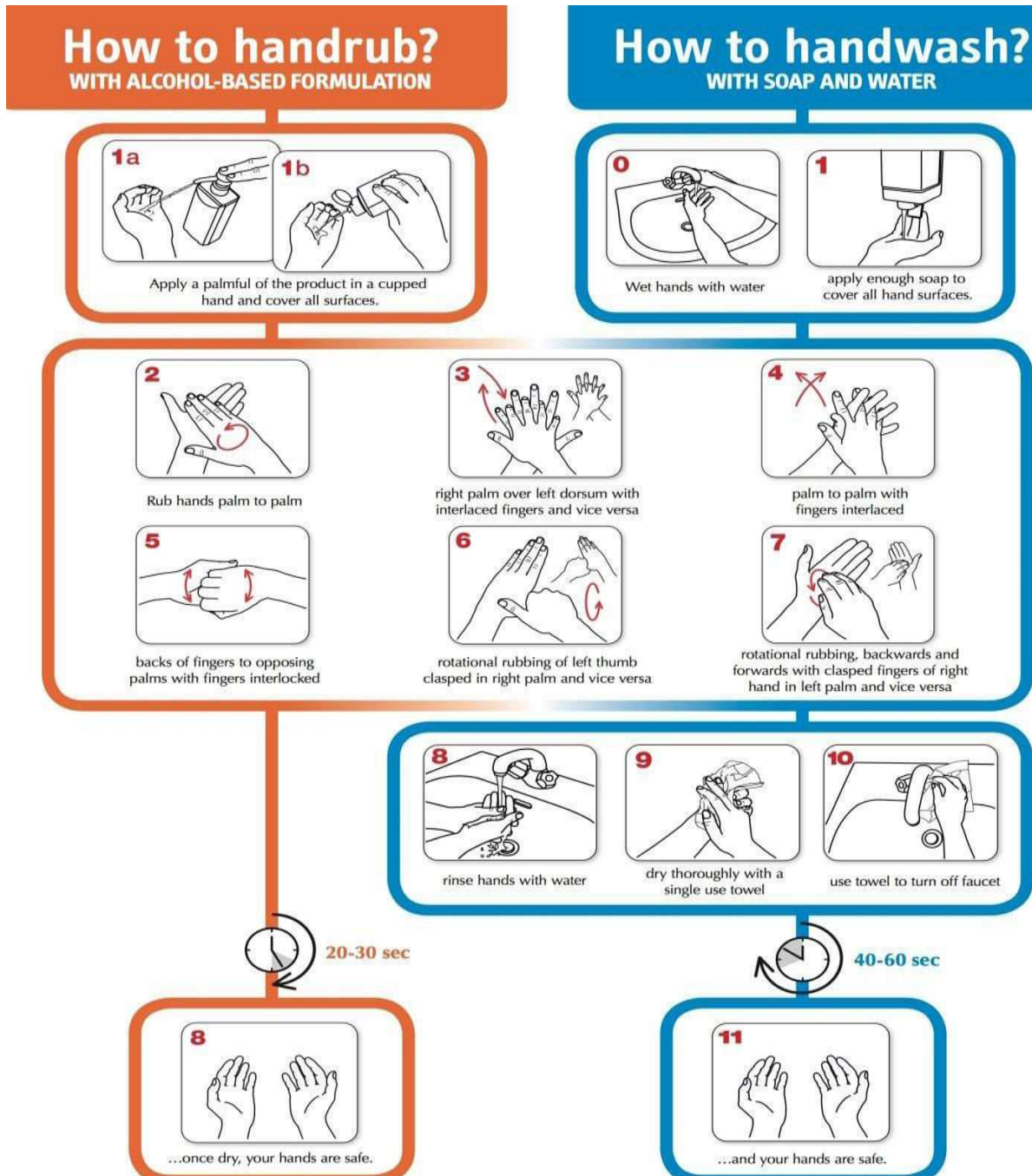
- Hand rub should be used during routine clinical rounds and handling the patient
- If the hands are not visibly dirty, not contaminated with blood, or body fluids

Indications for using hand wash:

- Hands are visibly dirty, contaminated with blood, or body fluids
- Potential exposure to spore forming organisms (e.g, *Clostridiumdifficile*); nonenveloped viruses (e.g. Norovirus, rotavirus, enteroviruses)
- Handling patients having diarrhea
- After using restroom
- Before handling medication or food

*Remember, Hand wash is the most important Measure for
COVID-19 prevention*

Steps of Hand rubs and Steps of Hand wash



5. Personal Protective Equipment: What, When, How to wear?

Judicial use of PPE is recommended, the following strategies should be adopted which can facilitate optimal PPE availability.

Minimize the need for PPE

1. Restrict visitors to the COVID ward.
2. Restrict HCWs from entering the Corona ward if they are not involved indirect care. Consider **bundling activities** to minimize the number of times are misentered (e.g., check vital signs during medication administration or have food delivered by HCWs while they are performing other care) and plan which activities will be performed at the bedside.
3. **Screening area: Restrict HCWs evaluating suspected cases** of COVID-19 disease, one HCW can evaluate/screen, others can maintain distance and interact; thus minimizing the need for these individuals to go to health care facilities for evaluation.
4. Use **physical barriers** to reduce exposure to the COVID-19 virus, such as glass or plastic windows. This approach can be implemented in areas of the health care setting where patients will first present, such as triage areas, the registration desk at the emergency department or at the pharmacy window where medication is collected.

Ensure PPE use is rationalized and appropriate

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

- **Direct Contact without Aerosol-generating procedures** of corona patients (suspected/confirmed) should use the following PPE: Gowns, Gloves, Surgical mask and Eye protection (goggles or face shield)
- **Aerosol – generating procedures** (e.g., tracheal intubation, open suctioning, non-invasive positive pressure ventilation (BiPAP and CPAP), tracheostomy, cardio pulmonary resuscitation, manual ventilation before intubation, bronchoscopy, airway suction, chest physiotherapy, nebulizer treatment, sputum induction, collection of specimens); HCWs should use:
 - Gowns, Gloves, Eye protection (goggles or face shield)
 - Additional PPE: Respirators (N95) and Apron
- **General public, without respiratory symptoms**
 - Noneedofmask. Wearingmaskcreatesafalsesenseofsecuritythatcanleadtotheneglect of other essential preventive measures such as hand hygiene
 - Avoid closed crowded spaces (social distancing) Maintain distance– 1Meter (two arm distance) Practice hand hygiene and respiratory hygiene
 - Refrain from touching face, nose, mouth
- **General public with respiratory symptoms**
 - Wear a surgical mask
 - Seek medical care
 - Learn mask management

**TABLE 1: HOSPITAL SETTING - EMERGENCY MEDICINE /
OUT PATIENT DEPT.**

Sr. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Triage area	Triaging patients Provide triple layer mask to patient.	Moderate risk	N 95 mask Gloves	Patients get masked.
2	Screening area help desk/ Registration counter	Provide information to patients	Moderate risk	N-95 mask Gloves	
3	Temperature recording station	Record temperature with hand held thermal recorder	Moderate Risk	N 95 mask Gloves	
4	Holding area/ waiting area	Nurses / paramedic interacting with patients	Moderate Risk	N 95 mask Gloves	Minimum distance of one meter needs to be maintained.
5	Sanitary staff	Cleaning frequently touched surfaces/ Floor/ cleaning linen	Moderate risk	N-95 mask Gloves	
6	Visitors accompanying young children and elderlies	Support in navigating various service areas	Low risk	Triple layer medical mask	No other visitors should be allowed to accompany patients in OPD settings. The visitors thus allowed should practice hand hygiene
7	Emergency	Attending emergency Cases Or Attending to severely ill patients of SARI	High Risk	N 95 mask Gloves, Full complement of PPE	When aerosol generating procedures are anticipated or Aerosol generating activities performed

TABLE2: HOSPITAL SETTING – IN PATIENT DEPARTMENT

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

TABLE 3: PRE-HOSPITAL (AMBULANCE SERVICES)

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

TABLE 4: OTHER SUPPORTIVE/ ANCILLARY SERVICES

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

TABLE 5: Quarantine facility

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

TABLE 6: Home Quarantine

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

Points to remember while using PPE

- PPEs are not alternative to basic preventive public health measures such as hand hygiene, respiratory etiquettes which must be followed at all times.**
- Always (if possible) maintain a distance of at least 1 meter from contacts / suspect / confirmed COVID-19 cases.**

Always follow the laid down protocol for disposing off PPEs as detailed in infection prevention and control guideline available on website of MoHFW.

Categorization of Departments According to Risk involved, For N95 Use In OPDs

Category I	Category II
Medicine	Surgery
Obstetrics And Gynaecology	Orthopaedics
Paediatrics	Nephrology
Pulmonary Medicine	Neurology
Ophthalmology	Dermatology
ENT	Cardiology
Anaesthesia	Psychiatry
Neuro-Surgery	CVTS
Radiology	Plastic-Surgery

According to risk stratification, departmental OPDs are divided in to Category I and Category II.

Category I being moderate to high risk and Category II being moderate to low risk.

It is recommended that category I doctors can wear N95 mask while in the OPD whereas Category II doctors can use surgical mask while in OPD.

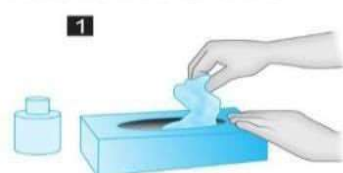
N 95 as per recommendation to be use in case of aerosol generating procedures.

- **Aerosol generating procedure(AGPs)**include: Endotracheal intubation, extubation and related procedures such as manual ventilation and open suctioning, tracheotomy/tracheostomy procedures (insertion/open suctioning/removal), bronchoscopy, surgery and post-mortem procedures involving high-speed devices, some dental procedures (such as high-speeddrilling), non invasive ventilation (NIV) such as bi-level positive airway pressure (BiPAP) and continuous positive airway pressure ventilation (CPAP), high-frequency oscillating ventilation (HFOV), high flow Nasal oxygen (HFNO), also called high flow nasal cannula, induction of sputum. Use N95 mask for COVID patients. Nebulization (ultrasonic, jet) is possibly aerosol generating procedures.
- **Direct contact** refers to coming closer to patients by less than one meter.
- **Cleaners** should wear boot and heavy duty gloves, in addition.
- **Full PPE** means gloves (2PAirs), mask, coverall, shoe cover and goggles. Coverall maybe replaced with gown and head cover.

