



COVID-19 Infection Prevention and Control Guidelines for South Africa (Version 2 – May 2020)



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Department:
Health
REPUBLIC OF SOUTH AFRICA



COVID-19 Infection Prevention and Control Guidelines for South Africa

Summary
April 2020

These are interim guidelines which are subject to change as the situation with COVID-19 develops in South Africa. The guidelines will be updated regularly based on WHO recommendations.

Outline

Education and Training Core Components:

1. Goals of COVID-19 Guidelines for SA
2. Epidemiology
3. Routes of Transmission and Signs and Symptoms
4. Roles and Responsibilities of Health Care Workers (HCW)
5. General Infection Prevention and Control (IPC) Precautions
6. Laboratory Processes
7. Patient Management, Transport and Placement
8. Visitor Management
9. Environmental Controls
10. Management of Human Remains
11. Monitoring and Evaluation

COVID-19 Infection: Background



- Current evidence suggests that the virus that causes COVID-19 is transmitted between people through close contact and droplets.
- People most at risk of acquiring the disease are those who are in contact with or care for patients with COVID-19.
- This inevitably places health care workers (HCW) at high risk of infection.
- Understanding how HCW exposure to COVID-19 virus translates into risk of infection, it is critical to adhere to prevention and control recommendations.
- This will mitigate HCW exposure.
- Eventually many facilities will be receiving positive COVID-19 patients who will require care.



COVID-19 Infection: Introduction

- The World Health Organization (WHO) declared COVID-19 a global pandemic on 11th March 2020.
- The first case diagnosed in South Africa was on the 3rd March 2020. South Africa has a unique challenge of a large vulnerable immune compromised (due to high burden of TB and HIV) population living in overcrowded conditions.
- This refresher training is aligned to the IPC Guideline and provides guidance towards the reduction and prevention of transmission in both patients and staff at community and health care facility level.

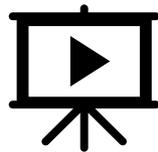
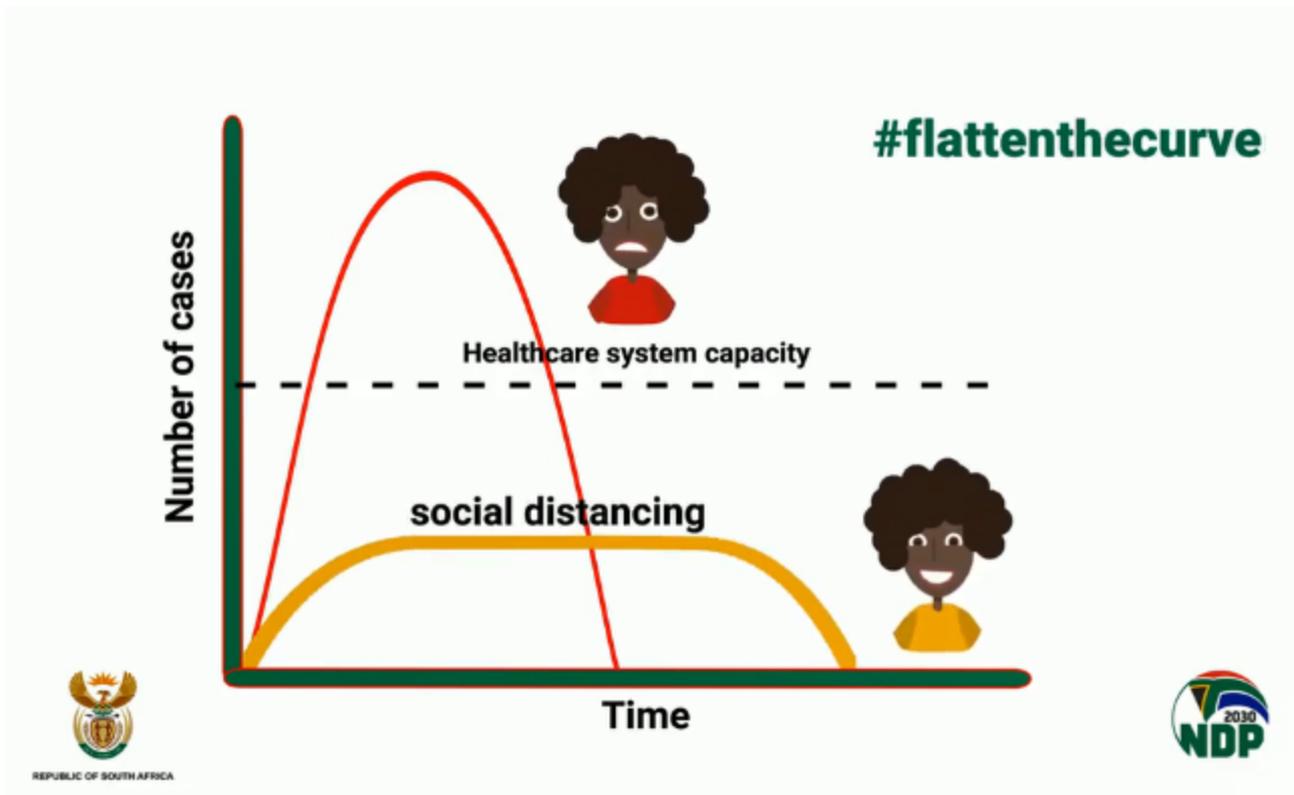
Goals of COVID-19 IPC Guidelines for South Africa

