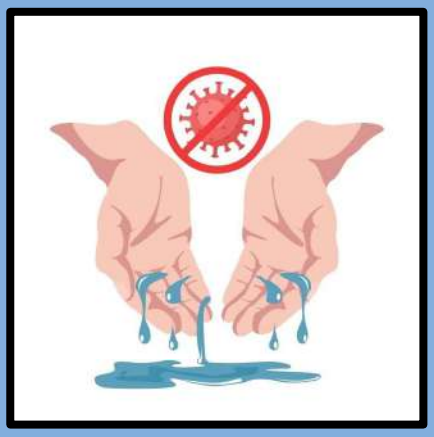
HOSPITAL INFECTION CONTROL MANUAL FOR COVID 19



Prepared By :

Hospital Infection Control Committee (HICC), PGIMS Rohtak

अनिल विज

GOVERNMENT OF HARYANA

अ०स० पत्र क्र० PS/HM/4582/R

२

गृह, शहरी स्थानीय निकाय, स्वास्थ्य
चिकित्सा शिक्षा और अनुसंधान, आयुष
तकनीकी शिक्षा एवं विज्ञान और
प्रौद्योगिकी मंत्री, हरियाणा, चण्डीगढ़।

दिनांक 22.07.2020

संदेश

विश्व स्वास्थ्य संगठन (डब्लू.एच.ओ) ने कोविड–19 को सर्वव्यापी महामारी घोषित किया है तथा अन्य देशों की तरह हमारे राष्ट्र एवम् प्रांत में भी यह महामारी फैली हुई है। यह एक गंभीर संक्रामक रोग है अतः स्वास्थ्य कार्यकर्ताओं को इस रोग के संक्रमण नियंत्रण के सही तरीकों की जानकारी का होना अनिवार्य है। इस संदर्भ में अस्पताल संक्रमण नियंत्रण मैनुअल की जरूरत काफी समय से महसूस की जा रही थी। मुझे यह जानकर अति प्रसन्नता है कि पंडित भगवत दयाल शर्मा पीजीआईएमएस, रोहतक की संक्रमण नियंत्रण टीम ने डा. ओ.पी. कालड़ा, कुलपति के मार्गदर्शन में इस दिशा में अच्छी पहल की है तथा कोविड–19 सर्वव्यापी महामारी से बचाव हेतू **"अस्पताल संक्रमण नियंत्रण मैनुअल फार कोविड–19"** को तैयार किया है।

मुझे यकीन है कि अस्पताल संक्रमण नियंत्रण मैनुअल सभी स्वास्थ्य कार्यकर्ताओं जैसे कि डाक्टरों, नर्सों इत्यादि के लिए प्रासंगिक है तथा इन सभी को अपने कानूनी और व्यावसायिक दायित्वों को पूरा करने में मदद करने कि लिए आवश्यक दिशा–निर्देश प्रदान करेगा।

मैं पंडित भगवत दयाल शर्मा स्वास्थ्य विश्वविधालय के कुलपति एवम् संक्रमण नियंत्रण टीम तथा सभी कोरोना योद्धाओं को शुभकामनाएं देता हूं तथा आशा करता हूं कि हम सब मिलकर कोविड–19 सर्वव्यापी महामारी पर विजय प्राप्त करेंगें।

(अनिल विज)

कार्यालय कमरा न० 32, 8वी मंजिल, हरियाणा सिविल सचिवालय, सैक्टर –1 चण्डीगढ़। 0172–2740793
Mail- healthministerharyana@gmail.com

Alok Nigam (I.A.S)
Additional Chief Secretary
Medical Education & Research

Department of Medical Education & Research
Government of Haryana

PREFACE

It gives me immense pleasure to introduce **"Hospital Infection Control manual for COVID-19"** which was long felt need of medical fraternity in view of highly infectious COVID-19 Pandemic. The infection control team of Pt. Bhagwat Dayal Sharma, Post Graduate Institute of Medical Sciences, Rohtak has taken a lead in preparing this manual under the leadership of Prof. (Dr.) O.P. Kalra, Vice Chancellor, UHS, Rohtak.

In view of COVID-19 pandemic, the Infection Prevention and Control is a cross-cutting issue among the health care providers and the purpose of this document is to present and promote strong as well as effective Infection Prevention and Control programmes that have the ability to influence the quality of care, improve patient safety and protect all those providing care in the COVID-19 health system.

It is expected that all Health Care Professionals will adopt the various recommendations given in the manual for more efficient and effective control of infection with an aim to reduce the morbidity and mortality rate due to COVID-19.

I compliment the team of infection control and other contributors for their efforts.

(Alok Nigam)

Amneet P. Kumar (I.A.S)
Director Medical Education
& Research

Department of Medical Education & Research
Government of Haryana

FOREWORD

I hope we will be able to control COVID-19 pandemic by following the correct infection control and prevention practices compiled in this **"Hospital Infection Control Manual for COVID-19"** which will lead to improvement in the quality of hospital services at the desired level. This manual provides basic understanding of the infection control practices and guidance need to be implemented in COVID-19 hospital setting. This manual is user friendly with useful illustrations, making it attractive to all users.

This manual will be extremely useful for the Healthcare Workers who are on the front line for caring patients with confirmed or possible infection with Corona virus disease 2019 (COVID-19) and therefore have an increased risk of exposure to this virus.

I request all stakeholders to ensure that these guidelines are widely implemented in healthcare facility to strengthen infection control systems thereby promoting safe healthcare practices in view of highly infectious nature of COVID-19 disease.

I convey my good wishes to all contributors who have worked tirelessly under the guidance of Prof. (Dr.) O.P. Kalra, Vice Chancellor for the release of this manual and wish them all the success in their future endeavours also.

(Amneet P. Kumar)

Prof. (Dr.) O.P. Kalra
Vice Chancellor

Pt. B. D. Sharma University of Health Sciences
Rohtak (Haryana)

FOREWORD

Effective infection prevention and control is central to providing high quality healthcare for patients and ensure a safe working environment in the hospital and is the need of the hour during the current challenge faced due to COVID-19, a highly infectious disease, which has been declared as Pandemic by the World Health Organisation. It is important to minimize the risk of spread of infection to patients and staff in hospitals by implementing a robust infection control programme.

This **"Hospital Infection Control Manual for COVID-19"** has been meticulously prepared with inputs from the department of Microbiology and Infection Control Team of Post Graduate Institute of Medical Sciences, Rohtak. The overall aim of this document is to provide evidence-based information for the prevention and control of infections due to COVID-19 and secondary infections in patients with COVID-19 in healthcare settings.

I would further encourage and expect that Infection Prevention and Control Programme be fully implemented in all areas of the hospital with greater emphasis in COVID-19 treatment areas. Continuous surveillance for early detection of infections in COVID-19 wards, Intensive Care Units, Operation Theatres, etc. is of utmost importance.

I compliment the team that has worked diligently and tirelessly to produce this manual. I recommend this as a ready handbook to surgeons, physicians, residents, microbiologists, nursing staff and in fact to all healthcare workers.

(Prof. O.P. Kalra)

Prof. (Dr.) H. K. Aggarwal
Registrar

Pt. B. D. Sharma University of Health Sciences
Rohtak (Haryana)

ACKNOWLEDGEMENT

The **"Hospital Infection Control manual for COVID-19"** has been developed by the Post Graduate Institute of Medical Sciences, Rohtak. I must appreciate the contribution and valuable inputs given by experts from the department of Microbiology and Hospital Infection Control Committee who helped in framing up the manual within a set time period.

I hope the Hospital Infection Control Manual will facilitate to build a sound and credible infection control system at COVID-19 hospital settings not only at Post Graduate Institute of Medical Sciences, Rohtak but at Public Health facilities across the state.

This manual lays down the protocols and guidance required for the practice of a nationally acceptable standard of Infection Prevention and Control in healthcare settings. I am confident that this document will be valuable for improving the quality of services, not only because it was developed after extensive review of relevant literature and consultation with experts, but also because its contents are realistic, practical, and designed to meet local needs.

I promise the support needed from the University of Health Sciences, Rohtak in implementing these guidelines. I request all stakeholders to ensure that these guidelines are widely implemented in their departments to strengthen Infection Prevention and Control systems thereby promoting safe healthcare practices for facing the challenge posed by COVID-19 pandemic.

I congratulate the team for their efforts.

(Prof. H.K. Aggarwal)

PT. B.D. SHARMA
POST GRADUATE INSTITUTE OF MEDICAL SCIENCES
ROHTAK-124001 (HARYANA) INDIA
Office : 01262-281307 Fax : 01262-281308
e-mail: directorpgims@gmail.com

Dr. (Sr. Prof.) Rohtas K. Yadav
MD, PDCC, LLB, FIAMS, FICRI
DIRECTOR

D.O.No. PA/DIR/2020/2860
Dated : 21.07.2020

ACKNOWLEDGEMENT

It is my privilege to write an acknowledgment for **"Hospital infection control manual for COVID-19"**. The COVID-19 is presenting a profound and escalating challenge to countries around the world. Our goal is to protect life, not least those of the most vulnerable in our society. All of our actions to date, and to come are with that goal in mind and are driven very firmly by scientific and clinical advice.

I appreciate that here at Post Graduate Institute of Medical Sciences, Rohtak no measure has been left and the action taken to manage the impact of the infection and protect life is commendable. The timing of actions, guided by the scientific evidence is being tailored to have the maximum impact in flattening that infection curve as well as the best chance to be able to treat the sickest patients to the very best of their ability.

To guide us for this, the infection control manual for COVID-19 is well thought and prepared with utmost diligence.

I congratulate the team for their efforts.

21.7.2020.

(Prof. Rohtas K. Yadav)

☎ 01262-283491 Residence : 12/ 6 J, Medical Campus, PGIMS, Rohtak

DR. M.G. Vashist
Medical Superintendent

PT. B.D. Sharma, PGIMS, Rohtak
Haryana

FOREWORD

I am extremely honoured and proud to present the **"Hospital Infection Control manual for COVID-19"** an outcome of the hard work of our infection control team detailing the key principles of infection prevention and control in this demanding time of COVID 19. This challenging time is calling for hospitals and organisations to adapt and adjust, and to take all measures to control the infection. In this manual our dedicated team addresses the challenges that we are facing.

Infection prevention and control is the responsibility of all Health Care Workers. Infection prevention is about protecting the patients in our care; however, it must also extend to protect our health care workers from the risk of infection. This manual is tailored for the same. It comprehensively covers the essentials in great detail including hand hygiene, respiratory hygiene, personal protective equipment for health care professionals, patient transport inclusive of disinfection of ambulance and lift. It highlights mobile, laptop, linen and laundry disinfection also and emphasizes on biomedical waste management.

I hope the users will find it very informative and useful.

22/7/2020

(Dr. M.G.Vashist)

Contributors

INFECTION CONTROL TEAM

Dr. M. G. Vashisht
Chairperson, HICC
Medical Superintendent
PGIMS Rohtak

Dr. Aparna
Member Secretary, HICC
Senior Professor and Head
Department of Microbiology
PGIMS Rohtak

Dr. Parul Punia
Infection Control Officer
Assistant Professor
Department of Microbiology
PGIMS Rohtak

Dr. Shuchi Bhalla
Senior Resident
Dept. of Microbiology
PGIMS Rohtak

Dr. Naina Kadian
Senior Resident
Dept. of Microbiology
PGIMS Rohtak

Dr. Sujata Lall
Senior Resident
Dept. of Microbiology
PGIMS Rohtak

Smt. Suman Rangi
Infection Control Nurse
PGIMS Rohtak

Smt. Anjana Kumari
Infection Control Nurse
PGIMS Rohtak

Smt. Sudesh
Infection Control Nurse
PGIMS Rohtak

TABLE OF CONTENTS

The Hospital Infection Control policy is being made according to infection prevention and control guidelines issued by:

1. Ministry of Health and Family Welfare
2. National Center for Disease Control, NCDC
3. CDC Guidelines on Cleaning and Disinfection with special reference to COVID-19
4. World Health Organisation
5. Central Pollution Control Board Revision 1 dated 21st July 2020

This document has been prepared by the **Hospital infection control team (ICT),**

Infection Control Officer: ***Dr. Parul Punia,*** Assistant Professor, Deptt. of Microbiology

Infection Control Members:

- ***Dr. Sujata Lall,*** Senior Resident, Deptt. of Microbiology
- ***Dr. Shuchi Bhalla,*** Senior Resident, Deptt. of Microbiology
- ***Dr. Naina Kadian,*** Senior Resident, Deptt. of Microbiology

Verified by: ***Dr. Aparna***, Head of Department of Microbiology & Member Secretary, HICC

Approved by: ***Dr. M.G Vashist***, Medical Superintendent & Chairman, HICC.