6. RATIONALE USE OF GLOVES & MASK, DYPMCH

Gloves Are Not a Substitute for Hand Hygiene

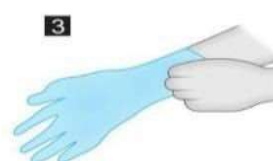
HOW TO DON GLOVES



1
Take out a glove from its original box



2
Touch only a restricted surface of the glove corresponding to the wrist (at the top edge of the cuff)



3
Don the first glove



4
Take the second glove with the bare hand and touch only a restricted surface of the glove corresponding to the wrist

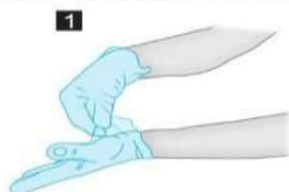


5
To avoid touching the skin of the forearm with the gloved hand, turn the external surface of the glove to be donned on the folded fingers of the gloved hand, thus permitting to glove the second hand

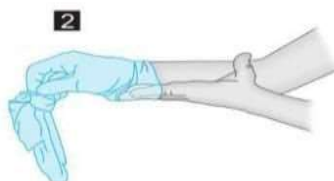


6
Once gloved, hands should not touch anything else that is not defined by indications and conditions for glove use

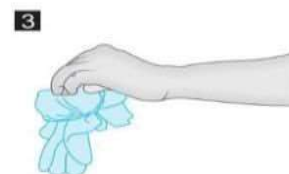
HOW TO REMOVE GLOVES



1
Pinch one glove at the wrist level to remove it, without touching the skin of the forearm, and peel away from the hand, thus allowing the glove to turn inside out



2
Hold the removed glove in the gloved hand and slide the fingers of the ungloved hand inside between the glove and the wrist. Remove the second glove by rolling it down the hand and fold into the first glove



3
Discard the removed gloves (REB BAG)

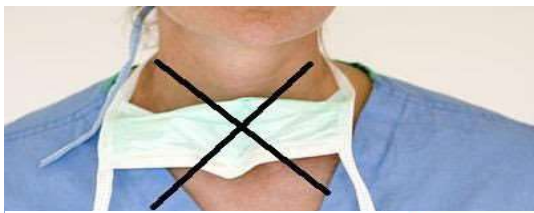


DOs	DON'Ts
Wear gloves only when there is indication (e.g. anticipated exposure to blood/ body fluid)	Don't wear gloves if there is no indication (e.g. measuring BP, pulse etc.)
Remove glove after single use and then wear fresh gloves for next activity	Don't keep wearing same gloves for long time (as it creates false sense of security and prevents us to the most important measure, i.e. hand hygiene)
Do hand hygiene before and after glove use	Don't do hand hygiene over gloved hand
Disposal in red bag after use	Don't dispose in yellow bag after use

RATIONAL USE OF MASK, DYPMCH

DOs	DON'Ts
<p>Use mask only when clinically indicated</p> <ul style="list-style-type: none"> Surgical mask- when handling respiratory patients N95 mask- 	<p>Do not use mask when clinically not indicated Wearing masks when not indicated creates a false sense of security that can lead to neglect the other essential measures such as hand hygiene practices</p>
<p>Always hold by its strings</p>	<p>Don't touch/hold front/back part of mask</p>
<p>Fitting: Compress the mask to ensure a seal across nose bridge, face and cheeks</p>	<p>Do not allow tangling of mask around neck</p>
<p>Discard after 4-6h for surgical mask and 8h for N95 mask</p>	<p>Do not keep using mask for longer time/days Do not wash mask and reuse</p>
<p>Discard in yellow bags</p>	<p>Do not throw masks here and thereafter use</p>

***Aerosol generating procedures:** endotracheal intubation, open ET suctioning, non-invasive ventilation, tracheostomy, cardio pulmonary resuscitation, manual ventilation, bronchoscopy, (extra for corona patients-chest physiotherapy, nebulization, sputum induction, throat swab)



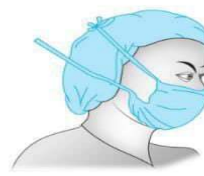
HOW TO WEAR OF FACE MASK



1. Bring the mask to the face, placing the metal nosepiece over the bridge of the nose to ensure a close and comfortable fit



2. Secure by tying the top set of strings behind the head

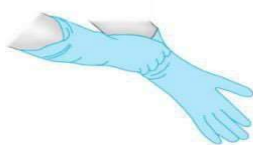


3. Pull the bottom of the mask to fit closely under the chin



4. Secure by tying the bottom set of strings, high on the head above the first set

HOW TO REMOVE FACE MASK



1. Remove gloves if worn and decontaminate the hands



2. Untie the strings and remove the mask handling only by the strings



3. Dispose of the mask into the waste bin
(YELLOW BAG)

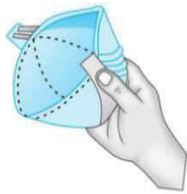


2. Decontaminate the hands



7. How to Wear N95 Mask

N95 MASK



1. Noseclip is located in top panel. Perform the noseclip by gently bending at the center of the panel. Hold respirator in one hand and pull out bottom panel to form a cup



2. Turn respirator over to expose headbands



3. Cup respirator under chin and pull and straps over the head



4. Locate the lower strap below the ears and the upper strap across the crown of the head. Adjust top and bottom panels for a comfortable fit.



5. Using both hands, mould noseclip to the shape of the lower part of the nose. Pinching the nosepiece using only one hand may result in less effective respirator performance.



6. The seal of the respirator on the face should be fit-checked prior to wearing in the work area.

Fit check for N95 respirators- HCWs must perform fit checking every time they put on a N95 respirator to ensure if it is properly fitted and functional.

1. **Placement:** The respirator is placed on the face and tied over the head and at base of the neck.
2. **Sealing:** N95 mask is compressed to ensure a seal across the face, cheeks and bridge of the nose.
3. **The positive pressure seal** of N95 mask is checked by gently exhaling. If air escapes, the N95 mask needs to be adjusted.
4. **The negative pressure seal** of the N95 mask is checked by gently inhaling. If the N95 mask is not drawn in towards the face, or air leaks around the face seal; the N95 mask is readjusted and the process is repeated.
5. If still not proper, then respirator should be checked for any defect or damage.

8. DONNING AND DOFFING OF (PPE) IN ISOLATION WARD/ICU FOR COVID 19 CHECKLIST FOR DONNINGPPE

KEY POINTS

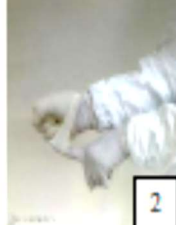




- Remove white coat/extra clothing, watch, jewelry, personal items. Leave mobile phone outside. If you wear glasses, clean them. Wear after donning surgical/ N95 mask.
- Drink enough water, use the toilet before donning.
- Shave off your beard (mask will not fit well otherwise). Trained observer will assist (Initially)

Sr. No.	STEPS	FIGURE	Sr. No.	STEPS	FIGURE
1	INSPECT PPE Check for tears, check size.		6	COVERALL/ GOWN Sit down initially if needed.	
2	HEAD CAP		7	SURGICAL/ N95 MASK For N95, inhale/exhale deeply with hands on mask (fit check).	
3	SHOE COVERS Sit on chair if necessary.		8	GOGGLES/ VISOR Over regular glasses, if any	
4	HAND RUB		9	HOOD And zip up the gown.	
5	INNER GLOVES		10	OUTER GLOVES Extend cuff over sleeves	

CHECKLIST FOR DOFFING PPE

KEY POINTS

- Remove PPE slowly and carefully.
- Trained observer can check from 2 meters away (Initially).
- Remove the mask outside patient care area.

SR NO	STEPS	FIGURE
1	INSPECT PPE Unzip front	
2	OUTER GLOVES Pinch and pull 1 st glove, insert two fingers inside cuff for the 2 nd	
3	HOOD AND COVERALL Roll inside out	
4	SHOE COVER Hold by the top edge	
5	HAND RUB Over gloved hands	
6	GOGGLES/VISOR Hold by the straps	
7	SURGICAL /N95 MASK Outside patient care area	
8	HEAD CAP Hold by the top	
9	INNER GLOVES Pinch and pull 1 st glove, insert two fingers inside cuff for the 2 nd	
10	HAND WASH With soap and water	

9. RESPIRATORY HYGIENE AND COUGH ETIQUETTE, DYPMCHRC

DOs	DON'Ts
Cough/sneeze with a tissue paper Or into your sleeve if no tissue is available	Don't cough/sneeze on your hands Do hand hygiene if coughed/sneezed on hands
Turn head away from others when coughing/sneezing	Don't cough/sneeze on nearby people Do not spit here and there
If tissues are used, discard into yellow bag	Don't discard tissues into other BMW bags
Maintain 1 meter (2 arm) distance <ul style="list-style-type: none"> • If you have cough/sneeze • From people with respiratory symptoms • From contacts of corona cases who are on quarantine 	Do not stay within 1 meter from others <ul style="list-style-type: none"> • If you have cough/sneeze • From people with respiratory symptoms • From contacts of corona cases who are on quarantine
Social distancing refers to avoid gathering. <ul style="list-style-type: none"> • It doesn't mean maintaining 1 meter distance from all people at home and office • No need to maintain 1 meter distance from known people without respiratory symptoms, with no history of contact to corona cases, or not on quarantine 	



10. BIOMEDICAL WASTE MANAGEMENT FOR COVID-19, DYPMCHRC

COVID-19 Corona isolation wards need to follow these steps to ensure safe handling and disposal of biomedical waste generated during patient care.

Follow the same principle segregation of waste as per BMWM Rules, 2016.

Colour coded bag/box	Broadly Include items	Disposal method
Yellow	Infectious Non-Plastic, Non- Sharp	Incineration
Red	Infectious plastic , non- sharp	Autoclave or microwave (recycle)
White Sharp Box	Sharp (metal)	Sharp pit
Blue Box	Glass, metal implants	Autoclave (recycle)

However, the following additional steps need to be kept in mind.

- Keep **separate dedicated** color coded bins/bags/containers in corona isolation wards and should be labeled as “COVID-19Waste”.
- Use **double layered bags (using 2bags)** should be used for collection of waste from COVID-19 isolation wards so as to ensure adequate strength and no-leaks.
- Use **dedicated trolley and collection bins** and label as “COVID- 19 Waste”
- **Transport to Common Bio-medical Waste Treatment and Disposal Facility (CBMWTF):** keep “COVID-19Waste” separately in temporary storage room prior to handing over to authorize staff of CBMWTF. COVID-19 waste collected in such isolated wards can also be lifted directly from ward into CBWFT collection van.
- Disinfection : the inner and outer surface of bags/ containers/collection bins/ trolleys should be disinfected with 1% sodium hypochlorite
- **General waste** not having contamination should be disposed as solid waste
- Maintain **separate record** of waste generated from COVID- 19 isolation wards
- **PPEs:** Depute dedicated sanitation/ BVG worker and use adequate PPEs- three layered mask, splash proof apron/gowns, nitrile gloves, gum boots, safety goggles
- **Dedicated vehicle:** CBMWTF should use dedicated vehicle for transport of COVID - 19waste; Disinfect the vehicle with 1% sodium hypochlorite on reaching DYPMCHRC.
- **Quarantine facility for suspected COVID patients:** treat the routine waste as general solid waste and dispose to local municipal as per solid waste management rule, 2016. Only biomedical waste which is expected to be little quantity should be collected and handed over to authorized waste collectors engaged by local bodies
- **PPE disposal:**
 - Gloves, plastic apron, goggles- **Red bag**
 - Non- plastic items such as mask, gown, cap- **Yellow bag**

***These guidelines according to Central Pollution Board.

According to Maharashtra Pollution Control Board ALL infectious waste has to be discarded in YELLOW bag

11. SPILL MANAGEMENT



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HOSPITAL INFECTION CONTROL

BLOOD AND BODY FLUID SPILLS MANAGEMENT

- Blood and body fluid spillages should be dealt with immediately
- Other persons should be kept away from the spillage until the area has been cleaned and dried.
- Care should be taken if there are sharps present and should first be disposed of appropriately into a sharps container.
- Spills should be removed before the area is cleaned.
- Area should be well ventilated if using chlorinating agents.
- Adding liquids to spills increases the size of the spill and should be avoided.
- Chlorinating agents should be used (1% sodium hypochlorite) in a well-ventilated area.
- Chlorinating agents should not be placed directly on spillages of urine.
- Chlorinating agents are not suitable for use on soft furnishings.
- It is recommended that supplies of personal protective equipment, paper towels and yellow waste bags are available for spills management.
- If non-disposable cloths/mops are used to clean spillage area they must be disinfected.