Flatten the curve of COVID-19 infection and reduce the risk of transmission from microorganisms

- Reduction and prevention of transmission in both patients and staff
- Combating healthcare-associated infections
- Health system strengthening and patient safety
- Improve quality of life

Reduce impact of outbreaks of highly transmissible diseases

Flatten the Curve: Video



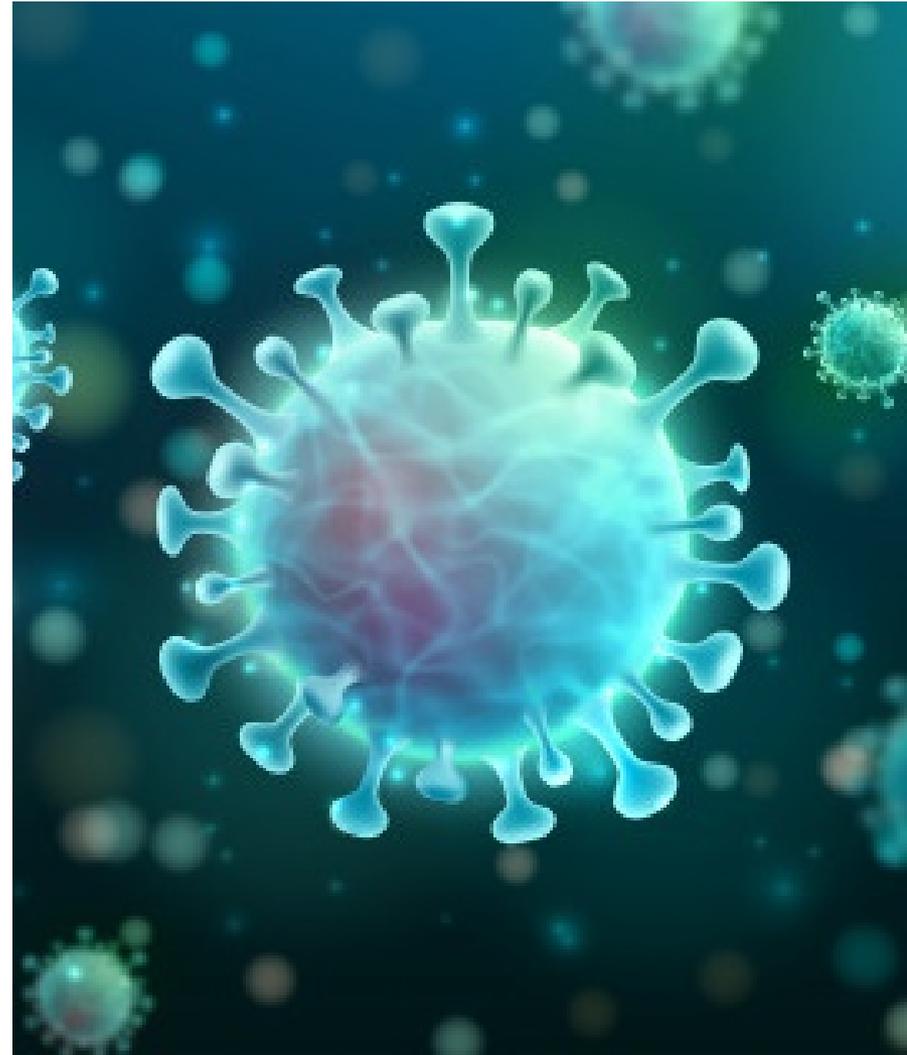
[Play video](#)