HOSPITAL INFECTION CONTROL COMMITTEE (HICC)

HICC is an integral component of the healthcare facility, and is responsible for establishing and maintaining infection prevention and control, its monitoring, surveillance, reporting, research and education related activities. It includes wide representation from all relevant departments in the healthcare facility. The members of HICC of PGIMS, Rohtak are:

Medical Superintendent. PGIMS, Rohtak	Chairman
Dr. Aparna. Sr. Prof. & Head of Microbiology Dept.	Member Secretary
Sr. Prof. & Head, Dept. of Anesthesiology	Member
Sr. Prof. & Head, Dept. of Surgery	Member
Sr. Prof. & Head, Dept. of Pediatrics	Member
Sr. Prof & Head, Dept. of Medicine	Member
Sr. Prof. & Head. Dept. of Obst & Gynae.	Member
Sr. Prof. & Head, Dept. of Orthopaedics	Member
Sr. Prof. & Head Dept. of Chest and TB	Member
Sr. Prof & Head. Dept. of Pulmonary & Critical Care	Member
Sr. Prof. & Incharge Trauma Centre	Member
Dr. Sukhbir Singh. DMS & Asstt. Prof. H.A.D.	Member
Officer l/c CSSD	Member
Officer I/ Kitchen & Laundry	Member
SDO (PWD B&R Electrical & PH)	Member
Smt. Ishwanti, Nursing Superintendent.	Member
Dr. Parul Punia, Asstt. Prof. of Microbiology	Infection Control Officer
Smt. Anjana Kumari	Infection Control Nurse
Smt. Suman Rangi	Infection Control Nurse
Smt. Sudesh	Infection Control Nurse

1. INTRODUCTION

Coronaviruses are enveloped positive sense RNA viruses ranging from 60 nm to 140 nm in diameter with spike like projections on its surface giving it a crown like appearance under the electron microscope; hence the name coronavirus . Four corona viruses namely HKU1, NL63, 229E and OC43 have been in circulation in humans, and generally cause mild respiratory disease.

On 31 December 2019, WHO was alerted to several cases of pneumonia in Wuhan City, Hubei Province of China. On 7 January, Chinese authorities confirmed that they had identified a new virus. The new virus belongs to family *coronaviridae*, and was temporarily named "2019-nCoV" and has now been renamed as **Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)** and clinical syndrome associated with this **is Coronavirus disease 2019 (COVID-19.** The clinical presentation is that of a respiratory infection and may present as a mild flu-like illness (running nose, headache, cough, sore throat, &fever) to a severe viral pneumonia leading to acute respiratory distress syndrome that is potentially fatal. Symptoms appear usually after 7-10 days of acquiring the infection.

There is currently no vaccine to prevent coronavirus disease 2019 (COVID-19). **The best way to prevent illness is to avoid being exposed to this virus.**

The transmission of COVID-19 virus (**SARS-CoV-2)** is thought to occur mainly through

a. **Respiratory droplets (5-10µm)** generated by coughing, sneezing and talking
b. **Contact transmission** with contaminated surfaces or direct human contact
c. **Airborne transmission** is important among health care personnel(HCP)

During Aerosol generating procedures, there is an increased risk of aerosol spread of infectious agents (droplet nuclei <5µm). Airborne precautions must be implemented during AGP carried on a suspected or confirmed case of COVID-19

Healthcare personnel (HCP) are at risk of infection through respiratory routes and direct contact with infectious patients and hence must follow following precautions:

Transmission route and its prevention

Transmission route	Prevention
Droplet transmission	**Surgical mask** (if within 1 meter of infected case)
Contact	Hand Hygiene
Airborne	N95 mask

IPC practices and strategy for COVID patients

Apply **standard precautions** for all patients. Elements of Standard Precautions are

a. Hand hygiene
b. Respiratory hygiene
c. Use of appropriate PPE
d. Environment cleaning
e. Safe handling and cleaning of soiled linen
f. Waste management

These elements are to be used for ALL patients at ALL times regardless of suspected or confirmed status of the patient. Limit the number of HCW & family members who are in contact with the patient.

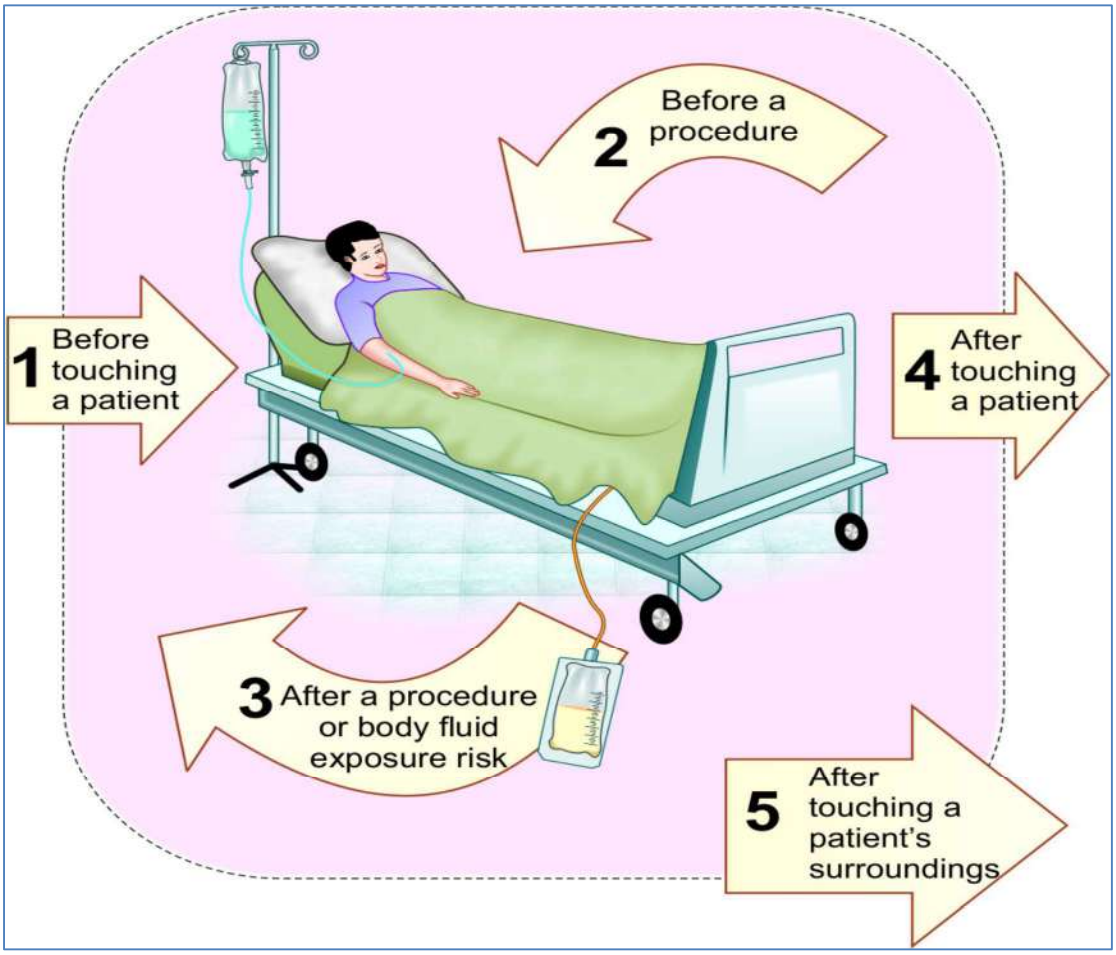
2. HAND HYGIENE

Hand hygiene remains one of the most important measures for all persons for the prevention and control of majority of the respiratory viral infections, including 2019-nCoV infections or COVID-19. Hand hygiene can be performed with soap and water or alcohol-based hand rubs using the six steps of hand hygiene.

Duration: Hand rub for 20sec and Hand wash for 40sec.

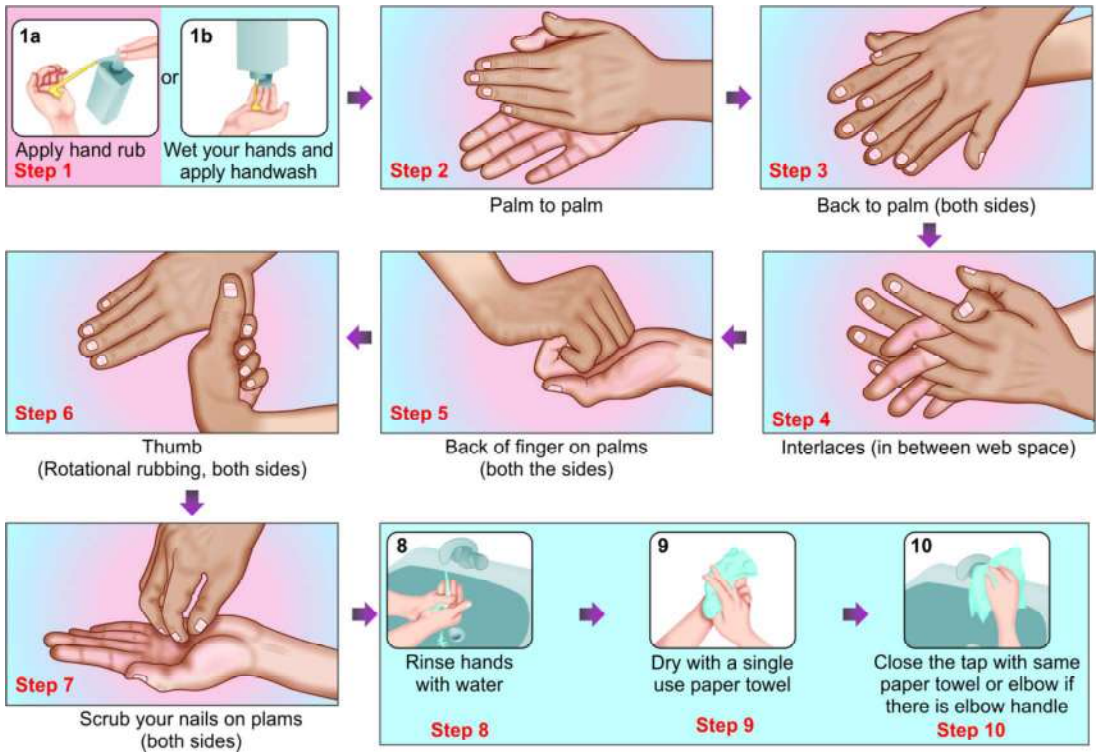
Foot operated sanitizers should be put outside elevators, OPDs, screening areas, ICUs and wards.