Spill Kit

A spill kit should be readily available in each clinical area and should include the following.

Scoop and scraper	Absorbent material	Rough cloth
Single-use gloves	Clinical waste bags and ties	Freshly prepared sodium Hypochlorite
Protective apron	Disposable forceps (Optional)	Two cardboard pieces
Surgical mask and eye protection	Detergent	Instruction chart

Buckets and mops of spills should be different from the regular mops and buckets and should be cleaned separately

All parts should be disposable to ensure that cross-contamination does not occur

MANAGEMENT OF SPILLS OF BLOOD AND OTHER BODY FLUIDS

BLOOD AND BLOOD STAINED BODY FLUIDS PUS/SPUTUM/FAECES/VOMITUS/URINE

1. Prepare all items required to manage the spillage and don PPE
2. If spillage is large - place disposable paper towels over spill to absorb and contain it and discard.
3. Apply chlorine releasing agent 1% sodium hypochlorite on top of absorbent material and leave for 20-30 mins.
4. Discard the absorbent material into yellow bag
5. Use mops for final cleaning and disinfect mops before next use.

Ensure non-disposable items used, e.g buckets for cleaning are cleaned, dried and stored appropriately.
Discard disposables used immediately into the appropriate waste bin, including disposable personal protective equipment worn
Perform hand hygiene

HOSPITAL INFECTION CONTROL, DYPMCH

12. ENVIRONMENTAL CLEANING AND DISINFECTION PROTOCOL, DYPMCHRC

COVID-19 virus can potentially survive in the environment for several hours/days. Premises and areas, equipment potentially contaminated with the virus to be cleaned before their re-use.

Contaminated surfaces not directly associated with transmission of infections to either staff or patients

- Transfer of microorganisms from environmental surfaces to patients is mostly via hand contact with the surface
- Hand hygiene is important to minimize the impact of this transfer
- Cleaning and disinfecting environmental surfaces is fundamental in reducing healthcare-associated infections

Cleaning agents and disinfectants

COVID isolation room/screening area	Disinfectant	Contact time	Frequency
High touch surfaces	Hypochlorite 1% (wipe) OR 0.5% Bacillocid	10min	Twice/shift (4 hourly)
Floor	Clean (soap & water) and then Hypochlorite 1% (mop)	10min	Once/shift (8 hourly)
Wall, ceiling	Hypochlorite 1% (wipe)	10min	Once daily
Linen (used)	Hypochlorite 1%	Min. 20min	As on when
Toilet	Clean (soap & water) and then Hypochlorite 1% (wash)	10min	Twice/shift (4 hourly)
Corridor	Hypochlorite 1% (mop)	10min	Once/shift (8 hourly)
Non-critical equipment (stethoscope, BP cuff, thermometer etc.)	70% Alcohol		After each use
Slippers	Soap and water first and then with Hypochlorite 1% (dip) (if visibly soiled)	10min	Once /day
Terminal disinfection	Soap and water followed by 0.5% Bacillocid	10min	As on when needed

Similar protocol can be followed for Non-COVID areas too in the present conditions.

Footnote:

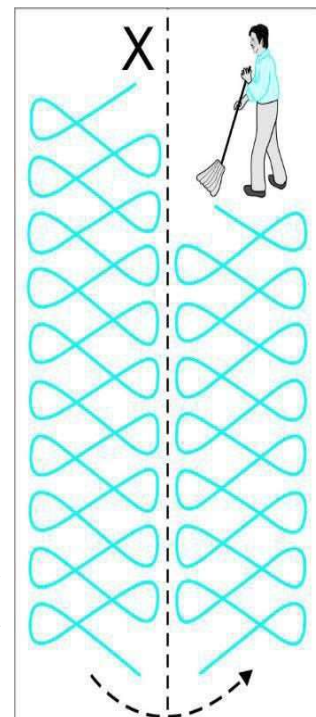
- Contact time of at least 10 minutes is necessary for both Bacillocid or hypochlorite
- Hypochlorite should be used mainly on hard, non-porous surfaces (it can damage textiles and metals)

Surfaces (Table surfaces, slabs, walls, windows, equipment surfaces etc.):

- **Wipes** are recommended over spray for all reachable surfaces and high-touch areas including stainless steel, rubber and equipment surfaces
- **Spray** is recommended for only non-reachable surfaces. Spray should be avoided in general, as coverage is uncertain and spraying may promote the production of aerosols.
 - **Floor:** Mop is recommended.
 - **Wettest (Bucket) wipes-** Do not use for non-critical areas like fans, walls, doors etc. First, wipe with plain water and then can disinfect with Lysol.
 - **PPE:** Housekeeping staff should wear appropriate PPE when handling and transporting used patient care equipment (gloves) or while cleaning/disinfecting corona ward (surgical mask, gown, heavy duty gloves, eye protection if risk of splash). Boots or closed work shoes)
 - Housekeeping staff should wash their hands with soap and water immediately after removing the PPE, and when cleaning and disinfection work is completed.
 - **Dishes and eating utensils** used by a patient with know nor suspected infection: No special precautions other than standard precautions such as hand hygiene and wearing gloves when handling patient trays, dishes and utensils.

Measures during mopping

- Progress from the least soiled areas to the most soiled areas and from high surfaces to low surfaces
- Remove gross soil (visible to naked eye) prior to cleaning and disinfection
- **Never shake mops:** Minimize turbulence to prevent the dispersion of dust that may contain micro-organisms
- Use dust control mop prior to wet/damp mop. **Do not use brooms**
- Wash the mop under running water before doing wet mopping
- Do not ‘**double-dip**’ mops (dip the mop only once in the cleaning solution, as dipping it multiple times may re-contaminate it)
- An area of approximately **120 square feet** to be mopped before re-dipping the mop in the solution
- Cleaning solution to be changed when it is visibly dirty immediately and also change solution for every room and immediately after cleaning blood and body fluid spills.
- **Cleaning sequence:** Always clean should be proceeded in a top-to- down sequence i.e. ceiling based equipment first, walls, then floor based equipment and lastly the floor.



- When cleaning the floor, begin at the end farthest from the door and move towards the door (*in to out*).
- The cleaning staff should always move from clean to unclean areas and never vice-versa
- When cleaning individual equipment: clean from top to down.

- **Eight stroke technique for mopping:** In open areas use a figure eight stroke in open and wide spaces, overlapping each stroke; turn mop head over every five or six strokes.
 - While in small spaces, starting in the farthest corner of the room, drag the mop toward you, then push it away, working in straight, slightly overlapping lines and keeping the mop head in full contact with the floor.
 - Repeat until entire floor is done.
- **Disinfection:** After cleaning, all equipment used for cleaning, wash with soap and hot water; followed by decontamination with 1% hypochlorite 20 min and then dry it in sunlight.
- Change the mop head when heavily soiled.
- Report adverse incident to supervisor
- Collect waste, handle plastic bags from the top (do not compress bags with hands)
- Clean hands on leaving the room.

Measures during surface wiping

- Go from clean to unclean area and top to down
- No. of strokes per wipe-vary depends on area and material and size of the wipe
- Use new wipe for each use
- Never do zigzag cleaning, never do re-dipping of cloth

Dilutions of various disinfectants available at DYPMCHRC

Disinfectant concentrations	Dilution protocol
Hypochlorite1%	990 ml R.O. water +10 ml Sodium hypochlorite
Bacillocid0.5%	5 ml in 1Lt

- Hypochlorite dilutions should be prepared freshly

High Touch Surfaces

High touch surfaces should be cleaned and/or disinfected more frequently (clean 4 hourly or earlier)

- Bedrails
- Bedframes
- Moveable lamps and stands
- Tray table
- Bedside table
- Door handles
- IV poles
- Blood-pressure cuff
- Wall area around the toilet in patient room
- Edges of privacy curtain
- Mobile and telephone
- Computer, mouse, keyboard
- Lift buttons
- Hand rails(staircase)
- Side rails of stretches Chair arms (including wheelchairs)

Equipment Disinfection

Area/Items	Agent	Process	Method/procedure
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 & covers	Detergent and 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	Alcohol rub	Cleaning	<ul style="list-style-type: none"> Should be stored dry in individual holder Wipe with alcohol rub in between patient use
Injection and dressing trolley	Disinfectant (70%alcohol) / 0.5 % Bacillocid / 1% hypochlorite	Cleaning	<ul style="list-style-type: none"> After each use should be wiped with disinfectant
Mobile phones and landline phones	70% Alcohol	Front and back	<ul style="list-style-type: none"> Twice per shift And also before leaving workplace
Ventilator Monitor Defibrillator USG machine	70% Alcohol		
Ventilator tubing	ETO or plasma sterilization	Sterilization	<ul style="list-style-type: none"> First clean then send for ETO/plasma sterilization
Ventilator-suction apparatus	Bacillocid0.5%	Disinfection	Discard the suction fluid as per BMW rule, then immerse in detergent followed by water and finally clean with 0.5% Bacillocid

13. Environmental Cleaning of Operating Rooms

Environmental cleaning in operating room minimizes patients' and HCWs' exposure to potentially infectious micro-organisms.

First cleaning of the day (before cases begin)

This should be performed first, every morning irrespective of whether the OT will be used or not

- Wear appropriate PPE
- The OT staff should not enter the OT before cleaning is complete
- Clean all horizontal surfaces by wet wiping with 1% Bacillocid. The sequence of cleaning from top to down; in to out.
- Keep the OT closed for 1hr and after cleaning switch ON AC with Air handling units.
- Wash the scrub basin and tap with soap and water and disinfect it too with Bacillocid.
- After cleaning is over, PPEs should be removed. Perform hand hygiene.

Cleaning operating rooms in between cases

The air handling unit should be kept on and OT door closed.