Training Objectives

- 1 Implement COVID-19 IPC training at national, provincial, district and health facility level including Emergency Medical Services (EMS)
- 2 Include COVID-19 IPC training in IPC programmes currently led by IPC-trained professionals
- 3 Train health workers on COVID-19 IPC
- 4 Enhance COVID-19 IPC measures towards improving patient safety and improve health outcomes

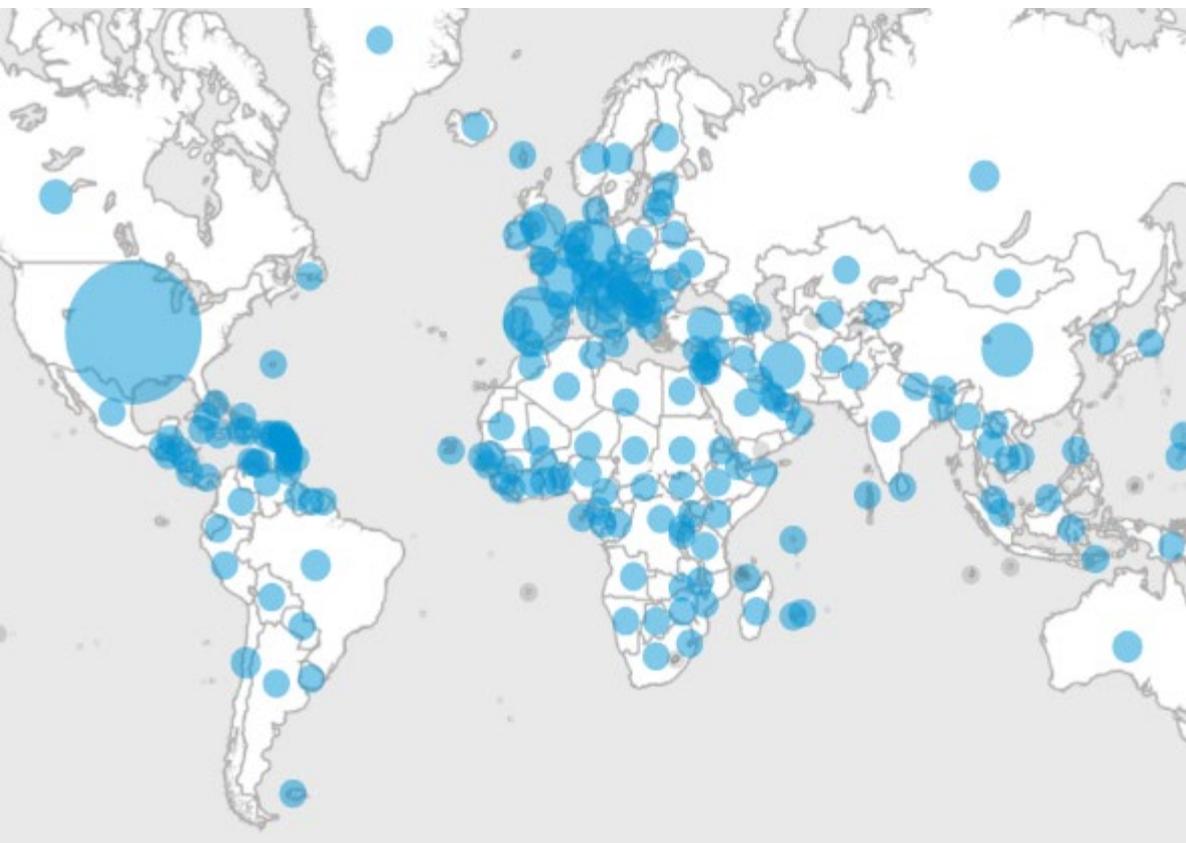
What we know about coronavirus and disease (COVID-19)