My "Five moments of Hand hygiene" is an approach by WHO which defines the key moments when the HCW should perform hand hygiene



Five moments of Hand Hygiene and examples of clinical situations

Moment-1 and 4: Before and after touching a patient	Moment-2 and 3:Beforeand after aseptic procedure/body fluid exposure	Moment-5: After touching patient surroundings
Before and after • 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 • 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, faces, 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 • Handling the case sheet • Medical equipment in the immediate vicinity of the patient • Bed orbed rail • Changing bed linen • Decanting uro bag



Steps of Hand rubs (Step 1-7) and Steps of Hand wash (Step 1-10)

Indications for using hand hygiene methods

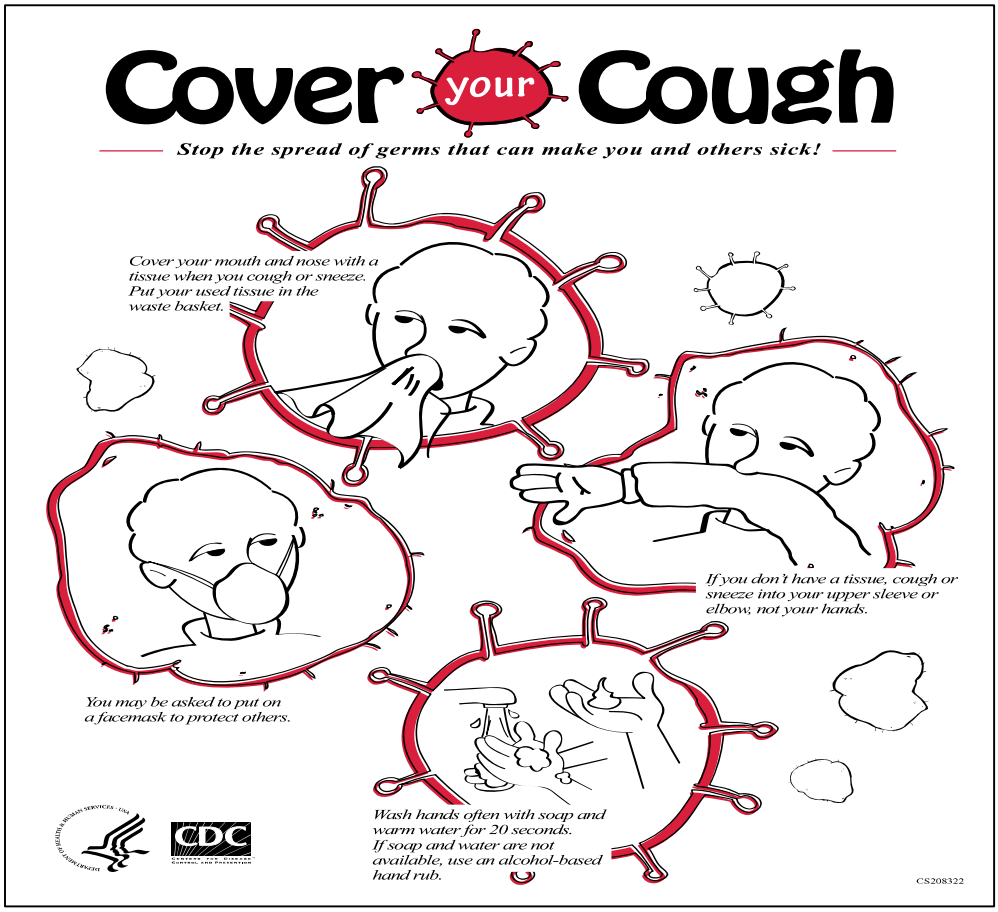
- **Indications for using hand wash:**
  - Hands are visibly dirty, contaminated with blood, or body fluids.
  - Potential exposure to spore forming organisms (e.g., *Clostridium difficile*); non enveloped viruses (e.g. Norovirus, rotavirus, enteroviruses).
  - Handling patients having diarrhea.
  - After using restroom.
  - Before handling medication or food.
- **Indications for using hand rub:**
  - If the hands are not visibly dirty, not contaminated with blood, or body fluids.
  - Hand rub should be used during routine clinical rounds and handling the patient.
  - It should only be used 2-3 times consecutively before a hand wash build up can occur.

Hand sanitizer is not a replacement for soap and water, but rather, an alternative if you do not have the resources to wash your hands.

3. RESPIRATORY HYGIENE/ COUGH ETIQUETTE

These are the measures taken by a person having signs and symptoms of respiratory infection to contain respiratory secretions and to prevent the transmission of infection to others.

- Turn head away from others when coughing/sneezing.
- Cover the nose and mouth with a tissue.
- After use, discard tissue immediately into the trash.
- Cough/sneeze into your sleeve if no tissue available
- Clean your hands with soap and water or ABHR
- Do not spit here and there
- **Maintain 1 meter (2 arm) distance from patients with** respiratory symptoms and from contacts of COVID-19cases who are under quarantine. (Social distancing)



4. PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal Protective Equipments (PPEs) are protective gears designed to safeguard the health of workers by minimizing the exposure to a biological agent.

Components of PPE

Components of PPE are gloves, coverall/gowns (with or without aprons), goggles, face-shield, mask, head cover and shoe cover. Each component and rationale for its use is given in the following paragraphs:

- **GLOVES**:

When a person touches an object/surface contaminated by COVID-19 infected person, and then touches his own eyes, nose, or mouth, he may get exposed to the virus. Gloves can protect both the patient and the HCW from exposure to micro-organisms that may be carried on hands. They are used as a part of standard, contact and droplet precautions.

Nitrile gloves are preferred over latex gloves because they resist chemicals, including certain disinfectants such as chlorine.

There is a high rate of allergies to latex and contact allergic dermatitis among health workers. However, if nitrile gloves are not available, latex gloves can be used. Non-powdered gloves are preferred to powdered gloves.

HOW TO DON GLOVES

HOW TO DOFF GLOVES

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**

GLOVES ARE NOT A SUBSTITUTE FOR HAND HYGIENE

❖ **COVER ALL/ GOWN**

Coverall/gowns are designed to protect torso of healthcare providers from exposure to virus. While wearing coveralls/gowns, check for any leaks and tears. Gowns may be labeled with names after wearing for identification.

❖ **FACE SHIELD AND GOGGLES**

Contamination of mucous membranes of the eyes, nose and mouth is likely in a scenario of droplets generated by cough, sneeze of an infected person or during aerosol generating procedures carried out in a clinical setting.

Inadvertently touching the eyes/nose/mouth with a contaminated hand is another likely scenario. Hence protection of the mucous membranes of the eyes/nose/mouth by using face shields/ goggles is an integral part of standard and contact precautions.

The flexible frame of goggles should provide good seal with the skin of the face, covering the eyes and the surrounding areas and even accommodating for prescription glasses. Face shield is a better option than goggles/ eye piece.

Personal eyeglasses and contact lenses are NOT considered adequate eye protection

❖ **MASKS:**

Respiratory viruses that includes Coronaviruses target mainly the upper and lower respiratory tracts. Hence the droplet precautions/airborne precautions using masks are crucial while dealing with a suspect or confirmed case of COVID-19/performing aerosol generating procedures.

As per CDC, a significant proportion of individual with coronavirus lack symptoms (asymptomatic) and that even those who eventually develop symptoms (pre-symptomatic) can transmit the virus to others before showing symptoms. Thus CDC thus recommends that HCW should at all times wear a face mask when they are in healthcare facility. Apart from this, patients and visitors should ideally be wearing their own mask upon arrival to facility. If not, they should be offered a facemask or cloth face covering as supplies allow.

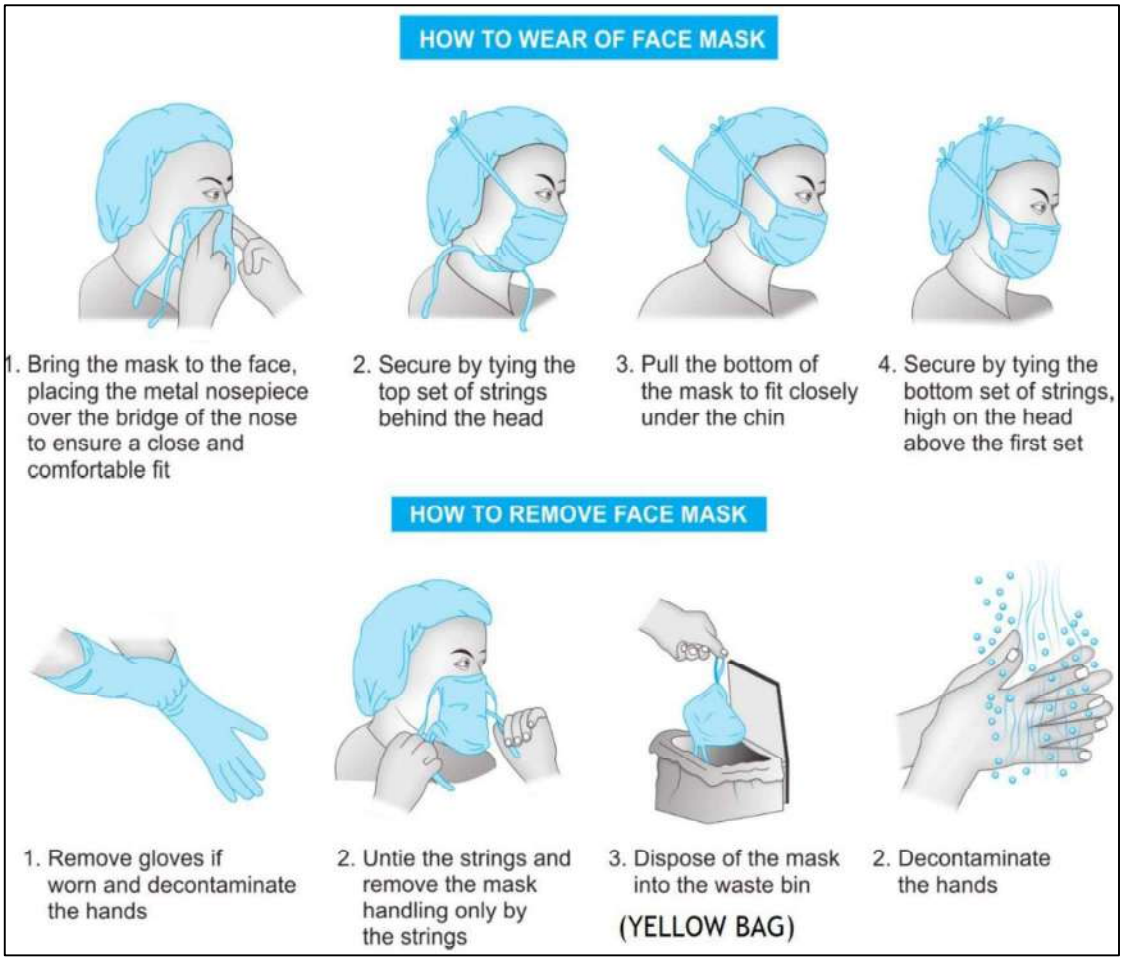
Masks are of different types. The type of mask to be used is related to particular risk profile of the category of personnel and his/her work. There are two types of masks which are recommended for various categories of personnel working in hospital or community

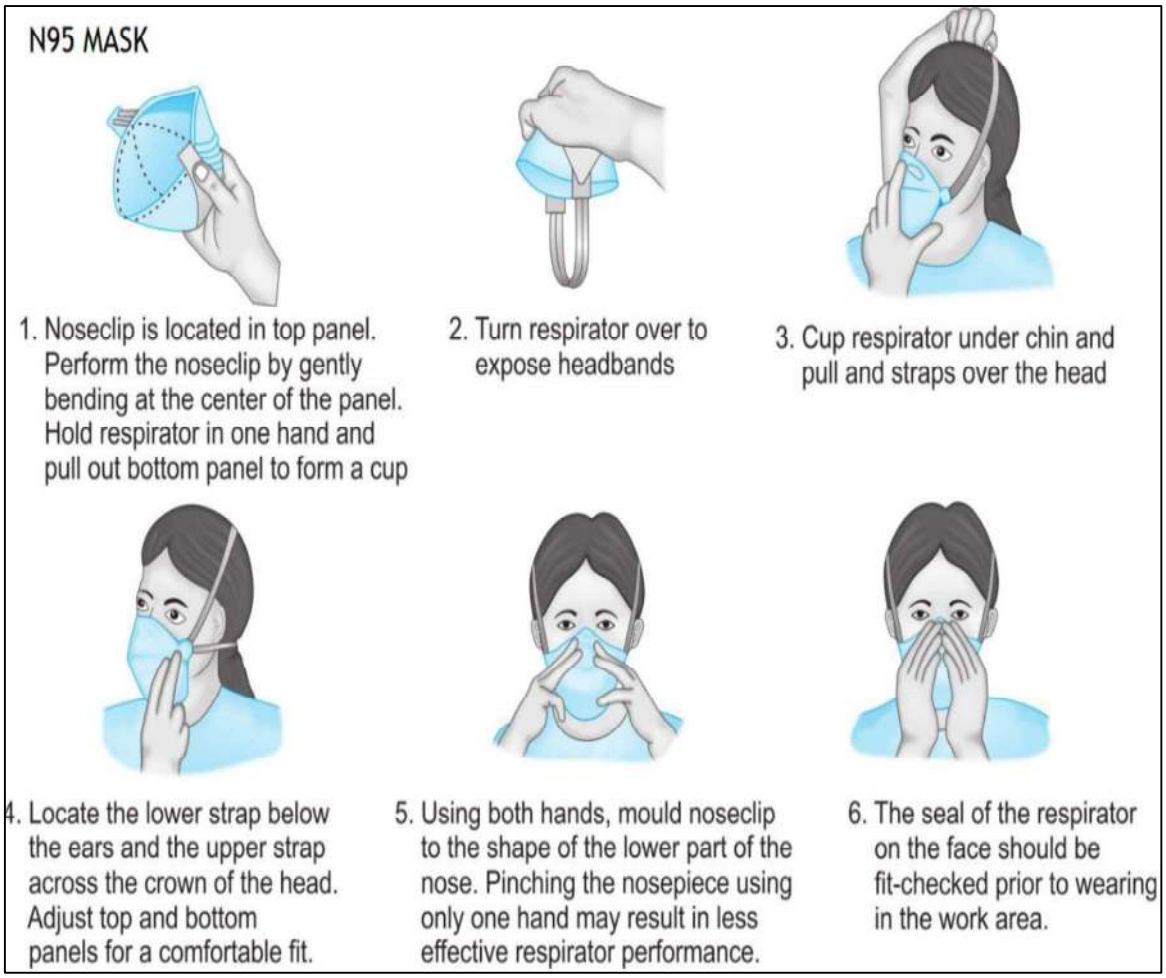
settings, depending upon the work environment:

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

1. **Triple layer medical mask-** A triple layer medical mask is a disposable mask, fluid-resistant, provide protection to the wearer from droplets of infectious material emitted during coughing/sneezing/talking.
2. **N-95 Respirator mask-** An N-95 respirator mask is a respiratory protective device with high filtration efficiency to airborne particles. To provide the requisite air seal to the wearer, such masks are designed to achieve a very close facial fit.