- **Signage:** Place a cautionary 'Wet Floor' sign at the entrance of the room
- Use a cloth dampened in 1% Bacillocid solution to clean and disinfect surfaces that have come in contact with a patient or body fluids, including tops of surgical
- **Damp mop** floor in a 1 to 1.3 meter (3 to 4 feet) perimeter around the OT table (larger area if contamination present)

Terminal cleaning of operating rooms (end of the day)

- Thorough cleaning of in and around of OT table should be performed where there was an increased risk of contamination with body and body fluid during previous surgery.
- **Cleaning followed by Disinfection:** First cleaning should be performed with detergent or soap and water; followed by disinfection 1% Bacillocid.
- Alcohol wipes can be used as alternate for the monitors equipment
- Clean and disinfect lights and ceiling-mounted tracks, high-touch areas such as all door handles, push plates, light switches and controls, furniture
- Clean and disinfect all surfaces
- Clean scrub sinks and surrounding walls
- Mop floor at all areas including the underneath of OT table
- Apply disinfectant to ensure that the floor remains wet for five minutes; use a fresh mop/mop head and fresh solution for each room
- Slippers should be washed with soap and water; followed by disinfection with 1% hypochlorite (for 10min contact time if visibly soiled) everyday

Detailed Wash-down of the OT Complex

A detailed wash-down should be done at least once a week for OTs that is used daily. For OTs that are used less frequently, detailed wash-down should be done at least once a month and before any patients are operated.

- Here, all movable equipment and materials are shifted out of the OT
- Any pending minor civil or electrical work can be performed at this stage.
- Wipe all surfaces of the OT, ceiling, wall fixtures, ceiling mounted fixtures e.g., OT lamp, all fixed floor based equipment.
- Lastly scrub the floor with soap and water and then wipe all surfaces, floor and equipment with 1% Bacillocid. Allow the disinfectant to dry naturally.
- **Agent:** 1%Bacillocid should be used as first choice. 70% Alcohol can be used as alternate for the monitors of equipments.
- Keep the OT closed for at least **one hour**.

14. LINEN AND LAUNDRY MANAGEMENT

One must bear in mind the basic principle of cleaning and disinfection. Disinfection or Antisepsis is ineffective in presence of organic matter and therefore:

- Clothes, Laundry and Linen needs to **be Disinfected first and sent to the laundry**
- One must never carry soiled linen holding it against body
- Hand hygiene and PPE (surgical mask, heavy duty gloves, plastic apron, boots)
- Place soiled linen in a leak-proof bag or bucket kept near the patient
- Soiled linen shall be placed in clearly labelled, leak-proof bags or containers, carefully removing any solid excrement and putting in covered bucket to dispose of in the toilet
- Washing machine Cycle: Wash at 60-90°C with laundry detergent followed by soaking in 1% Sodium Hypochlorite for approximately 20minutes

15. LIFT INFECTION CONTROL SOP

- 3-4 people per lift at a time: Maintain two arm distance
- Hand rub/wash before and after lift use
- Clean high touch area of lift such as lift-buttons, rails and adjacent-wall area, door every one hour.
- Clean other area of lift every 8 hourly

MOBILES & LAPTOP INFECTION CONTROL SOP

- Avoid bringing to hospital if not absolute necessary
- Clean front and back surface
- Alcohol wipes
 - Twice per shift
 - And also before leaving workplace
- Switch off during wiping



16. DEAD BODY MANAGEMENT FOR COVID 19

- i. Transmission of COVID-19 is through droplets. Therefore it is unlikely to have an increased risk of COVID infection from a dead body to health workers or family members who follow standard precautions while handling body.
- ii. Only the lungs of dead COVID patients, if handled during an autopsy, can be infectious.

Standard Precautions to be followed by HCWs while handling dead bodies of COVID

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

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

Overall recommendations

- **Body bag-** One body bag, robust leak-proof of 150µm thickness is needed.
- **Viewing of the body** -is allowed with standard precautions
- **Embalming** of dead body should not be allowed.
- **Hygienic preparation-** either not allowed, or allowed with appropriate PPEs
- **Autopsy-** need to avoided as much as possible
- **Final treatment-** either cremation or cuffing depending up on the religious practice; however cremation is more advisable.

Specific recommendations

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

- Plug oral, nasal orifices of the dead body to prevent leakage of body fluids.
- If the family of the patient wishes to view the body at the time of removal from the isolation room or area, they may be allowed to do so with the application of Standard Precautions (hand hygiene, 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.
- The body will be either handed over to the relatives or taken to mortuary.
- All used/ soiled linen should be handled with standard precautions, put in bio-hazard bag and the outer surface of the bag disinfected with hypochlorite solution.
- Used equipment should be autoclaved or decontaminated with disinfectant solutions.
- All floor, wall, ceiling, high touch area and medical care equipment used should be disinfected/ mopped with 1% hypochlorite solution.
- Do not do fogging or spray of the isolation room.
- All medical waste must be handled and disposed of in accordance with Bio-medical waste management rules.
- The health staff who handled the body will remove personal protective equipment, discard in appropriate waste bins and will perform hand hygiene.

2. Environmental cleaning and disinfection

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

3. Handling of dead body in Mortuary

- Standard precautions have to be followed
- Dead bodies should be stored in cold chambers maintained at approximately 4°C.
- Environmental surfaces, instruments and transport trolleys should be properly disinfected with 1% Hypochlorite solution.
- After removing the body, the chamber door, handles and floor should be cleaned with sodium hypochlorite 1% solution.

4. Autopsies on COVID-19 dead bodies

- Autopsies should be avoided.
- But if autopsy is to be performed for special reasons, the following infection prevention control practices should be adopted:
 1. The team should be well trained in infection prevention control practices.
 2. The number of forensic experts and support staff in the autopsy room should be limited.

3. The team should use full complement of PPE (coveralls, head cover, shoe cover, N 95 mask, goggles / face shield).
4. Reduce aerosol generation during autopsy using appropriate techniques especially while handling lung tissue.
 - After the procedure, body should be disinfected with 1% Sodium Hypochlorite and placed in a body bag. The exterior of the bag will again be decontaminated with 1% Sodium Hypochlorite solution. The body there after can be handed over to the relatives. Autopsy table to be disinfected as per standard protocol.
 - **Transportation:** The personnel handling the body may follow standard precautions (surgical mask, gloves). The vehicle, after the transfer of the body to cremation/burial staff, will be decontaminated with 1% Sodium hypochlorite.

5. At the crematorium/ Burial Ground

- The staff will practice standard precautions of hand hygiene, use of masks and gloves.
- Bathing, kissing, hugging, etc. of the dead body should not be allowed.
- The ash does not pose any risk and can be collected to perform the last rites.
- Large gathering at the crematorium/ burial ground should be avoided as a social distancing measure as it is possible that close family contacts may be symptomatic and/ or shedding the virus.

17. SAMPLE COLLECTION SOP FOR COVID 19 PATIENTS

Sample acceptance: Central Clinical Laboratory (CCL) (from CCL it will send to YCM Hospital)

Availability of VTM and Swab: Central Clinical Laboratory (CCL)

Timing: 09:00 am to 01:00 pm

Indications for testing

- b. Any hospitalized patient with pneumonia or Severe Acute Respiratory Infection (SARI) (fever, cough, difficulty in breathing) OR
- c. Disease in healthcare worker working in an environment of pneumonia or SARI patients OR
- d. Contact of laboratory confirmed positive case
Check that the requisition form is the one provided by ICMR, NIV (**Annexure I**) and filled in all aspects especially
 - a. Address and contact number of the person being tested
 - b. Contact details of the referring clinician

Samples to be collected

Preferably Nasopharyngeal and/o rOropharyngeal and/orThroat swab should be collected.

Specimen Type	Collection materials	Transport to laboratory	Storage till testing	Comment
Nasopharyngeal and oropharyngeal swab or throat swab	Dacron or polyester flocculated swabs* and Viral transport Medium (VTM)	4 °C	≤5 days: 4 °C >5 days: -70 °C	The nasopharyngeal and oropharyngeal swabs should be placed in the same tube to increase the viral load
Bronchoalveolar Lavage	Sterile Container	4 °C	≤48 hours: 4 °C >48 hours: -70 °C	There may be some dilution of pathogen, but still a worthwhile specimen
Tracheal aspirate, nasopharyngeal aspirate or nasal wash	Sterile Container	4 °C	≤5 days: 4 °C >5 days: -70 °C	Not applicable
Sputum	Sterile Container	4 °C	≤5 days: 4 °C >5 days: -70 °C	Ensure the material is From the lower respiratory tract.

Personal protective equipment (apron, hand gloves, face shield, N95 respirator etc.) need to be used and all biosafety precautions should be followed so as to protect yourself, other workers, other patients and the environment.

Procedure for sample collection (Annexure II)

Types of Specimen

- Throat swab
- Nasopharyngeal swab

Requirement

- Sterile Dacron or polyester flocced swabs
- **Container**–Viral transport medium(VTM)
- Clean tongue depressor
- Source of light

Procedure

- Perform hand hygiene.
- Wear N95 respirator
- Use a face shield/goggle for eye protection
- Wear clean/sterile powder free gloves.
- Ask patient to open his/her mouth without putting out his tongue and to say ‘Ahhhhh....’
- While the patient is saying ‘Ahhhhh’, press down the outer two third of tongue with tongue depressor, using the left hand, enabling the tonsils and back of the throat to become visible.
- Introduce the swab with right hand between the tonsillar pillars and behind the uvula, while avoiding touching the tongue, cheeks, uvula, or lips.
- Rub the swab firmly against the posterior pharyngeal wall for 5 seconds while turning it round
- Take the swab, and immediately place the same in Viral transport medium. The nasopharyngeal and oropharyngeal swabs should be placed in the same VTM to increase the viral load. Break the swab at the marking to fit into the VTM. Close the tube.
- Discard the upper broken end of the swab in the yellow bag.

Specimen labelling

Pre label the specimen container before collection.

Proper labelling (name/age/gender/specimen ID) to be done on specimen container and other details of sender (name/address/phone number) on the outer container by mentioning “To be tested for SARSCoV-2”

Storage of samples at collection site

The sample should be stored in Viral transport Medium and transported immediately.

If transport is likely to be delayed even slightly, store at 4⁰C (refrigerator compartment and not the door).

Package of samples

The samples should be packed as per IATA guidelines using a triple packaging material. They should be transported in boxes with frozen gel packs/ice packs. The VTM container is the first level of containment, zip- Lock bags / self- sealing envelope is the second level of containment and the vaccine box or cool pack is the third level of containment. The cool pack should have enough icy material to maintain a temperature approximately equal to 4⁰ C.

Waste Disposal

Biomedical waste should be disposed- off as per the BMWM guidelines. The Gloves and plastic apron to be discarded in red bag.* The mask as well as the upper broken end of the swab to be discarded in yellow bag.

*According to Central Pollution Control Board

According to Maharashtra Pollution control Board ALL infectious waste goes in YELLOW.