- Coronaviruses are a group of viruses belonging to the family of Coronaviridae, which infect both animals and humans
- Human coronaviruses can cause mild disease similar to common cold, while other cause more severe disease and examples are:
 - MERS (Middle East Respiratory Syndrome)
 - SARS (Severe Acute Respiratory Syndrome)
- A new coronavirus that previously has not been identified in humans emerged in humans in Wuhan, China in December 2019



Epidemiology Global: WHO

Globally, as of 11 May 2020, there have been **4,006 257 confirmed cases** of COVID-19, including **198,842 deaths**, and **85,517 new cases**, reported to WHO.



Case Comparison

WHO Regions

Europe



1,731,606

confirmed cases

Americas



1,702,451

confirmed cases

Eastern Mediterranean



265,164

confirmed cases

Western Pacific



160,910

confirmed cases

South-East Asia



100,881

confirmed cases

Africa



44,533

confirmed cases

Source: World Health Organisation

COVID-19 STATISTICS IN SA



356067

TESTS
CONDUCTED



10652

POSITIVE CASES
IDENTIFIED



4357

RECOVERIES



206

DEATHS



637

NEW CASES

MONDAY

11

MAY
2020



Learn more to Be READY for #COVID19:
www.sacoronavirus.co.za

NICD Hotline: 0800 029 999
WhatsApp 'Hi' to 0600 123 456

Routes of Transmission

There are two known routes of transmission
(WHO recommendations)