Such mask should have high fluid resistance, good breathability (preferably with an expiratory valve), clearly identifiable internal and external faces, duckbill/cup-shaped structured design that does not collapse against the mouth.





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 it respirator should be checked for any defect or damage.

Respirator On / Respirator Off

When you put on a disposable respirator

Position your respirator correctly and check the seal to protect yourself from COVID-19.

Cup the respirator in your hand. Hold the respirator under your chin with the nose piece up. The top strap (on single or double strap respirators) goes over and rests at the top back of your head. The bottom strap is positioned around the neck and below the ears.

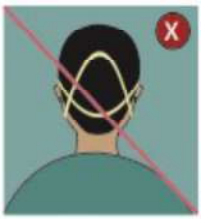
Place your fingertips from both hands at the top of the metal nose clip (if present). Slide fingertips down both sides of the metal strip to mold the nose area to the shape of your nose.

Place both hands over the respirator, take a quick breath in to check the seal. Breathe out. If you feel a leak when breathing in or breathing out, there is not a proper seal.

Select other PPE items that do not interfere with the fit or performance of your respirator.

Do not use a respirator that appears damaged or deformed, no longer forms an effective seal to the face, becomes wet or visibly dirty, or if breathing becomes difficult.

Do not allow facial hair, jewelry, glasses, clothing, or anything else to prevent proper placement or to come between your face and the respirator.



Do not crisscross the straps.

Do not wear a respirator that does not have a proper seal. If air leaks in or out, ask for help or try a different size or model.

Do not touch the front of the respirator during or after use! It may be contaminated.

When you take off a disposable respirator

Remove by pulling the bottom strap over back of head, followed by the top strap, without touching the respirator.

Discard in a waste container.

Clean your hands with alcohol-based hand sanitizer or soap and water.

Employers must comply with the OSHA Respiratory Protection Standard, 29 CFR 1910.134, which includes medical evaluations, training, and fit testing.

Additional information is available about how to safely put on and remove personal protective equipment, including respirators:
https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html

CDC

cdc.gov/coronavirus

CS 317033A June 5, 2020 3:47 PM

Facemask Do's and Don'ts

For Healthcare Personnel

When putting on a facemask

Clean your hands and put on your facemask so it fully covers your mouth and nose.

DO secure the elastic bands around your ears.

DO secure the ties at the middle of your head and the base of your head.

When wearing a facemask, don't do the following:

DON'T wear your facemask under your nose or mouth.

DON'T allow a strap to hang down. DON'T cross the straps.

DON'T touch or adjust your facemask without cleaning your hands before and after.

DON'T wear your facemask on your head.

DON'T wear your facemask around your neck.

DON'T wear your facemask around your arm.

When removing a facemask

Clean your hands and remove your facemask touching only the straps or ties.

DO leave the patient care area, then clean your hands with alcohol-based hand sanitizer or soap and water.

DO remove your facemask touching ONLY the straps or ties, throw it away*, and clean your hands again.

*If implementing limited-reuse: Facemasks should be carefully folded so that the outer surface is held inward and against itself to reduce contact with the outer surface during storage. Folded facemasks can be stored between uses in a clean, sealable paper bag or breathable container.

Additional information is available about how to safely put on and remove personal protective equipment, including facemasks:
https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html.

CDC

cdc.gov/coronavirus

CS 316488A June 2, 2020 11:10 AM

❖ **SHOE COVERS**

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

❖ **HEAD COVERS**

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

APPROPRIATE USE OF PERSONAL PROTECTIVE EQUIPMENT

In view of the PPE shortage, the following strategies should be adopted which can facilitate optimal PPE availability.

Minimize the need for PPE

1. Restrict visitors to the Corona ward.
2. Restrict HCWs from entering the Corona ward if they are not involved in direct care. Consider **bundling activities** to minimize the number of times a room is entered (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 healthcare 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 healthcare 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)
- **For Aerosol-generating procedures** (e.g., tracheal intubation, open suctioning, non-invasive positive pressure ventilation (BiPAP and CPAP), tracheostomy, cardiopulmonary 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

Points to remember while using PPE

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

CONSIDERATIONS DURING SEVERE SHORTAGE OF PPE

- **<u>Protocol for extended use of N95 Mask</u>**

  Refers to wearing the same N95 respirator for repeated close contact encounters with several patients, without removing the respirator between patient encounters; as long as they are functional well (up to 8hr). It is well suited to situations when dealing with multiple patients who are infected with the same respiratory pathogen. A key component for extended use is that the respirator must maintain its fit and function. Following points are to be kept in mind during extended use:

  - Discard N95 mask when contaminated with blood, respiratory or nasal secretions etc.
  - Discard N-95 mask following use during aerosol generating procedures.
  - Discard any respirator that is obviously damaged or becomes hard to breathe through.

- Consider use of a cleanable face shield (preferred) over an N95 respirator and/or other steps (e.g., masking patients) to reduce surface contamination.
- Perform hand hygiene before and after touching or adjusting the N95 mask.

➢ **Protocol for limited Reuse of N95 Mask**

Refers to the practice of using the same N95 respirator for multiple encounters with patients but removing it ('doffing') after each encounter. Limited re-use should not be performed and N95 respirators should be discarded if:

- Discard N-95 mask following use during aerosol generating procedures.
- Discard N95 mask when contaminated with blood, respiratory or nasal secretions
- Discard mask if patient requires contact precautions in addition to droplet/airborne precaution.
- Consider use of cleanable face shield over an N-95 respirator and/or other steps (e.g., masking patients, use of engineering controls like local exhaust ventilator) that are likely to reduce the level of respirator surface contamination.
- Clean hands with soap and water or an alcohol based hand rub before or after touching or adjusting the respirator.
- Avoid touching the inside of the respirator. If inadvertent contact is made with the inside of the respirator, discard the respirator and perform hand hygiene as described above.
- A user seal check has to be performed each time the respirator is put on.

5-days reuse Strategy (CDC)

Recently CDC has recommended to issue five respirators to each HCW working in COVID area. The HCW will wear one respirator each day (shift) and store it in a breathable paper bag at the end of each shift. The order of N95 mask use should be repeated after minimum of five days gap before reusing the same N95 mask (i.e. on 6^{th} day the first day N95 mask can be repeated). This will result in each HCW requiring a minimum of five N95 mask for 25 working days.

But these respirators must only be used by a single wearer. To prevent inadvertent sharing of respirators, ensure proper labelling of the respirator itself or of the container used for storing the respirator with the user's name.

Protocol for Re-use of Face shields and Goggles:

- **Extended use of eye protection** is the practice of wearing the same eye protection for repeated close contact encounters with several different patients, without removing eye protection between patient encounters. Extended use of eye protection can be applied to disposable and reusable devices.

  - Eye protection should be removed and reprocessed if it becomes visibly soiled or difficult to see through. If a disposable face shield is reprocessed, it should be dedicated to one HCP and reprocessed whenever it is visibly soiled or removed (e.g., when leaving the isolation area) prior to putting it back on. See protocol for removing and reprocessing eye protection below.
  - Eye protection should be discarded if damaged (e.g., face shield can no longer fasten securely to the provider, if visibility is obscured and reprocessing does not restore visibility).
  - HCP should take care not to touch their eye protection. If they touch or adjust their eye protection they must immediately perform hand hygiene.
  - HCP should leave patient care area if they need to remove their eye protection. See protocol for removing and reprocessing eye protection below.

- **Reprocessing Eye Protection**

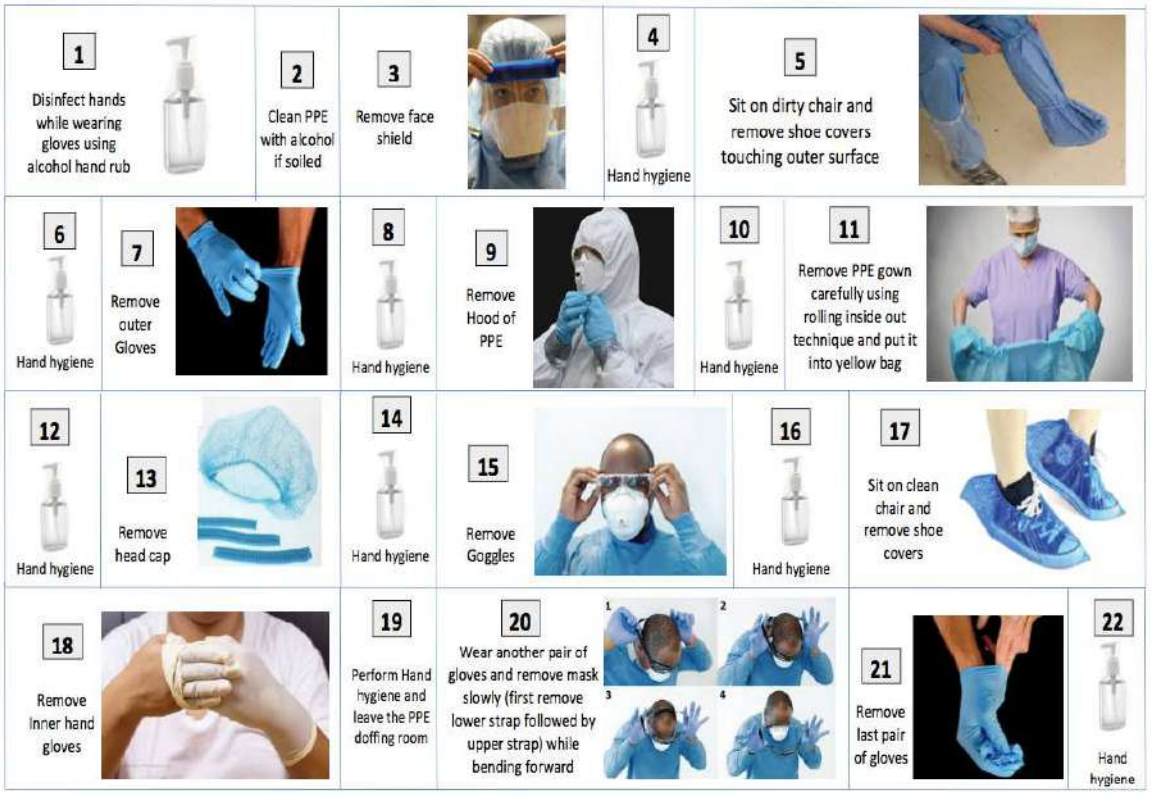
Adhere to recommended manufacturer instructions for cleaning and disinfection.

When manufacturer instructions for cleaning and disinfection are unavailable, such as for single use disposable face shields, consider:

1. While wearing gloves, carefully wipe the *inside, followed by the outside* of the face shield or goggles using a clean cloth saturated with neutral detergent solution or cleaner wipe.
2. Carefully wipe the *outside* of the face shield or goggles using a wipe or clean cloth saturated with EPA-registered hospital disinfectant solution.
3. Wipe the outside of face shield or goggles with clean water or alcohol to remove residue.
4. Fully dry (air dry or use clean absorbent towels).
5. Remove gloves and perform hand hygiene.