**ICMR- National Institute of Virology, Pune
Specimen Referral Form for 2019 Novel Coronavirus (2019-nCoV)**

INSTRUCTIONS:											
<ul style="list-style-type: none"> Inform the local / district / state health authorities, especially surveillance officer for further guidance. Seek guidance on requirements for the clinical specimen collection and transport from nodal officer. This form may be filled in and shared with the IDSP and also ICMR-NIV nodal officer in advance. 											
PERSON DETAILS											
Name of patient:			Age:.....Years.....Month Gender: Male <input type="checkbox"/> Female <input type="checkbox"/>								
Address:			Date of birth:/...../..... (dd/mm/yyyy)								
City:			Mobile/phone:								
State:			Email:								
EXPOSURE HISTORY (2 WEEKS BEFORE THE ONSET OF SYMPTOMS)											
Recent stay/travel in area (Wuhan, China): Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, stay/travel duration with date											
History of visit to wet/seafood market: Yes <input type="checkbox"/> No <input type="checkbox"/>			From:...../...../..... to:...../...../.....								
Close contact with confirmed case Yes <input type="checkbox"/> NO <input type="checkbox"/> Close contact with animal/birds Yes / N											
Recent travel to any other country Yes <input type="checkbox"/> NO <input type="checkbox"/>			Travel place:								
Health care worker working in hospital involved in managing patients YES / NO,											
Hospitalization date:/...../.....			Discharge date:/...../.....								
CLINICAL SYMPTOMS AND SIGNS											
Date of onset of symptoms:/...../.....			First symptom:								
Symptoms	Yes	No	Symptoms	Yes	No	Symptoms	Yes	No	Symptoms	Yes	No
Fever at evaluation	<input type="checkbox"/>	<input type="checkbox"/>	Cough	<input type="checkbox"/>	<input type="checkbox"/>	Diarrhoea	<input type="checkbox"/>	<input type="checkbox"/>	Abdominal pain	<input type="checkbox"/>	<input type="checkbox"/>
History of fever	<input type="checkbox"/>	<input type="checkbox"/>	Breathlessness	<input type="checkbox"/>	<input type="checkbox"/>	Nausea	<input type="checkbox"/>	<input type="checkbox"/>	Vomiting	<input type="checkbox"/>	<input type="checkbox"/>
Chest pain	<input type="checkbox"/>	<input type="checkbox"/>	Sore throat	<input type="checkbox"/>	<input type="checkbox"/>	Body-ache	<input type="checkbox"/>	<input type="checkbox"/>	Haemoptysis	<input type="checkbox"/>	<input type="checkbox"/>
			Sputum	<input type="checkbox"/>	<input type="checkbox"/>				Nasal discharge	<input type="checkbox"/>	<input type="checkbox"/>
Signs	Yes	No	Sign	Yes	No	Sign	Yes	No			
Wheeze	<input type="checkbox"/>	<input type="checkbox"/>	Stridor	<input type="checkbox"/>	<input type="checkbox"/>	Lower chest indrawing	<input type="checkbox"/>	<input type="checkbox"/>			
Nasal flaring	<input type="checkbox"/>	<input type="checkbox"/>	Crepitation	<input type="checkbox"/>	<input type="checkbox"/>	Accessory muscle use	<input type="checkbox"/>	<input type="checkbox"/>			
UNDERLYING MEDICAL CONDITIONS											
Condition	Yes	No	Condition	Yes	No	Condition	Yes	No	Condition	Yes	No
COPD	<input type="checkbox"/>	<input type="checkbox"/>	Bronchitis	<input type="checkbox"/>	<input type="checkbox"/>	Diabetes	<input type="checkbox"/>	<input type="checkbox"/>	Hypertension	<input type="checkbox"/>	<input type="checkbox"/>
Chronic renal disease	<input type="checkbox"/>	<input type="checkbox"/>	Malignancy	<input type="checkbox"/>	<input type="checkbox"/>	Heart disease	<input type="checkbox"/>	<input type="checkbox"/>	Asthma	<input type="checkbox"/>	<input type="checkbox"/>
IMMUNOCOMPROMISED CONDITION: YES / NO											
Other:											
HOSPITALIZATION, TREATMENT AND INVESTIGATION											
HOSPITALIZATION date:/...../.....			DIAGNOSIS:								
DIFFERENTIAL DIAGNOSIS:			ETIOLOGY IDENTIFIED:								
ATYPICAL PRESENTATION: YES / NO			UNUSUAL / UNEXPECTED COURSE: YES / NO								
OUTCOME: Discharge / Death /			OUTCOME date:...../...../.....								
Treatment	Yes	No	Treatment	Yes	No	Treatment	Yes	No	Treatment	Yes	No
Antibiotics	<input type="checkbox"/>	<input type="checkbox"/>	Ventilation	<input type="checkbox"/>	<input type="checkbox"/>	Antivirals	<input type="checkbox"/>	<input type="checkbox"/>	Steroids	<input type="checkbox"/>	<input type="checkbox"/>
Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	CPAP	<input type="checkbox"/>	<input type="checkbox"/>	Bronchodilators	<input type="checkbox"/>	<input type="checkbox"/>	Other:		
Investigation findings: Haematocrit: Hb: WBC (leukocyte count):											
Differential Leukocyte count: Lymphocytes (%): Monocytes (%): Neutrophils (%):											
Basophils (%): Eosinophil (%): Platelet (Thrombocyte) count: ESR:											
Investigation details: Chest X ray: Yes <input type="checkbox"/> No <input type="checkbox"/> if yes (findings):											
Blood culture findings (If any): Other investigation details:											
SPECIMEN INFORMATION FROM REFERRING AGENCY											
Specimen type	Collection date	Label	FOR OFFICE USE ICMR-NIV →	Specimen ID	Test performed	Result					
1. BAL/ETA/___											
2.TS/NPS/NS											
3. Blood in EDTA											
4. Acute sera											
5 Convalescent sera											
Name of Doctor:			Hospital Name/address:								
Phone/mobile number:			Signature and date:								

PLEASE REFER THE CASE DEFINITION CHECKLIST ON PAGE 2. FOR SPECIMEN COLLECTION GUIDELINES, VISIT www.niv.co.in

For any sharing of information or for any query, contact Dr. Yogesh Gurav Scientist E (020-26006290/26006390).

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**ICMR- National Institute of Virology, Pune
Specimen Referral Form for 2019 Novel Coronavirus (2019-nCoV)**

Name of the patient: Age:years.....months

Note: Please ensure that the case definition should be strictly followed.

Please encircle the correct response (Yes/No)

CASE DEFINITION

1. Severe Acute Respiratory Illness (SARI), with

- history of fever YES / NO
- cough YES / NO
- requiring admission to hospital YES / NO

WITH

- no other etiology explains the clinical presentation YES / NO
(clinicians should also be alert to the possibility of atypical presentations in patients who are immunocompromised);

AND

any of the following

- A history of travel to Wuhan, Hubei Province China in the 14 days prior to symptom onset: YES / NO
- the disease occurs in a health care worker who has been working in an environment where patients with severe acute respiratory infections are being cared for, without regard to place of residence or history of travel YES / NO
- the person develops an unusual or unexpected clinical course, especially sudden deterioration despite appropriate treatment, without regard to place of residence or history of travel, even if another etiology has been identified that fully explains the clinical presentation. YES / NO

2. Individuals with acute respiratory illness of any degree of severity who, within 14 days before onset of illness, had any of the following exposures:

- close physical contact with a confirmed case of nCoV infection, while that patient was symptomatic; YES / NO
- a healthcare facility in a country where hospital-associated nCoV infections have been reported; YES / NO
- direct contact with animals (if animal source is identified) in countries where the nCoV is known to be circulating in animal populations or where human infections have occurred as a result of presumed zoonotic transmission*. YES / NO

* To be added once/if animal source is identified as a source of infection

EMAIL ID OF THE HEALTH AUTHORITY (FOR SENDING THE REPORT):

Name of Doctor: Hospital Name/address:

Phone/mobile number: Signature and date:

PLEASE REFER THE CASE DEFINITION CHECKLIST ON PAGE 2. FOR SPECIMEN COLLECTION GUIDELINES, VISIT www.niv.co.in
For any sharing of information or for any query, contact Dr. Yogesh Curav Scientist C (020-26006290/26006390). Page 2 of 2

Requirements for Clinical Samples Collection, Packaging and Transport			
<p>1. Sample vials and Virus Transport Medium (VTM)</p> 	<p>2. Adsorbent material (cotton, tissue paper), paraffin, seizer, cello tape</p> 	<p>3. A leak-proof secondary container (e.g., ziplock pouch, cryobox, 50 mL centrifuge tube, plastic container)</p> 	
<p>4. Hard-frozen Gel Packs</p> 	<p>5. A suitable outer container (e.g., thermocol box, ice-box, hard-board box) (minimum dimensions: 10 x 10 x 10 cm)</p> 		
Procedure for Specimen Packaging and Transport			
<p>1. Use PPE while handling specimen</p> 	<p>2. Seal the neck of the sample vials using parafilm</p> 	<p>3. Cover the sample vials using absorbent material</p> 	<p>4. Arrange primary container (vial) in secondary container</p> 
<p>5. Placing the centrifuge tube inside a zip-lock pouch</p> 	<p>6. Placing the zip-lock pouch inside a sturdy plastic container and seal the neck of the container</p> 	<p>Note: Sample vials can also be placed inside a zip-lock pouch, covered in absorbent material and secured by heat-sealing or rubber bands. Then, the zip-lock pouch should be placed inside another plastic pouch and secured</p>	<p>7. Using a thermocol box as an outer container and placing the secondary container within it, surrounded by hard-frozen gel packs</p> 
<p>7. Using a hard card-board box as an outer container and placing the secondary container and the gel packs</p> 	<p>8. Placing the completed Specimen Referral Form (available on www.niv.co.in) and request letter inside a leak-proof, zip-lock pouch</p> 	<p>9. Securing the zip-lock pouch with the Specimen Referral Form on the outer container</p> 	<p>10. Attaching the labels:</p> <ul style="list-style-type: none"> • Senders' address, contact number; Consignee's address /contactnumber; • Biological substance-Category B; • 'UN 3373'; Orientation label, Handle with care 

SECTION-II

PROTOCOL FOR ADMINISTRATION

SCOPE OF THE DOCUMENT	
Name of Document	STANDARD OPERATING PROCEDURE FOR COVID-19
Document No	DYPMCHRC/COVID19Manual/2020/Ver1.0
Date of Issue:	May 2020
Date of Implementation:	May 2020
Prepared By:	Dr. Tushar sahasrabudhe, Professor, Dept. of Respiratory Medicine Dr. Sachinkumar Dole, Associate Professor, Dept. of Respiratory Medicine
Reviewed By	Dr. M.S.Barthwal (HOD, Dept of Respiratory Medicine)
Approved By	Dr. J.S. Bhawalkar (Dean, DYPMC)
DOCUMENT CONTROL	
Authorized to Hold Master Document	Dr. Sachinkumar Dole Dr. M.S.Barthwal
Document Issued To	<ul style="list-style-type: none"> • Dean Office • Medical Superintendent • All Clinical Departments • Infection Control • Nursing Director

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1 INTRODUCTION

GENERAL PROTOCOL TO BE FOLLOWED IN INSTITUTES

1. The medical history of each and every staff member will be provided by submitting the self- disclosure on the day of resuming duty/ classes (Annexure – 1).
2. Students and staff should also submit self-disclosure if any of their family members had been affected / treated for COVID 19
3. Sanitization of entire campus and college premises will be carried out scrupulously as per the schedule and methodology as per HIC Policy 2020.
4. All staff and visitors will be subjected to non-contact thermal scanner check at the time of entry.
5. Use of Hand sanitizer and face masks at workplace is compulsory.
6. Each institute should introduce and run health and hygiene awareness program.
7. First aid kits in the department/ college/ institute should be fully equipped at all times including certain medicines related to flu and fever.
8. Departments/ Colleges/ Institutes need to be vigilant in observing and identifying any COVID 19 suspect symptoms amongst their faculty and students. If found, they should be immediately referred to a fever clinic.