SEQUENCE OF PPE

Donning of PPE



Doffing of PPE

- **<u>Points to consider while donning and doffing:</u>**

- Put on PPE in the donning room before entering isolation areas.
- Once in patient's room keep **hands away from face and don't touch/ adjust PPE.**
- Try to minimize touching unnecessary areas in the patient's room.
- Doffing is the most crucial step where there are maximum chances of contaminating/ infecting oneself. So it should be performed meticulously in a stepwise manner so as to prevent any kind of aerosol generation.
- Before doffing, check for any leak or soiling in PPE before doffing. If any, disinfect the area before doffing. Doffing room should have 2chairs. One labelled "dirty" and the other "clean".
- All the PPE must be discarded in the yellow bin.
- Always, remove N95 mask outside the doffing area.
- During removal of PPE, **if at any time your hands become contaminated, perform hand hygiene**

RATIONAL USE OF PPE IN VARIOUS SETTINGS (Ministry of health and family welfare guidelines)

POINT OF ENTRY

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

HOSPITAL SETTING

Out Patient Department (Respiratory Clinic / Separate screening area)

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

Inpatient setting

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Individual isolation rooms/ cohorted isolation rooms	Clinical management	Moderate risk	N 95 mask Gloves	Patient masked. Patients stable. No aerosol generating activity.
2	ICU/ Critical 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 1 meter

Emergency Department

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

Pre-hospital (Ambulance) Services

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

Other Supportive/ Ancillary Services

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

Health Workers in Community Setting

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	ASHAs/ Anganwadi and other field staff	Field Surveillance	Low Risk	Triple layer mask Gloves	Maintain distance of one meter. Surveillance team to carry adequate triple layer masks to distribute to suspect cases detected on field surveillance
2	Doctors at supervisory level conducting field investigation	Field surveillance Clinical examination	Medium risk	N95 mask Gloves	

Quarantine facility

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

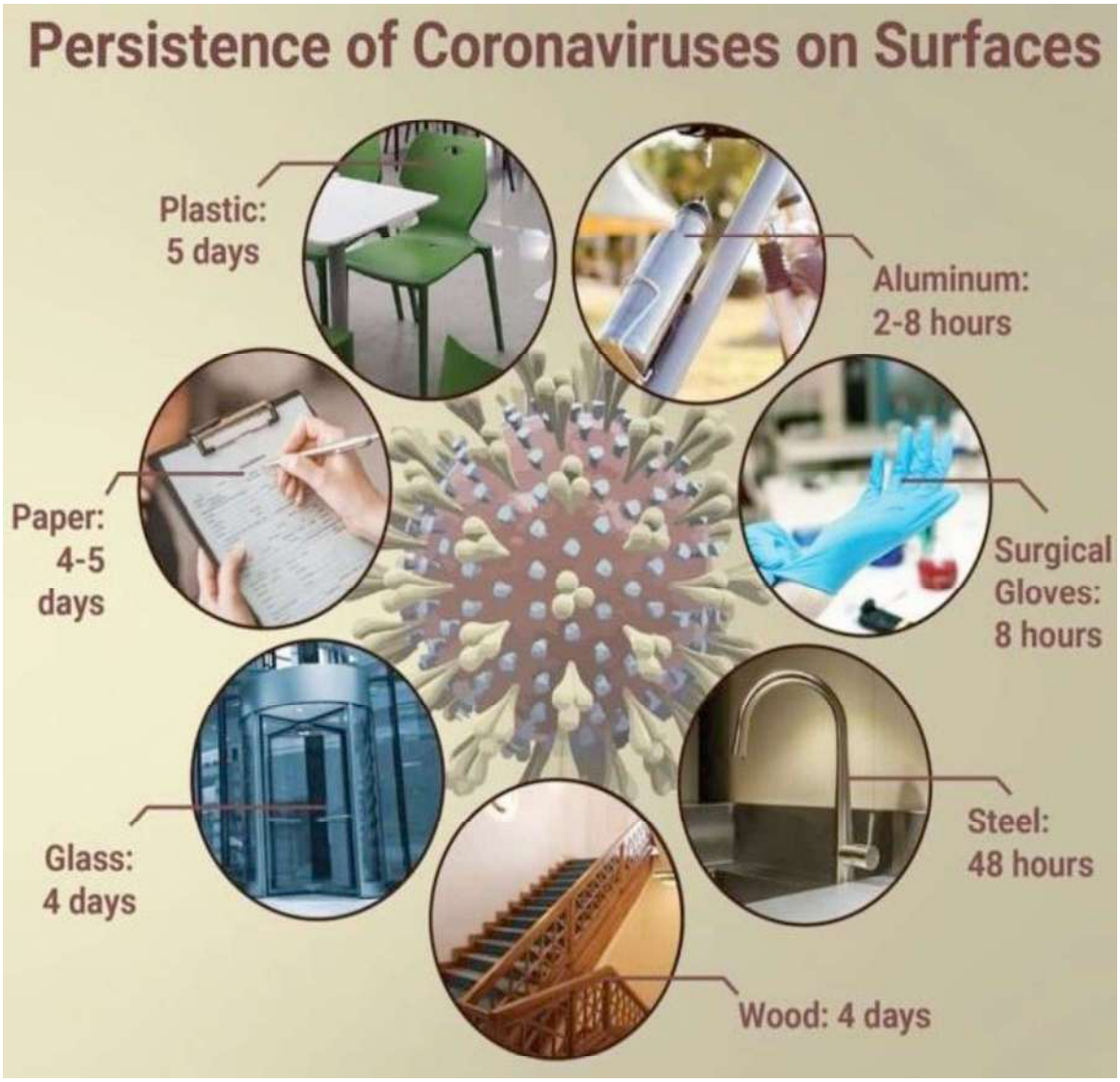
Home Quarantine

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

5. ENVIRONMENTAL CLEANINGAND DISINFECTION

Practices for Environmental Cleaning in Healthcare Facilities

It is imperative to strictly abide by cleaning and disinfection protocol to contain the COVID-19 illness. The virus can potentially survive in the environment for several hours/days. Premises, areas and equipments potentially contaminated with the virus therefore need to be cleaned before their re-use. The transfer of microorganisms from environmental surfaces to patients is mostly via hand contact with the surface and hence, apart from environmental cleaning, hand hygiene remains the single most important tool to minimize the impact of this transfer.



- **Cleaning agents and disinfectants recommended for COVID-19 virus**

- 1% Sodium Hypochlorite can be used as a disinfectant for cleaning and disinfection.
- Alcohol (e.g. isopropyl, 70% or ethyl alcohol, 70%) can be used to wipe down surfaces where the use of bleach is not suitable, e.g. metals.

(SARS-CoV-2 is an enveloped virus with a fragile outer lipid envelope and this makes it very susceptible to most of the available disinfectants.)

- **Preparation of Sodium hypochlorite:**

Available Sodium hypochlorite concentration in PGIMS, Rohtak: 5%

- To make 1%: 1 part of available solution + 4 parts of water (used for general cleaning)
- To make 0.1%: (used for disinfection of linen) – 20ml of available solution is added to 980ml of water.

- **Important points about Sodium hypochlorite:**

- It should be freshly prepared daily.
- A contact time of at least 10 minutes is recommended.
- Hypochlorite should be used mainly on hard, non-porous surfaces (it can damage textiles and metals).
- It should be kept in opaque closed containers to prevent degradation. Expiry date manufactured by the manufacturer should be strictly followed as the original hypochlorite solution tends to loose 40% to 50% of the free available chlorine over one month.
- It should not be mixed with ammonia, acid or acidic body fluids (e.g., urine) as it releases toxic chlorine gas especially in a confined place.
- It is corrosive to metals, so for metallic surfaces, 70% alcohol should be used.
- It does not act in the presence of organic matter, therefore, it is important to first clean surfaces of their visible dirt.

Preparation of Disinfectant for COVID area

Sodium hypochlorite **1%** solution to used for disinfection

Concentration available in our hospital—**5%**

To make 1% sodium hypochlorite:

1 **Part of available solution** + **4** **Parts of water**

Precautions:

- It should be freshly prepared every morning. Discard after 24 hours.
- Contact time of at least 10 minutes is recommended.
- Do not use it on metallic surfaces as it is corrosive.
- Appropriate PPE to be worn while cleaning :

Information for cleaning staff:

Personal Protective Equipment (PPE) to wear while carrying out cleaning and disinfection works

1. Wear heavy duty/disposable gloves, disposable long-sleeved gowns, eye goggles or a face shield, and a medical mask (please see the PPE document for details).
2. Avoid touching the nose and mouth (goggles may help as they will prevent hands from touching eyes).
3. Disposable gloves should be removed and discarded if they become soiled or damaged, and a new pair worn.
4. All other disposable PPE should be removed and discarded after cleaning activities are completed. Eye goggles, if used, should be disinfected after each use, according to the manufacturer's instructions.
5. Hands should be washed with soap and water/alcohol-based hand rub immediately after each piece of PPE is removed, following completion of cleaning.

Areas and Frequency of Cleaning as per Risk Stratification:

COVID isolation room/ screening area	Disinfectant	Contact time	Frequency
High touch surfaces	Hypochlorite 1% (wipe)	10min	4 hourly
Floor	Clean(soap &water) and then Hypochlorite 1%(mop)	10min	6 hourly
Wall, ceiling	Hypochlorite 1%(wipe)	10min	Once daily
Linen(used)	Hypochlorite 0.1%	30min	As on when needed
Toilet	Clean(soap &water) and then Hypochlorite 1%(wash)	10min	3 hourly
Corridor	Hypochlorite 1%(mop)	10min	4hourly
Non-critical equipment (stethoscope, BP cuff, thermometer etc.)	Alcohol wipes		After each use or dedicated
Slippers	Soap and water first and then with Hypochlorite 0.1% (dip)	10min	Once /day
Termination disinfection	Soap and water followed by 1% hypochlorite	10min	As on when needed

Routine environmental cleaning requirements can be divided into two groups

1. Floor cleaning
2. Surface cleaning

FLOOR CLEANING:

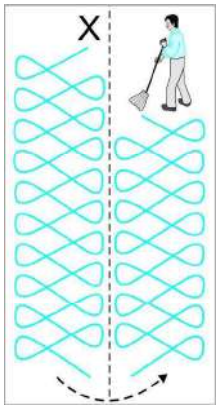
This has to be done every 6 hours.

General principles while mopping:

- Brooms are not to be used. Wet mopping has to be done.
- Wash the mop under running water before doing wet mopping
- While mopping, three bucket technique has to be followed:
  - First bucket should contain warm water with detergent to be used.
  - Second bucket contains clean water, where the mop has to be rinsed.
  - Third bucket contains disinfectant (1% sodium hypochlorite)
- 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:** Minimise turbulence to prevent the dispersion of dust that may contain micro-organisms.
- The creation of aerosols caused by splashing liquid during cleaning should be avoided.
- 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 **120 square feet** to be mopped before re-dipping the mop in the solution.
- Cleaning solution to be changed after cleaning an area of **240 square feet**. (i.e. change solution for every room).
- Change more frequently in heavily contaminated areas, when visibly soiled 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 0.5 hypochlorite 10 min and then dry it in sunlight.

- Change the mop head when heavily soiled or at the end of the day.
- 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.

Floors (Covid Area) - Daily Mopping

What you need?

- Detergent or Sanitizer
- Hot water
- 1% Sodium hypochlorite

Three buckets (one with plain water and one with detergent solution; one bucket for 1% Sodium hypochlorite).

Prepare cleaning solution using detergent with warm water.

PROCEDURE : Three—bucket technique

1. Wash the hands
2. Wear PPE properly
3. Mop the area with warm water and detergent solution
4. Clean the mop in plain water and squeeze it
5. Repeat this procedure for the remaining area
6. Mop area again using 1% Sodium hypochlorite after drying the area
7. In between mopping, if solution or water is dirty change it frequently
8. Mop the floor starting at the far corner of the room (unclean area to clean area) and work towards the door in ZIG-ZAG manner

Note: Mopping should be done **twice a day**

After cleaning, wash all equipment used for cleaning with soap and hot water, followed by decontamination with 1% Sodium hypochlorite for 10 minutes and then dry it in sunlight. Clean and disinfect the buckets and dry them.

Measures during mopping:

- **Never shake mops**
- 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 **120 square feet** to be mopped before re-dipping the mop in the solution

Cleaning Sequence:

- Cleaning should be proceeded in a top-to-down sequence, i.e. ceiling based equipment first, then walls, and then floor based equipment and lastly the floor
- When cleaning floor, begin at the end farthest from the door and move towards the door (in to out)
- The cleaning staff should always move from unclean to clean areas and never vice versa
- When cleaning individual equipment, clean from top to down

SURFACE CLEANING:

Disinfectant or 1% sodium hypochlorite solution should be applied to surfaces using a damp cloth. **They should not be applied to surfaces using a spray pack, as coverage is uncertain.** A steady sweeping motion should be used when cleaning either floors or horizontal surfaces, to prevent the creation of aerosols or splashing.

The frequency of cleaning of various surfaces depends on the degree and frequency of hand contact:

High touch surfaces: To be cleaned every 6 hours

- Frequently touched areas or surfaces in the vicinity of patient.
- Transmission of microbes from these surfaces to the patient directly or indirectly is more likely and such surfaces require more frequent cleaning.
- Examples include doorknobs, elevator buttons, telephones, bedrails, light switches, computer keyboards, monitoring equipments, hemodialysis machines, wall areas around the toilet and edges of curtains in the patient area.

Low touch surfaces: To be cleaned at least twice a day

- Those that have minimal contact with hands.
- Potential for infection transmission from these surfaces is low and they require less frequent cleaning. However, they should be cleaned as soon as possible when visibly soiled.
- Examples include: floors, walls, ceilings, mirrors and window sills.

Medical Instruments cleaning:

1. Use dedicated non critical medical equipments for patients. E.g., stethoscopes, B.P apparatus, thermometers etc.
2. Avoid sharing instruments; if unavoidable, disinfects in between each patient use.

Medical Instrument Cleaning in COVID area

Cleaning of medical instruments : To be done in between each patient contact

Stethoscope	Alcohol based rub or spirit swab
BP cuff and covers	Alcohol based disinfectant
Thermometers	Wipe with alcohol rub
Injection and dressing trolley	Clean daily with detergent and water. After each use, wipe with 70% alcohol
Ventilator monitor Defibrillator USG machine	Detergent followed by alcohol
Ventilator tubing	ETO or plasma sterilization

Terminal Disinfection in COVID isolation room after discharge/transfer of patient

- **PPE:** Wear FULL-PPE (2 pairs of gloves, N95 mask, coverall, boot, goggles) and enter to isolation room.
- **Remove dirty linen and** discard into double layered yellow bag with COVID label; roll carefully without shaking to prevent aerosol formation.
- **Cleaning followed by Disinfection:** Fist cleaning should be performed with detergent or soap and water; followed by disinfection with Sodium hypochlorite (1%).
- Clean room, working from clean to dirty and high to low areas of the room by using fresh mop.

For example; surfaces first to be cleaned followed by floor

- **Clean** all the hi-touch areas of the room including areas with possible contamination from blood and body fluid.
- Clean all furnishings and surfaces in the room including chairs, window sill, television, telephone, computer keypads, over bed table etc.

Clean the bed: Clean the immediate surroundings of patient's bed and re-make the bed

- Clean **bathroom / shower** and **floors**
- Inspect for pest control
- Clean and disinfect all BMW bins, buckets, mugs etc after the cleaning procedure
- **Remove PPE** in doffing area and perform hand hygiene before leaving the patient-care area
- **No Fogging:** Do not spray or fog occupied or unoccupied rooms with disinfectant - potentially dangerous practice, that has no proven benefits

Precautions to take after completing the clean-up and disinfection

1. Staff should wash their hands with soap and water immediately after removing the PPE, and when cleaning and disinfection work is completed.
2. Discard all used PPE in a double-bagged biohazard bag, which should then be securely sealed and labelled.
3. The staff should be aware of the symptoms and should report to their occupational health service if they develop symptoms.

6. PATIENT TRANSPORT

Within facility transport:

- Make the patients wear a surgical mask to contain respiratory secretions.
- Dedicated/ pre-identified routes of transport should be allocated to minimize exposures of staff, other patients and visitors.
- Health care professionals transporting the patient may not routinely wear gowns and gloves, unless direct contact with the patient or contaminated equipment is anticipated during transport.
- In the above mentioned case, one HCW wearing PPE, and one additional member without wearing a gown and gloves, should accompany the patient. The person without gloves and gown can help in coordination and making way for the transport.

Inter-facility transport:

- Notify the receiving area of the patient's diagnosis and necessary precautions as soon as possible before the patient's survival.
- A patient with suspected or confirmed **2019 nCoV-Acute Respiratory Disease** should not travel with other patients.
- Ambulance staff (technicians as well as drivers) should be trained and oriented about common signs and symptoms of COVID-19 (fever, cough and difficulty in breathing).
- Both the attendant and driver of ambulance should wear PPE while handling, managing and transporting the COVID identified/ suspect patients
- Use an ambulance with close door/ window between driver and patient compartment.

Designated specified ambulances for transporting COVID suspected patients

Before leaving the house / health care facility

- As far as possible family members and close relatives should be discouraged from travelling in the same vehicle or if not, they must wear a surgical mask during transport in ambulance.
- Remove gloves, decontaminate hands and put on new gloves before touching the patient and before a clean or aseptic procedure, if required. Wearing gloves does not replace hand hygiene.
- Use single use or single patient use medical equipment where possible.
- Use disposable linen if available.

On arrival to the health care facility from where the patient is to be transferred

- Before the patient leaves the ambulance ensure arrangements are in place for receipt of the patient.
- Decontaminate hands (alcohol gel/rub).
- Transfer patient to the care of hospital staff.
- After transfer of patient remove PPE and perform hand hygiene.

Before ambulance is used again

- **Management of waste**

  All masks and any waste contaminated with blood or body fluid (including respiratory secretions) should be disposed of as infectious waste in yellow bag.

COUGH ETIQUETTE:

- 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 accidentally coughed/sneezed on your hands.
- Turn head away from the patient when coughing/sneezing.
- Don't cough/sneeze on nearby people.
- Maintain 1 meter (2 arm) distance from the patient and contacts.

7. AMBULANCE DISINFECTION

PPE: When a suspected case arrives, the driver has to perform hand hygiene, wear a surgical gown followed by plastic apron, N-95 mask and gloves.

Cleaning the ambulance:

Wear the above mentioned PPE for cleaning and disinfection.

- Full ambulance (outside) has to be cleaned with 1% hypochlorite in each shift once and every time a suspect/confirmed case is transported (starting from the driver area to the back door).
- Disinfect (damp wipe) all horizontal, vertical and contact surfaces with a cotton cloth saturated (or microfiber) with 1% sodium hypochlorite solution. These surfaces include, stretcher, bed rails, infusion pumps, IV poles/Hanging IV poles, monitor cables, telephone, countertops and sharps containers.
- Equipments like stethoscopes, blood pressure cuffs, laryngoscope blades and radios/ mobiles should also be cleaned with 70% alcohol.
- Spot clean walls (when visually soiled) with disinfectant-detergent and windows with glass cleaner. Allow contact time of 30 minutes and allow air dry.
- Damp mop floor with 1% sodium hypochlorite disinfectant. Discard disposable items and infectious waste in a Bio/Hazard bag. The interior is sprayed with 1% sodium hypochlorite. The bag is tied and exterior is also decontaminated with 1% sodium hypochlorite. Change cotton mop water containing disinfectant after each cleaning cycle. Remove gloves and wash hands.
- Full water wash need not be done.

8. LIFT INFECTION CONTROL

- Hand rub/wash before and after lift use.
- Foot operated hand sanitizer should be made available near the lift.
- 3-4 people per lift at a time: Maintain two arm distance, wear mask and follow respiratory hygiene.
- Avoid direct contact with landing and lift car buttons.
- 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.

9. MOBILES & LAPTOP INFECTION CONTROL

- Avoid bringing to hospital if not absolute necessary.
- Clean front and back surfaces with alcohol wipes
  - Twice per shift
  - Also before leaving workplace

- Switch off during wiping

10. LINEN /LAUNDRY INFECTION CONTROL

1. Linen generated from COVID area would include:
   - Patient linen (scrubs)
   - Patient bed sheets
   - HCW's scrubs
2. Dedicated laundry area should be allocated for cleaning soiled bedding, towels and clothes from patients with COVID-19.
3. Linen should be changed every day or whenever soiled with patient secretions.
4. Every HCW handling linen must follow Hand hygiene and PPE (surgical mask, heavy duty gloves, plastic apron, boots).
5. One must never carry soiled linen holding it against body.
6. There should be minimum handling of linen. Never shake linen to avoid aerosol generation.
7. Soiled linen shall be placed in clearly labelled, leak-proof bags or containers kept near the patient, carefully removing any solid excrement and putting in covered bucket to dispose off separately.
8. One must bear in mind the basic principle of cleaning and disinfection. Disinfection or Antisepsis is ineffective in presence of organic matter, therefore clothes, laundry and linen needs to be washed first and then disinfected
9. **Washing machine Cycle**: Wash at 60-90°C with laundry detergent followed by soaking in 0.1% Sodium Hypochlorite for approximately 30 minutes and sundry.
10. **Manual Washing Cycle**: Soaked in hot water with soap/detergent in a large drum. Use a stick to stir and avoid splashing. Empty the drum and soak linen in 0.1% sodium hypochlorite for approx. 30 minutes. Rinse with clean water and let linen sundry.

11. BIOMEDICAL WASTE MANAGEMENT

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 BMW Rules, 2016.

Color 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 **separated dedicated** color coded bins/bags/containers in corona isolation wards and should be labeled as "COVID-19 Waste"
- Use **double layered bags (using 2 bags)** 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 CBMWTF:** Keep "COVID-19 Waste" separately in temporary storage room prior to handing over to authorized staff of CBWTF. COVID-19 Waste collected in such isolation wards can also be lifted directly from ward into CBWTF collection van.
- **Disinfection:** The inner and outer surface of bags/containers/collection bins/ trolleys should be disinfected with 1% sodium hypochlorite.
- **General solid waste**: The waste comprising of wrappers of medicines/syringes, fruit peel offs, empty juice bottles or tetra packs, used water bottles, discarded papers, carton boxes of medicines, empty bottles of disinfectants, left-over food, disposable food plates etc., should be collected separately as per Solid Waste Management Rules, 2016.

  - In order to minimize waste generation, as far as possible, non-disposable items must be used for serving food, which are to be handle with appropriate precautions and cleaned and disinfected as per hospital guidelines. If use of disposable items is inevitable, use bio-degradable cutlery.

  - The wet and dry solid waste bags to be tied securely in leak-proof bags, sprayed with

sodium hypo-chlorite solution and hand over to authorized waste collector of ULB's on daily basis.

- Yellow colored bags should not be used for collecting general solid waste. Compostable bags should be used for collecting wet-waste.

- Collect used PPEs such as goggles, face-shield, splash proof apron, plastic coverall, hazmet suit, nitrile gloves into red bag.
- Collect used masks (including triple layer mask, N95 mask, etc.), head cover/cap, shoe-cover, disposable linen Gown, non-plastic or semi-plastic coverall in Yellow bags.
- Feces from COVID-19 confirmed patient, who is unable to use toilets and excreta is collected in diaper, must be treated as biomedical waste and should be placed in yellow bag/container. However, if a bedpan is used, then faeces to be washed into toilet and cleaned with a neutral detergent and water, disinfected with a 0.5% chlorine solution, then rinsed with clean water.
- Maintain **separate record** of waste generated fromCOVID-19 isolation wards
- **PPEs:** Depute dedicated sanitation/SMC worker and ensure the use of adequate PPEs while handling BMW-three layered mask, splash proof apron/gowns, nitrile gloves, gumboots, safety goggles
- **Quarantine facility for suspected COVID patients:**
  - Left-over food, empty juice bottles or tetra packs, empty water bottles, packaging material, and any other items, generated or handled by COVID-19 patient should be collected along with other general solid waste in bags securely tied for handing over to waste collectors engaged by ULBs.
  - Yellow colored bag should not be used for general solid waste.
  - Only the used masks, gloves and tissues or swabs contaminated with blood / body fluids of COVID-19 patients, including used syringes, medicines, etc., if any generated should be treated as biomedical waste and collect the same in yellow bag.
  - Masks and gloves used by persons other than COVID-19 patients should be kept in paper bag for a minimum of 72 hours prior to disposal of the same as general waste after cutting the same to prevent reuse.