2. PROTOCOL FOR SECURITY STAFF

- Immediately after opening the main door/ gate of the department/ college/ institute, he will reach out for hand sanitizer/ thoroughly wash his hands with soap under running water for at least 20 seconds.
- Spray disinfectant provided by the department/ college/ institute on all the keys hung on the key-board and security cabins/ rooms.
- After wearing the face masks and hand-gloves, he will proceed to unlock/ open the remaining internal doors/ gates.
- He will also spray the disinfectant on the doors before opening and unlocking internal doors/ gates
- Once all doors/ internal gates opened/ unlocked, he will again use the sanitizer/ thoroughly wash his hands with soap under running water for at least 20 seconds.
- He will also spray the disinfectant on the hooks/ ropes used for barriers manned by him
- He will also make sure that the visitor(s) use the hand sanitizer before writing in the visitor's book. He will also maintain a reasonable distance of about 3 to 4 feet from such visitor(s) to ensure his own safety.
- He will keep using sanitizer after every 3 to 4 hours while being on duty.
- He will also ensure during his duty hours that he does not touch any item/ goods/ furniture/ vehicle etc. that has not been disinfected by using a spray.

3. PROTOCOL FOR RECEPTION

- Receptionist will invariably use the protective gears like face mask, gloves, sanitizer etc.
- Entire reception area/ room/ hall including the furniture/ equipment/ other items held therein will be sanitized at the start of the day by spraying the disinfectant.
- As far as possible, guests/ visitors should have pre-fixed appointments to meet the authorities.
- Every visitor will be screened by using a non-contact thermal scanner.
- Wherever possible, all visitors/ guests approaching the reception should walk through Full-Body Sanitizer compartment put up by the department/ college/ institute.
- Receptionist will follow the standard laid down protocol before entertaining the visitors/ guests by making them use sanitizer before they enter their details in the visitors' book.
- Reception desk/ counter will be sanitized every 3 to 4 hours by spraying the disinfectant
- Sofa/ chairs/ other furniture used in the reception area/ hall/ room will also be sanitized with the same schedule.
- Other staff assisting the receptionist will also adhere to strict preventive protocol—wearing face masks, frequently using sanitizer, maintaining social distance etc.

4. PROTOCOL FOR ADMINISTRATIVE OFFICES

- All staff working in the office will be screened using non-contact thermal scanner check and walk through Full-Body Sanitizer compartment put up by the department/ college/ institute, before going to the irrespective office rooms/ compartments/ sections.
- Before commencement of the day entire office area/ furniture/ counters/ equipment like desk top computers/ printers/ telephone sets etc. will be sanitized with the standard protocol.
- Disinfectant spray protocol will be carried out at least twice a day i.e. 1st at the beginning of the day and during lunch hours.
- All staff in the office will invariably use face masks.
- Their seating arrangement will be made in such a way that they maintain at least 1 meter distance from each other so as to maintain social distancing.
- Visitors to the office such as students/ their parents/ representatives will be entertained only with scheduled appointments.
- No crowding of students etc. will be allowed in the office.
- No student/ their parent/ representative will be permitted to enter the office without wearing a face mask
- Before entering the office, they will invariably use the hand sanitizer kept at the entrance of the office.
- Most of the queries/ issues related to the students/ other staff will be addressed through e-mode i.e. by using telephone calls/ emails/ SMS etc. thus reducing their physical visit to the office.
- All departments/ colleges/ institutes will promote e-payment methods for students to pay their tuition fee/ other dues/ exam form fee etc.

5. PROTOCOL FOR HIGHER AUTHORITY CABINS AND BOARD ROOMS

(Chancellor/Vice Chancellor/Registrar/CEO/Dean/ Principal etc.)

- In the current scenario, irrespective of the position held, this preventive protocol will be applied.
- Similar to other teaching and non-teaching staff, the higher authorities will also be screened by non-contact thermal scanner and will walk through Full-Body Sanitizer compartment put up at the main entrance by the department/ college/ institute before going to their respective cabins.
- Their cabins will also be subject to extensive sanitization. This will be carried out twice a day i.e. at start of the day and during lunch breaks.
- All the furniture & fixture, equipment, common touch points (door handles, light/ fan/ AC switches etc.) will be extensively disinfected.
- They will also use the face masks during their working hours.
- No one will enter their cabins without wearing a facemask.
- A bottle of hand sanitizer will always be kept handy in their cabins.
- As far as possible, official work will be carried out in e-mode manner – by using email, telephones, internet etc.
- Unless really necessary, regular meetings will be conducted in e-mode. Physical distancing norms will be followed during in-person meetings. Board rooms – furniture, equipment etc. will be sanitized with disinfectants before and after all such meetings.
- Meeting with outsiders/ visitors will be strictly restricted and this will be permitted only with prior appointment where there is utmost such necessity.

6. PROTOCOL FOR FACULTY ROOMS

- Teaching faculty rooms/ chambers including furniture and equipment will be thoroughly sanitize twice during the day i.e. morning and during lunch breaks.
- All teaching staff will be screened by non-contact thermal scanner check and walk through Full-Body Sanitizer compartment before going to their respective rooms.
- All faculty members will use the face masks and use the hand sanitizer every 3 to 4 hours during working hours.
- Faculty will reduce personal interaction with students by use e-modes i.e. emails/ Whatsapp groups/ similar tools.
- Handling assignments/ projects/ other such submissions will be preferably through e- modes.
- Faculty will also ensure that students will maintain distance of 3 feet from each other maintaining social distancing.
- In classroom faculty will restrict their movements in walking into student area.
- Faculty will sanitize their hands before entering/ coming out of the classroom and using any teaching aids inside the classroom Faculty will also ensure that students will maintain distance of 3 feet from each other maintaining social distancing.
- In classroom faculty will restrict their movements in walking into student area.
- Faculty will sanitize their hands before entering/ coming out of the classroom and using any teaching aids inside the classroom

7. PROTOCOL FOR TEACHING STAFF

- All teachers are expected to prepare e-content along with their course file and submit/ upload on their college/ institute website before the starting of academic year.
- Every institute should have e-facilities like virtual classroom and video conferencing facility ready and all teaching staff should be trained with the use of this technology.
- Every institute/ college should closely observe and support students & staff with their personal issues (like stress/ illness/ family issues/ unemployment fear) with the help of regular counseling sessions.
- We all have to review and revise the schedule for beginning of academic year and ensure the completion of syllabus along with concurrent evaluation.
- Innovative technology-based teaching learning methodology should be adopted.
- Teachers have to extensively use Google classrooms and other similar virtual platforms for college-level concurrent evaluations.
- A periodic review of the students database needs to be done and updated accordingly

8. PROTOCOL FOR CLASSROOMS/DEMO/TUTORIAL ROOMS

- All classrooms will be thoroughly sanitized (viz. entrance doors, windows, desks, other furniture & fixture, teaching aids, equipment etc.) twice during the day i.e. morning and during lunch breaks
- All students will be screened by non-contact thermal scanner and made to walk through Full Body Sanitizer compartment before going to their respective areas.
- If full-body sanitizer is not available, students will sanitize their hands by using sanitizing lotion kept outside every classroom
- All students will wear face masks during their presence in the department/ college/ institute.
- Students' lunch break should be scheduled to avoid crowding

9. PROTOCOL FOR LIBRARY/READING ROOM

- Entire library and reading room areas will be thoroughly sanitized (viz. entrance doors, windows, book-racks, other furniture & fixture, learning aids/ equipment etc.) twice during the day i.e. morning and during lunch breaks.
- Library staff will use the face masks during their working hours.
- Hand sanitizer bottles will be kept at the entrance of the library/ reading room area for visitors
- All students entering the library/ reading rooms areas should use hand sanitizer before reaching to books-rack area.
- Seating arrangements will be made in such a manner to ensure 3 feet distance from other student(s) as social distancing protocol.
- Librarian will ensure no over-crowding of students at one place or counter.

10. PROTOCOL FOR IT CENTERS/SKILL LABS /RESEARCH LABS

- IT centers / Laboratories (Labs)/ Workshops will be thoroughly sanitized (i.e. entrance doors, windows, computer platforms, equipment, machines, other furniture & fixture, teaching aids, including the UPS and Networking areas/ switches/ control panels etc.) twice during the day i.e. morning and during lunch breaks.
- Students and staff entering in these areas will use face masks, hand sanitizer and follow social distancing protocol displayed by the college/ institute.
- In-charge of these areas will make seating arrangement so as to maintain a distance of 3 to 4 for student/ user of such facilities.
- Based on the capacity, students will use these facilities in small batches decided by the in charge to avoid overcrowding.

11. PROTOCOL FOR HOUSEKEEPING STAFF

2. Each and every housekeeping staff member should provide relevant medical history on the day of resuming duty (Annexure – 1).
3. Housekeeping staff should also submit self-disclosure if any of their family members had been affected / treated for COVID 19
4. All housekeeping staff working will be screened using non-contact thermal scanner check and walk through Full-Body Sanitizer compartment put up by the department/ college/ institute, before going to their respective workplace
5. All housekeeping staff should wear face masks and hand-gloves during working hours.
6. Housekeeping staff should maintain distance of 3 feet from each other maintaining social distancing.
7. If any housekeeping staff develops any symptoms of COVID 19 suspect, they should be immediately report to fever clinic.
8. The sanitization of premises should be done as per hospital protocol

12. PROTOCOL FOR CANTEEN/ DINING AREAS

- Canteen/ Dining areas will be thoroughly sanitized viz. entrance doors, windows, tables, chairs, disbursal platforms, equipment, other furniture & fixture, before commencement of the day.
- This will be carried out 3 to 4 times during the day to ensure proper hygiene and cleanliness.
- All the utensils will be thoroughly washed and cleaned in hot water or Alum- mixed water before put to use for the day. Disposable dishes and glasses should be preferably used.
- Vegetables will be washed in Alum-mixed water or under running water before preparation.
- Cooking staff will follow all hygienic and preventive measures which includes use of face masks, frequent hand washing with soap, and wearing cleaned and sanitized aprons..
- Waiters will wear triple layer medical mask and will try to maintain reasonable distance while serving .
- If there is self-serving system, the platform used as pick-up point should be repeatedly and thoroughly sanitized.
- In-charge of the canteen should wear face mask during working hours and arrange furniture so as to maintain social distancing.
- Visitors should be allowed in small batches to ensure effective implementation of preventive measures.
- Canteen owner/ in-charge should promote and maximize the use of digital transaction system. Handling of currency notes should be mimimized. Preferably cash collecting person should not touch food items.
- Rules of preventive protocol should be displayed at prominent place.
- Hand sanitizers should be kept at various places to promote their use by the visitors.

13. PROTOCOL FOR HOSTEL

- All open and common areas like entrance areas, corridors, socializing/ entertainment areas, staircases, dining halls, corridor walls, door & windows opening in the corridors/ walk through etc. will be sanitized at least twice a day.
- All the residents in the hostels will be necessarily using face masks when moving out of their rooms.
- If possible, Full Body Sanitization (automatic) machines will be installed at the entrance of the hostel building to ensure full hygiene and cleanliness.
- Protocol of social distancing will be ensured in the entertainment areas by the hostel Rector/warden.
- Non-residents/ visitors will be allowed to meet the hostelites only in the socializing areas than going to the rooms of the residents.
- Automatic machines to detect body temperature of the residents will be used by the hostel security at the entrance while they get back to the hostel at the end of the day.
- First-aid medical kit should be available at hostel all the times.
- If the hostel has dining area, hygiene should be maintained by using the disinfectants, as per the laid don preventive protocol.
- Necessary Dos & Don'ts will be displayed at prominent places and at each floor for better view and understanding of the residents.
- The hostel warden will ensure that all desired preventive protocol are adhered by the hostel occupants and necessary discipline/ order is maintained.

14. PROTOCOL FOR TRANSPORT – BUSES/ AMBULANCES

- Use of college/ institute buses for transportation should be minimized wherever possible and students/staffs should use their private mode of conveyance.
- College buses/ Ambulances should be thoroughly cleaned viz. entrance doors, seats, bus ceilings, holding rods/ hooks etc. by spraying disinfectants before deployed for transportation. The same process also needs to be followed in the afternoon/ evening while transporting staff back home/ hostel.
- Seating arrangements in the buses should be so made that not more than 1 person should sit on one seat..
- The conductor of the bus need to ensure all preventive protocol i.e. all staff using face masks, hand sanitizer given, sufficient gap maintained while boarding etc.
- Both driver and conductor wear face masks while operating the transport.
- The conductor of the transport will also ensure complete discipline/ order as envisaged in the preventive protocol SOP.

15. PROTOCOL FOR SPORTS/GAMES WING

- As far as possible, No games/sports should be allowed till situation becomes normal
- Only games with very small teams may be allowed viz. badminton, table tennis, even lawn tennis, or other indoor games like, 2-player carom, chess etc. under close monitoring after going through full sanitization process.
- Players will always use face masks whenever possible and will keep themselves well hydrated and clean.
- Playing equipment will also be duly sanitized before using it.
- No public gathering for such events will be allowed.
- Only players and referee can be permitted, if at all any game has to be conducted organized.
- Protocol of sanitizing and social distancing however will be strictly adhered to.

16. MISCELLANEOUS AND OTHER SECTIONS/ DEPTS.

- A. **Biometric Booth** : Face recognition system will be installed instead of using the thumb/ finger print impressions at such booths.
- B. **Central Store Room** : The in-charge of the store room will follow the procedure enumerated in the section Admin Office.
- C. **Manpower Section** : All peons/ MTS (Multi-Tasking Staff) will also follow the same preventive protocol as listed for the office staff
- D. **Powerhouse Section** : Staff deployed in this section will also follow the preventive norms as laid down for the staff deployed in IT centres / Labs.
- E. **Wash -rooms** : Extra care will be taken to ensure proper cleanliness throughout the day for both male & female washrooms.
- F. **Water dispensing areas** : Extra care for ensuring cleanliness will be undertaken.
- G. **Boys' & Girls' Common Rooms**: The rooms will be disinfected twice a day for their use. However to ensure social distancing, restrictions will be imposed to minimize the number of students using it at a given point of time.

ANNEXURE-1

SELF-DISCLOSURE FORM

Teaching Faculty

Non-Teaching Staff

Contact Information:

Name: Mobile Number:

E-mail Address:

Address:

College/ Institute Name:

If the answer to question 1 to 4 below is yes, access to the facility will be denied.

No	Questions	YES	NO
1	Are you showing any signs of one or more of the following symptoms? Temperature > 37.3°C/99.14°F, body ache, cough, shortness of breath, difficulty in breathing, tiredness?		
2	Is anyone in your family and/or close relationship/friend circle is quarantined?		
3	Is anyone in your family and/or close relationship/friend in circle is identified as COVID-19 suspect case?		
4	Have you travelled to any COVID-19 infected area/locality in last 14 days?		
5	Is the information you provided on this form true and correct to the best of your knowledge?		

Directions to follow

- If you feel any of the symptoms of COVID-19 appearing in you/ your colleague, you must inform your Supervisor/ Principal/ Director immediately.
- If anyone in your family, close relation, friend circle is identified with COVID-19 symptom, inform immediately to your supervisor/Principal/Director as soon as possible through Phone/ personally whichever is quicker.

Signature of the Employee

Date:.....

Time:.....

SECTION-III

GENERAL AND COMPREHENSIVE CLINICAL CARE IN DENTAL

(Recommendation of Dental Council of India)

INSTRUCTIONS FOR DENTAL COLLEGES: GENERAL AND COMPREHENSIVE CLINICAL CARE

Dental Colleges should ensure that patients are managed according to the dental needs; which could be from Emergency dental care to elective dental care.

Every Dental College should have a pre-screening triage area and comprehensive dental clinic functional classified to attend to all patients. Further the Comprehensive Clinic should be classified into further sections to address specific dental problems for better infection control management and **avoid** cross contamination.

All Dental Colleges should provide general as well as specific information to all visiting the Dental Colleges.

GENERAL INFORMATION:

1. Appeal to non-emergency patients to postpone their treatment plans to avoid cross-infection caused by clustering in Dental Colleges.
2. In case of any dental emergency; patients should wear masks for protection and minimize the number of accompanying persons as much as possible.
3. Patients should be encouraged to take appointments or register online or telephonically in all outpatient clinics to reduce gathering of people;
4. Enhance oral health education through the different media like internet, newspapers and social media.
5. The body temperature of all employees must be taken before entering the workplace, and it is forbidden to work with illness.
6. Strengthen training of faculty and staff in infection control, and equip dental teams with sufficient protective equipment which strictly complies with the protection requirements.
7. Display of posters of hand hygiene, infection control and other preventive strategies should be displayed at different and important locations of the dental colleges.
8. In wake of COVID-19 outbreak going on in the country, the Dental Colleges shall not hold any workshops, conferences, dental screening camps etc.

SPECIFIC INFORMATION:

1. Upon arrival, all patients in Pre-screening area, will be screened for signs and symptoms of COVID19 and current dental complain.
2. Every patient who upon screening further classified as Emergency or Non-emergency. Emergency dental problems can be into severe dental pain, trauma, swelling, excessive bleeding and any other condition that is deemed appropriate.
3. Develop a standard reporting system with
 - a. Patient contact details,
 - b. History of fever, cold/cough and
 - c. Shortness of breath etc to report the same as per standard Government guidelines.
4. Dental Colleges should have a protocol for referral for patients and employees to fever clinic either in the attached Medical College or Affiliated Hospital.
5. Patient classified as emergency and non-emergency/elective procedures have to be managed accordingly.
6. Medical management of patients should be promoted until dental procedures are unwarranted.

PRE-VIEWING AND TRIAGE AREA

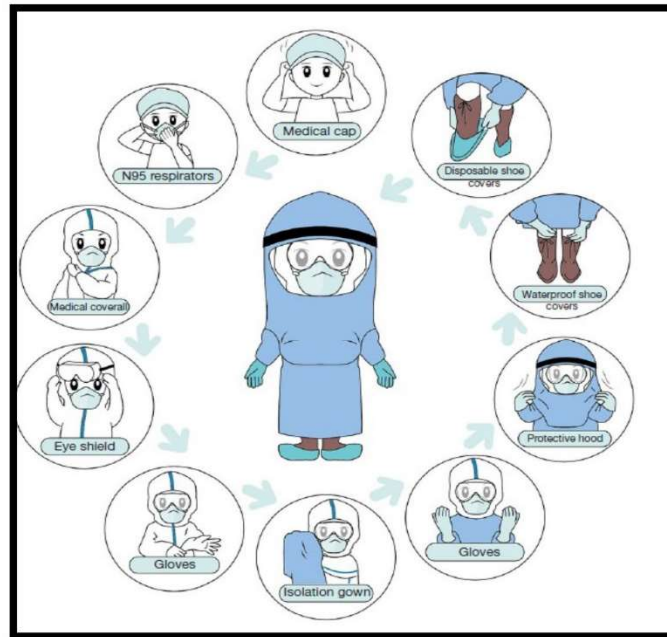
1. Pre-viewing and triage dental team should wear adequate personal protective equipment. (Table No:1)
2. Prepare thermometers/thermal scanners (forehead or ear thermometer) for temperature measurement, and ask patients regarding their epidemiological contact history, fever, and respiratory symptoms.
3. If the following conditions are encountered during triage, advise patients to leave and instruct them to go to the government hospital or designated hospital, and clean and disinfect the pre-screening triage area as soon as possible.
4. Maintain at least a 1 metre (3 feet) distance between yourself and anyone who is coughing or sneezing.
5. Patients with body temperature ≥ 37.3 °C, with symptoms of a cough, runny nose, fatigue, etc may be referred to fever clinic and follow protocol.
6. A history of travel or local contact with somebody who has a fever may be identified, referred to fever clinic and follow protocol.
7. The patient's living or working area has confirmed cluster cases of SARS-CoV-2 infection may be identified, referred to fever clinic and follow protocol.

COMPREHENSIVE DENTAL CLINIC: GENERAL CONSIDERATIONS AND DENTAL TREATMENT CONSIDERATION

1. All emergency dental treatment should be carried out after detailed dental and medical history of the patient.
2. All members of the dental team should be trained and minimum exposure of members should be planned.
3. All members of the dental team should follow a rotatory roster to avoid unnecessary exposure.
4. All dental equipments should be in proper condition along with adequate power back up for managing dental procedures.
5. **Personal Protection for Doctor and Staff:**
 - a. Hand hygiene is already well emphasised and stated for all concerned by alcohol based hand rub or use of soap and water for washing with standard steps recommended by WHO.
 - b. Personal protective equipment is mandatory now and would comprise of the following:
 - Goggles / face shield (Both to be used , fitting goggles with a soft tissue seal)
 - Triple layer surgical mask
 - N95 respirator during routine dental procedures
 - FFP3-Standard mask should be used during treatment of COVID19 positive patients.
 - Surgical gloves
 - Disposable coverall / gown with hood /waterproof lining (to be changed daily).
 - Coverall / gown outer; maybe improvised but will need to be changed after each patient
 - Shoe covers

c. PPE should be judiciously used and appropriately disposed as per protocol.