KEEP HOSPITALS CLEAN AND SAFE BY IDENTIFYING HAZARDS AND RISKS OF BIOMEDICAL WASTE

अपने अस्पताल को स्वच्छ एवं सुरक्षित बनाए रखने के लिए बायोमेडिकल कचरे से सम्बंधित खतरों एवं संकट को समझें

Anatomical waste, chemical waste, soiled waste, chemotherapy waste, discarded linen and medicines and laboratory waste

शारीरिक, रासायनिक, गंदा कपड़ा, दवाइयों सम्बंधित एवं प्रयोगशाला कचरा

Contaminated plastic waste

दूषित प्लास्टिक कचरा

Glass waste and metallic implants

कांच की वस्तुएं एवं धातु प्रत्यारोपण

Metal sharps

धारदार धातु कचरा

Place the waste in designated colour coded bins

कचरे को उचित कूड़ेदान में ही डालें

Hazardous and Other waste*

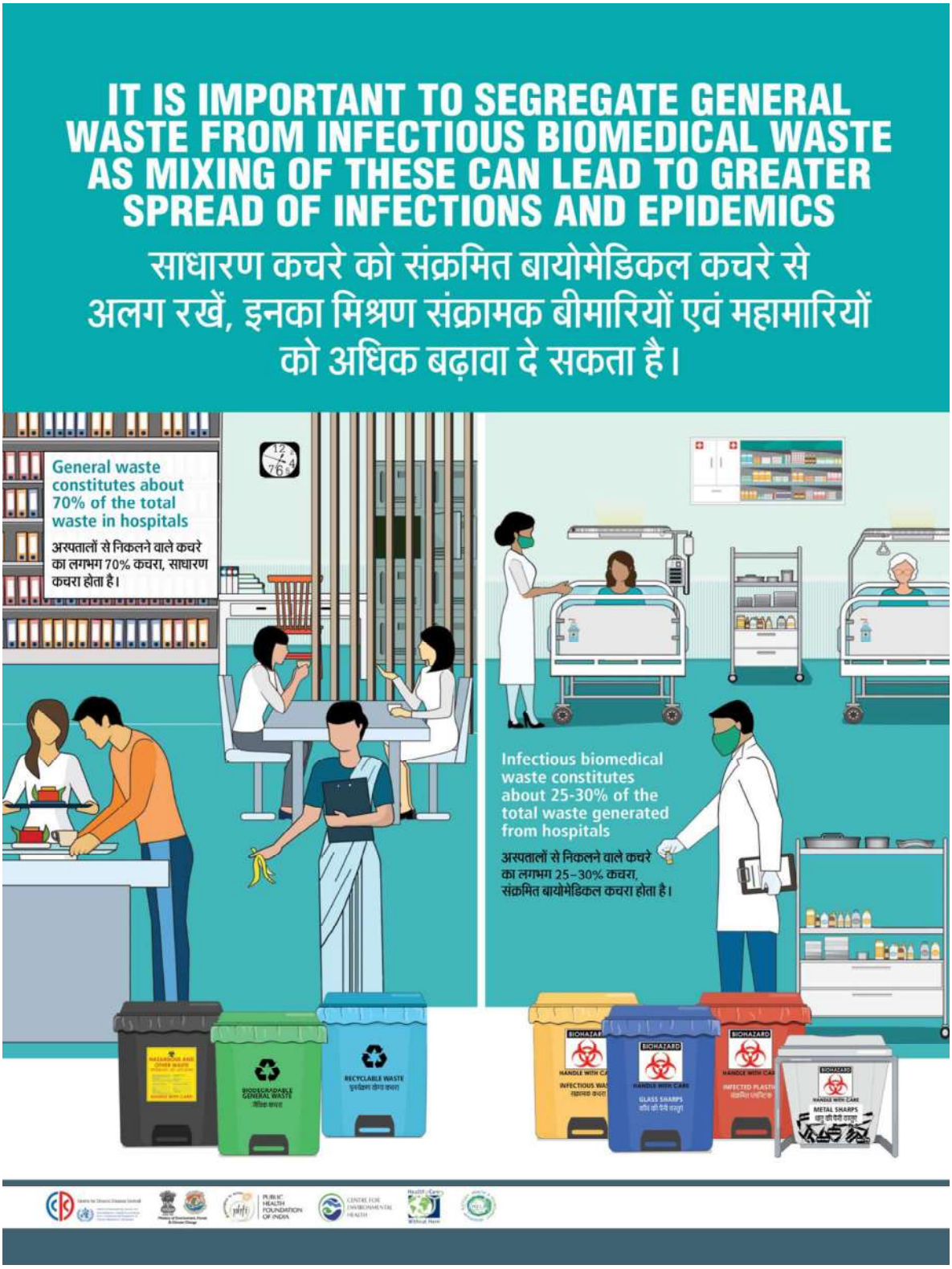
परिसंकटमय और अन्य कचरा

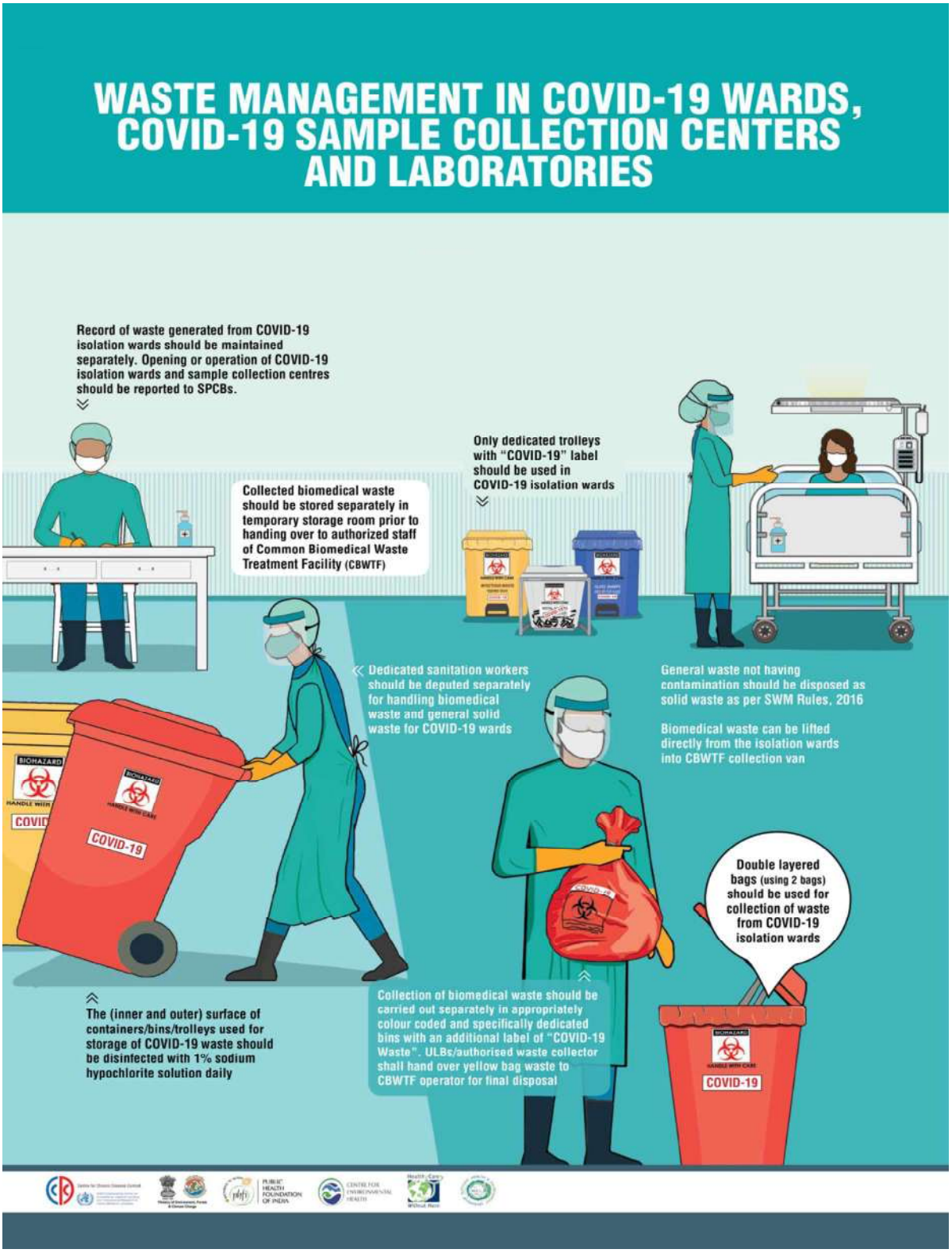
Recyclable General waste

पुनर्चक्रण योग्य कचरा

Biodegradable General waste

स्वाभाविक तरीके से सड़ने वाला सामान्य कचरा


IT IS IMPORTANT TO SEGREGATE GENERAL WASTE FROM INFECTIOUS BIOMEDICAL WASTE AS MIXING OF THESE CAN LEAD TO GREATER SPREAD OF INFECTIONS AND EPIDEMICS
साधारण कचरे को संक्रमित बायोमेडिकल कचरे से अलग रखें, इनका मिश्रण संक्रामक बीमारियों एवं महामारियों को अधिक बढ़ावा दे सकता है।
General waste constitutes about 70% of the total waste in hospitals
अस्पतालों से निकलने वाले कचरे का लगभग 70% कचरा, साधारण कचरा होता है।
Infectious biomedical waste constitutes about 25-30% of the total waste generated from hospitals
अस्पतालों से निकलने वाले कचरे का लगभग 25–30% कचरा, संक्रमित बायोमेडिकल कचरा होता है।
BIODEGRADABLE GENERAL WASTE
RECYCLABLE WASTE
BIOHAZARD
GLASS SHARPS
METAL SHARPS
PUBLIC HEALTH FOUNDATION OF INDIA
CENTRE FOR ENVIRONMENTAL HEALTH


WASTE MANAGEMENT IN COVID-19 WARDS, COVID-19 SAMPLE COLLECTION CENTERS AND LABORATORIES
Record of waste generated from COVID-19 isolation wards should be maintained separately. Opening or operation of COVID-19 isolation wards and sample collection centres should be reported to SPCBs.
Collected biomedical waste should be stored separately in temporary storage room prior to handing over to authorized staff of Common Biomedical Waste Treatment Facility (CBWTF)
Only dedicated trolleys with "COVID-19" label should be used in COVID-19 isolation wards
Dedicated sanitation workers should be deputed separately for handling biomedical waste and general solid waste for COVID-19 wards
General waste not having contamination should be disposed as solid waste as per SWM Rules, 2016
Biomedical waste can be lifted directly from the isolation wards into CBWTF collection van
BIOHAZARD
COVID-19
Double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation wards
The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite solution daily
Collection of biomedical waste should be carried out separately in appropriately colour coded and specifically dedicated bins with an additional label of "COVID-19 Waste". ULBs/authorised waste collector shall hand over yellow bag waste to CBWTF operator for final disposal


GUIDELINES FOR HANDLING AND DISPOSING WASTE FROM QUARANTINE CAMPS/ HOMES/ HOME-CARE FACILTIES
General solid waste (household waste) should be handed over to waste collector identified by Urban Local Bodies (ULBs) or as per the prevailing local method of disposing general solid waste
Maintain separate bins for biomedical waste and general household waste
QUARANTINE CENTRE
ENTRANCE
Persons operating Quarantine camps/centres should call the CBWTF operator to collect biomedical waste as and when it gets generated
Biomedical waste from quarantine centres/camps should be collected separately in yellow coloured bags provided by ULBs. These bags can be placed in separate and dedicated dust-bins of appropriate size
BIOHAZARD
HANDLE WITH CARE
COVID-19
Persons taking care of quarantine home / home-care should deposit generated biomedical waste from suspected or recovered COVID-19 patients by any of the following methods:
Hand over the yellow bags containing biomedical waste to authorized waste collectors at door steps engaged by local bodies; or Deposit biomedical waste in yellow bags at designated deposition Centres established by ULBs

12. DEAD BODY MANAGEMENT FOR COVID 19

- 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.
- Only the lungs of dead COVID patients, if handled during an autopsy, can be infectious.
- However, till now there is no such acceptable scientific data that COVID 19 cannot spread through dead bodies, except the lungs. The dead bodies are considered to be a source of infection in a number of infectious diseases, other than COVID-19 also.