List of Personal



Protective Equipment

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

- 1. GOWN**
 - Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
 - Fasten in back of neck and waist
- 2. MASK OR RESPIRATOR**
 - Secure ties or elastic bands at middle of head and neck
 - Fit flexible band to nose bridge
 - Fit snug to face and below chin
 - Fit-check respirator
- 3. GOGGLES OR FACE SHIELD**
 - Place over face and eyes and adjust to fit
- 4. GLOVES**
 - Extend to cover wrist of isolation gown

USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

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

- 1. GLOVES**
 - Outside of gloves are contaminated!
 - If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
 - Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
 - Hold removed glove in gloved hand
 - Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
 - Discard gloves in a waste container
- 2. GOGGLES OR FACE SHIELD**
 - Outside of goggles or face shield are contaminated!
 - If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
 - Remove goggles or face shield from the back by lifting head band or ear pieces
 - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container
- 3. GOWN**
 - Gown front and sleeves are contaminated!
 - If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
 - Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
 - Pull gown away from neck and shoulders, touching inside of gown only
 - Turn gown inside out
 - Fold or roll into a bundle and discard in a waste container
- 4. MASK OR RESPIRATOR**
 - Front of mask/respirator is contaminated — DO NOT TOUCH!
 - If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
 - Grasp bottom ties or elastics of the mask/respirator, then the ears at the top, and remove without touching the front
 - Discard in a waste container
- 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE**

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

SEQUENCE FOR PUTTING ON AND REMOVAL OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

Source: Centre for Disease Control and Prevention

- d. PPE protocol of wearing and removal should be followed and clearly designated rooms should be assigned.
 - e. Change the surgical mask after every dental procedure after every dental procedure.
 - f. All instruments pertaining to dental procedures to be disinfected, cleaned and sterilized as per standard infection control (CDC, 2003)
6. All instruments should be mandatorily disinfected, cleaned, packaged in colour changing sterilization autoclave pouches and proper storage to be done.
 7. All biomedical waste pertaining to patient care should be carefully disposed as per the Bio-Medical Waste (Management and Handling) Rules, 1998 amended from time to time through an authorised biomedical disposal agency by the State Pollution Control Board.

DETAILED PLAN FOR USE OF PERSONAL PROTECTIVE EQUIPMENT IN DENTAL COLLEGES

Personal Protective Equipment	Level 1	Triage Area	Level 2	Non-aerosol Generation area	Level 3	Aerosol Generation area
Overall for Dental Personnel	√	√	√	√	√	√
Medical/Surgical Cap	√	√	√	√	√	√
Surgical Mask	√	√	√			
N95 or High Level Respirators				√	√	√
Eye Shield		√	√	√	√	√
Surgical Gown		√	√	√	√	√
Surgical Gloves	√	√	√	√	√	√
Face shield			√	√	√	√
Disposable Shoe Cover			√	√	√	√

LEVEL 1: PRE-SCREENING AND TRIAGE AREA

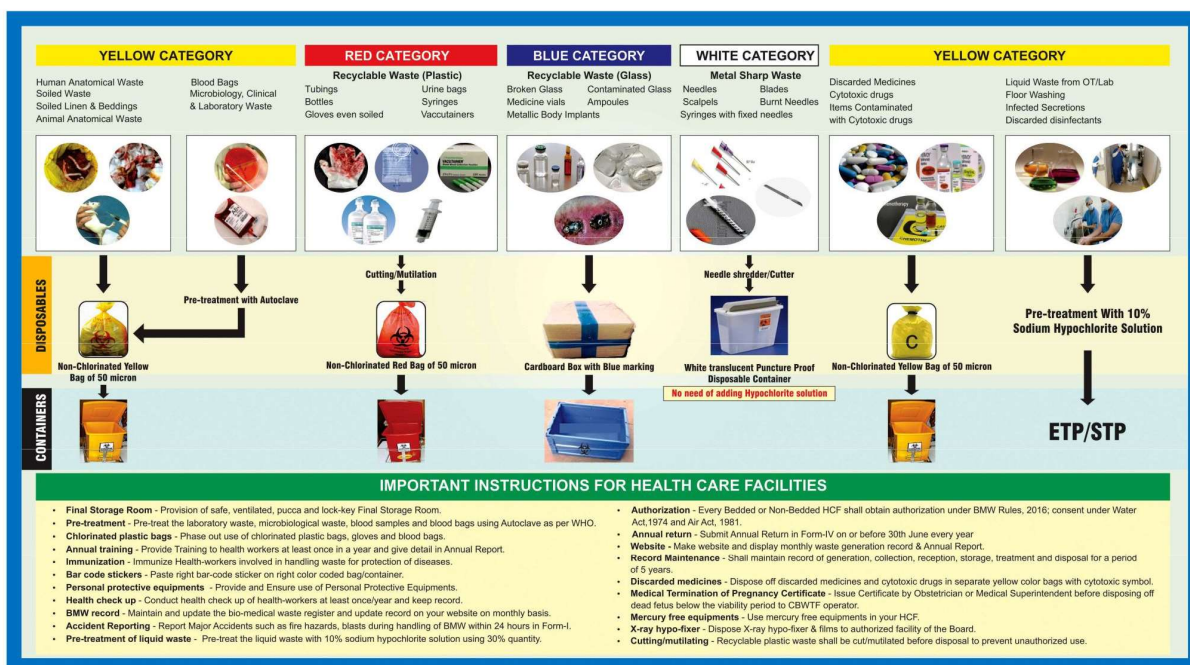
LEVEL 2: NON-AEROSOL GENERATION PROCEDURES

LEVEL 3: AEROSOL GENERATION PROCEDURES

Source: Zhang. W, Jiang. X. Front Oral Maxillofac Med 2020;2:4 I htt ://dx.doi.or /10.21037

DENTAL TREATMENT CONSIDERATIONS:

1. Carry out only emergency dental treatments in a single treatment room. Preferably designate separate clinical areas for Aerosol and Non-aerosol Control dental treatments.
2. Use 1.5% hydrogen peroxide or 0.2% povidine as a pre-procedural mouth rinse.
3. Wherever warranted, use extraoral dental radiographs such as panoramic radiographs as alternatives to intra oral radiographs during the outbreak of COVID-19, as the latter can stimulate saliva secretion and coughing.
4. Reduce aerosol production as much as possible, as the transmission of COVID-19 occurs via droplets or aerosols, and dentists should prioritize the use of hand instrumentation.
5. Dental teams should use rubber dams if an aerosol-producing procedure is being performed to help minimize aerosol or spatter.
6. Dentist may use a 4-handed technique for controlling infection.
7. Most of the Dental care should be performed with the use of high-volume suction or saliva ejectors mainly aerosol based procedures.
8. Dental care teams should "minimize the use of a 3-in-1 syringe as this may create droplets due to forcible ejection of water/air."
9. Restrict the number of para-dental staff and patients who enter the clinical as well as waiting area of the clinics.
10. Pre-operative and Post operative Infection Control protocols should be followed and regular fumigation of clinics should be carried out.



Source: Biomedical Waste Segregation, BMW Rules, 2016, Punjab Pollution Control Board.

COVID-19 CLINICAL GUIDELINES FOR DENTAL STUDENTS AND INTERNS

1. Understand the basics of infection control and apply them at all times of clinical care.
2. Take proper patient history with regard to fever, cough and travel prior to initiation of all dental procedures.
3. Report any patient with positive history for further medical attention
4. Disinfect your dental chair, use sterile instruments and maintain hand hygiene at all times as per Institutional protocol.
5. Wash your hand with soap or use hand sanitizers frequently as per WHO guidelines.
6. If one has signs of fever, cough and difficulty in breathing, inform your concerned faculty and seek medical attention and well in advance.
7. In case you, yourself are having a history of Fever, Cough and difficulty in breathing visit your doctor and report the same to your faculty.
8. Maintain proper records and update regularly.
9. Don't Panic rather spread awareness among communities.
10. Interns should complement all dental services in the Institute and assist in all activities after adequate training.
 - a. Recording detailed Case history and Identification of vulnerable age groups
 - b. Participate in capacity building and training for basic COVID-19.

COVID-19 CLINICAL GUIDELINES FOR DENTAL PROFESSIONALS

Dentists should take strict personal protection measures and avoid or minimize operations that can produce droplets or aerosols. Four-handed technique is beneficial for controlling infection. The use of saliva ejectors can reduce the production of droplets and aerosols.

1. After the outbreak/lockdown of COVID-19, dental clinics are recommended to establish pre-check triages to measure and record the temperature of every staff and patient as routine procedures and elicit relevant medical history.
2. Classify patients into emergency and non-emergency dental care and plan well before initiating any dental procedures.
3. Primary care dental triage should focus on the provision of the three As:
 - a. Advice;
 - b. Analgesia;
 - c. Antimicrobials (where appropriate).
4. Patients should be advised that elective treatment options are severely restricted and to call back in 48-72 hours if their dental symptoms have not resolved.
5. All dentists and support staff should wash their hand thoroughly with soap and water and follow up with alcohol based hand sanitizers before and after every patient screening or interaction. Surgical scrubbing of hands is recommended. Disposal of gloves to be done routinely as per protocol.

6. Staff and doctors should avoid touching their face specially the ear, nose and mouth.
7. Every patient who enters and exits the clinic should be provided hand sanitizers.
8. The waiting room/clinic including the handles and doors as well as dental chairs and other surfaces should be wiped several times in a day with alcohol based disinfectant.
9. Thorough Medical, travel and contact history of each Patient should be recorded before any clinical procedures.
10. Patients should be scrubbed with 'so Propyl alcohol extra orally prior to any dental procedure.
11. Wearing of least 3 ply masks, suitable head caps and shoe covers at all times when in clinical are. Protective eye wear and face shield are also recommended.
12. Wearing of N95, suitable head caps, protective eye wear, face shield, disposable gowns and shoe cover are recommended during all aerosol and non-aerosol based dental procedures, if carried out.
13. Preoperative antimicrobial mouth rinse could reduce the number of microbes in the oral cavity.
14. Pre-operative and Post operative Infection Control protocols should be followed.
15. Rubber dams and high-volume saliva ejectors can help minimize aerosol or spatter in dental procedures.
16. Scheduling of patients is very essential; hence avoid interaction of vulnerable patients (medically compromised or elderly patients) with general patients.
17. Fumigation of clinics periodically is advised.
18. Clean and disinfect public areas frequently, including door handles, chairs and bathrooms.
19. All dental clinics should display health awareness posters regarding COVID-19, Hand and Respiratory hygiene at prominent locations of the clinical area.
20. Alcohol based Hand Rubs should be made accessible in common clinical areas.
21. Avoid crowding of patients and schedule them based on treatment types (emergency or non-emergency)
22. Dental Clinics should have adequate ventilation, as it can reduce the risk of infection through dilution and removal of infectious particles through air exchange. Improved ventilation in Clinics is essential in preventing transmission of airborne infections.
23. Dental Team members should change from personal clothing to scrubs and vice versa before entering and returning home. Upon arriving home, dentists and dental staff should take off shoes, remove and wash clothing separately and immediately shower prior to any contact with family members.
24. All patient details and records should be maintained properly and if need arises should be shared with local health authorities or administration.
25. Be aware of the local health authority protocol or testing laboratories and report any patient with relevant history for further necessary medical care.



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