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.

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.

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. <u>Environmental cleaning and disinfection</u>

- 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:

- The team should be well trained in infection prevention control practices.
- The number of forensic experts and support staff in the autopsy room should be limited.
- The Team should use full complement of PPE (coveralls, head cover, shoe cover, N95 mask, goggles / face shield, knee-high boots).
- Round ended scissors should be use.
- PM40 or any other heavy-duty blades with blunted points to be used to reduce prick injuries.
- Only one body cavity at a time should be dissected.
- Unfixed organs must be held firm on the table and sliced with a sponge – care should be taken to protect the hand.
- Needles should not be re-sheathed after fluid sampling – needles and syringes should be placed in a sharps bucket.
- Reduce aerosol generation during autopsy using appropriate techniques especially while handling lung tissue.
- After the procedure, body should be disinfected with 1% Sodium Hypochlorite and placed in a body bag.
- The exterior of the bag will again be decontaminated with 1% Sodium Hypochlorite solution.
- The body thereafter can be handed over to the relatives.
- Remove PPE before leaving the autopsy room and follow appropriate disposal requirements. After removing PPE, always perform good hand hygiene practices.

- Autopsy table to be disinfected as per standard protocol.

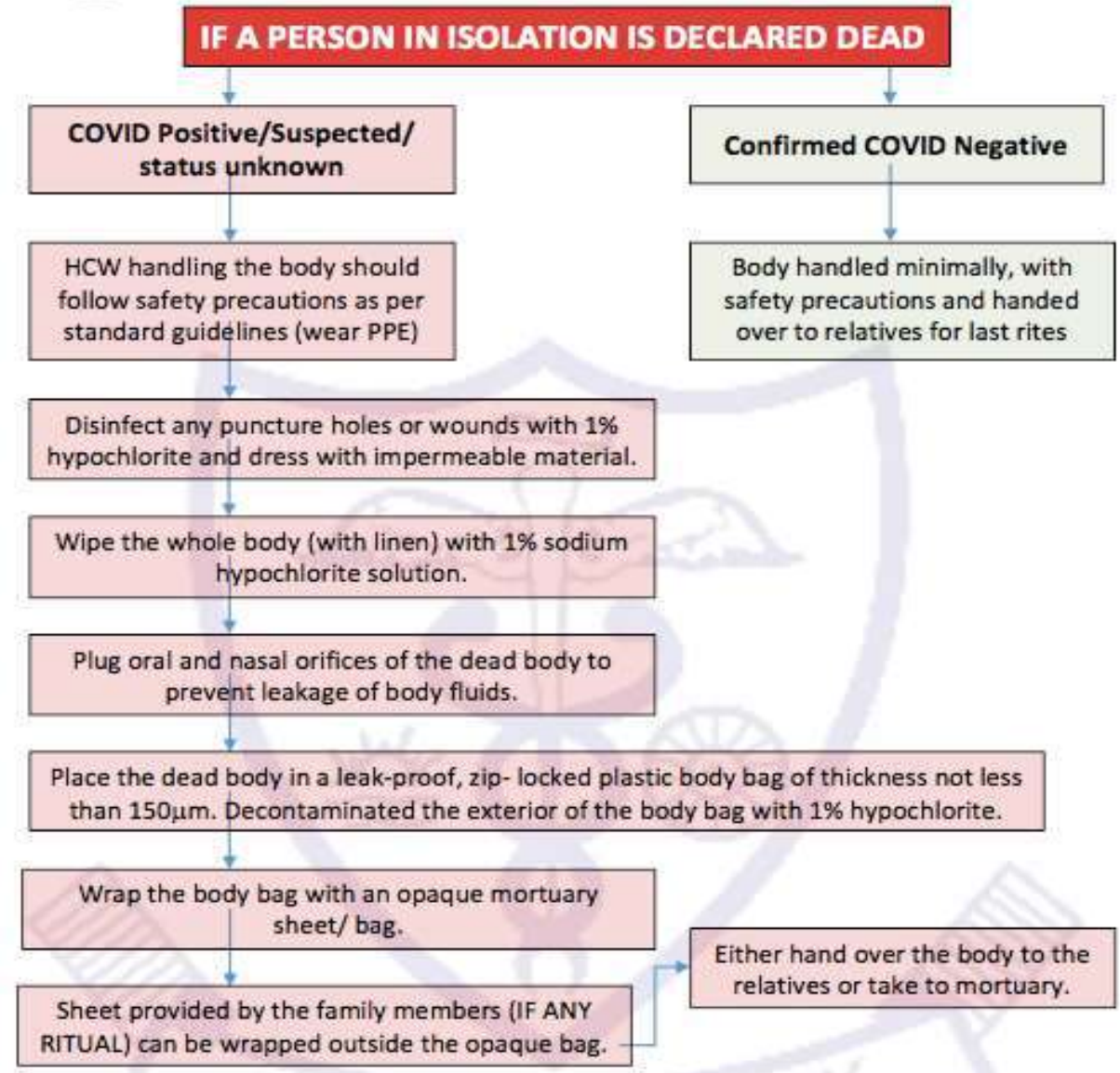
5. Transportation

- 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.

6. 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.

DEAD BODY MANAGEMENT



- 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.
- The area should be disinfected with 1% hypochlorite solution.
- 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.

CHECKLIST-1

DATE	ISOLATION WARD			WASHROOM				DOFFING AREA			SIGN
	Cleaning with 1% Sodium hypochlorite	3 Bucket tech followed	Discard of Sodium hypochlorite	0.1% Sodium hypochlorite	Soap available	Towel available	Scrubs available	Yellow bin painted with hypochlorite	Discard of goggles and face shields	Discard of N95 masks	

HOUSEKEEPING CHECKLIST FOR WASHROOM

(Sink, Tap, Toilet, Floor)

Month:_____

Date	Morning (Time)	Evening (Time)	Night (Time)	Nursing Sister I/C

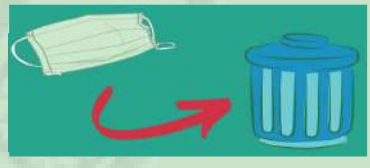
WEAR YOUR MASK WHEREVER YOU GO

Before putting-on a mask, clean hands with alcohol-based hand rub or soap and water

Cover mouth and nose with mask and make sure there are no gaps between your face and the mask

Avoid touching the mask while wearing it

Replace the damp mask with a new one.
Don't re-use single-use masks.
Don't throw it here and there.



To remove the mask: remove it from behind, discard immediately in a closed bin; clean hands with alcohol-based hand rub or soap and water.

Wear a mask if you are coughing or sneezing

Don't allow tangling of mask around neck

HOSPITAL INFECTION CONTROL COMMITTEE, PGIMS, ROHTAK

घर से निकले तो मास्क पहने!

मास्क पहनने से पहले अपने हाथ साबुन और पानी या हैंडसैनिटाइज़र से साफ़ कर लें

अपने मुँह और नाँक को मास्क से ढक लें और सुनिश्चित करें के मास्क और चेहरे में कोई अंतर न हो

मास्क पहनने के बाद उसे न छुएँ

नम मास्क को नए मास्क से बदलें। एक बार इस्तेमाल होने वाले मास्क को दोबारा न पहनें व इनको यहाँ-वहाँ न फेंके।

मास्क हटाने के लिए इसको पीछे से निकालें, और तुरंत कूड़ेदान में डाल दें; अपने हाथ साबुन और पानी या हैंडसैनिटाइज़र से साफ़ कर लें

खाँसते और छींकतें समय मास्क ज़रूर पहनें

मास्क को गले में इस तरह न लटकायें

HOSPITAL INFECTION CONTROL COMMITTEE, PGIMS, ROHTAK

बीमारी से बचने व स्वस्थ रहने हेतु सुझाव

यह करें

अपनी व अपने परिवार की साफ़ सफाई का ध्यान रखें

हाथ गंदे दिखने पर उन्हें साबुन व पानी से धोयें

हाथ गंदे न दिखने पर भी सैनिटाइज़र या साबुन और पानी से साफ़ करते रहें

खाँसते व छींकते समय अपने मुँह व नांक को रुमाल, मास्क, कपड़े इत्यादि से ढकें

रुमाल, मास्क, कपड़े इत्यादि न होने पर हाथ की जगह कोहनी से मुँह व नांक ढकें

इस्तेमाल किये गए टिश्यू इत्यादि को तुरंत कूड़ेदान में फेंके

अस्वस्थ महसूस करने पर तुरंत डॉक्टर को दिखायें

यह न करें

खांसी झुकाम आदि के लक्षण होने पर दूसरों के संपर्क में न आयें

सार्वजनिक स्थलों पर न थूकें व दूसरों को भी न थूकने दें

जानवरों के संपर्क में न आयें एवं कच्चे या अधपक्के मांस का सेवन न करें

सावर्जनिक स्थलों पर पेशाब न करें व खुले में शौच न करें

बीड़ी, सिग्रेरेट, खैनी, गुटखा, शराब व तंबाकू आदि का सेवन न करें

स्वास्थ्य के प्रति सजग रहें और जंक फ़ूड के सेवन से बचें

सरकार एवं डॉक्टरों के सुझावों को नज़रअंदाज़ न करें

HOSPITAL INFECTION CONTROL COMMITTEE, PGIMS, ROHTAK, HARYANA – 124001

पी पी ई पहनने की विधि

1 हाथों में पहना सामान उतारें (घड़ी, गहने इत्यादि)

2 पानी पीयें व प्रसाधन जायें

3 हाथ धोयें

4 घर के कपड़े उतारें व नया कुर्ता पजामा पहनें

5 हाथ स्वच्छता

6 साफ़ कुर्सी पर बैठें व जूते के कवर पहनें

7 हाथ स्वच्छता

8 दस्ताने का पहला जोड़ा पहनें

9 पी पी ई का निरीक्षण करें

10 कुर्सी पर बैठे हुए बिना हुड के पी पी ई व लम्बे जूते पहनें

11 मास्क पहनें

12 चश्मा पहनें

13 कैप पहनें

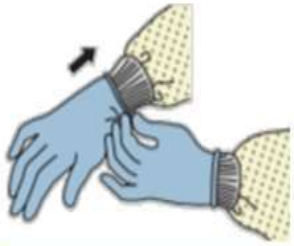
14 पी पी ई का हुड पहनें

15 हाथ स्वच्छता

16 फेस शील्ड पहनें

17 जांचें के पी पी ई उचित तरह से पहना गया है

18 दस्ताने का दूसरा जोड़ा पहनें और बाज़ू को उनमें दबायें



HOSPITAL INFECTION CONTROL COMMITTEE (HICC), PGIMS, ROHTAK HARYANA – 124001

पी पी ई उतारने की विधि

1 दस्ताने पहने हुए हाथों को सांइटिज़ेर से साफ करें 	2 गंदे हुए पीपीई को एलकोहॉल द्वारा साफ़ करें	3 फेस शील्ड हटायें 	4 हाथ स्वच्छता 	5 अशुद्ध कुर्सी पर बैठ जूते के कवर को बहार से पकड़ कर हटायें 	
6 हाथ स्वच्छता 	7 बाहरी दस्तानों को निकालें 	8 हाथ स्वच्छता 	9 पी पी ई का हुड हटायें 	10 हाथ स्वच्छता 	11 पी पी ई गाउन को अंदर से बहार मोड़ते हुए निकल कर पीले बैग में डालें 
12 हाथ स्वच्छता 	13 सिर की कैप निकालें 	14 हाथ स्वच्छता 	15 चश्मा हटायें 	16 हाथ स्वच्छता 	17 साफ़ कुर्सी पर बैठ कर जूतों के कवर निकालें 
18 अंदर वाले दस्ताने हटायें 	19 हाथ सैनीटाईज़ करने के बाद कमरे से निकलें	20 नए दस्ताने का जोड़ा पहन और नीचे झुक कर आराम से चेहरे का मास्क निकालें (पहले नीचे फिर ऊपर वाला पट्टा उतारें) 		21 आख़री दस्ताने का जोड़ा निकालें 	22 हाथ स्वच्छता