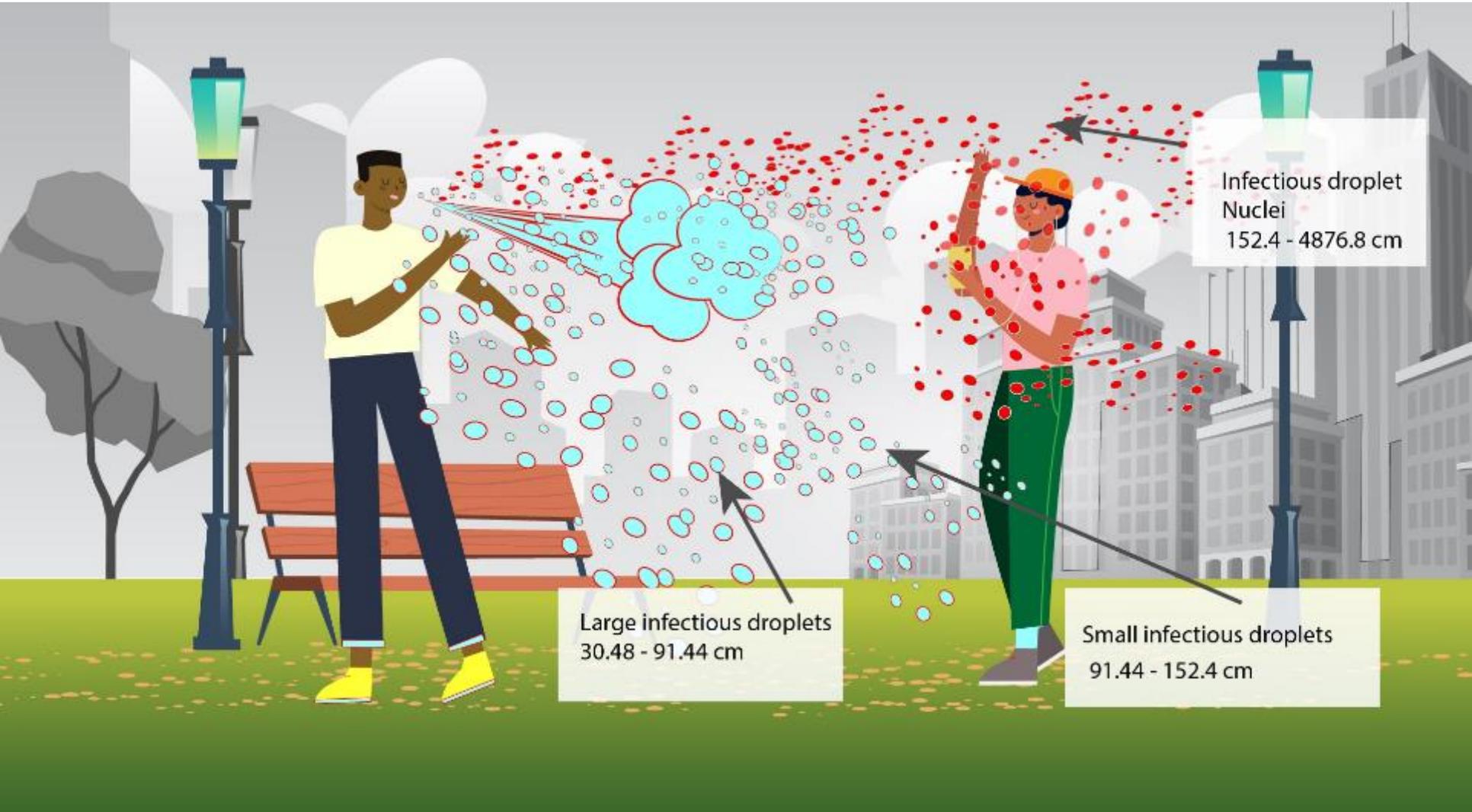
1

Via respiratory droplets produced via sneezing, coughing which is directly inhaled person to person

2

Via respiratory droplets landing on environmental surfaces surrounding the infected person (also known as the patient zone and the health zone) which are then transferred by the contact route via contaminated hands to a person's face and mucous membranes

Routes of Transmission



Large infectious droplets
30.48 - 91.44 cm

Small infectious droplets
91.44 - 152.4 cm

Infectious droplet
Nuclei
152.4 - 4876.8 cm

WHAT ARE THE **SIGNS** AND **SYMPTOMS** OF COVID-19?

CURRENT SYMPTOMS REPORTED FOR PATIENTS INCLUDED

THE COMPLETE CLINICAL PICTURE WITH REGARD TO COVID-19 IS STILL NOT FULLY CLEAR. REPORTED ILLNESSES HAVE RANGED FROM INFECTED PEOPLE WITH LITTLE TO NO SYMPTOMS TO PEOPLE BEING SEVERELY ILL AND DYING.



**MILD TO SEVERE
RESPIRATORY ILLNESS**



FEVER



**COUGH AND
DIFFICULTY BREATHING**

HOW IS COVID-19 TRANSMITTED?

WHILE THE FIRST CASES PROBABLY INVOLVED EXPOSURE TO AN ANIMAL SOURCE, THE VIRUS NOW SEEMS TO BE SPREADING FROM **PERSON-TO-PERSON**.



COVID-19 SPREADS VIA RESPIRATORY DROPLETS PRODUCED WHEN AN INFECTED PERSON **COUGHS OR SNEEZES**, SIMILAR TO HOW INFLUENZA AND OTHER RESPIRATORY PATHOGENS SPREAD.



THE MAJORITY OF COVID-19 CASES HAVE OCCURRED IN PEOPLE WITH **CLOSE PHYSICAL CONTACT TO CASES AND HEALTHCARE WORKERS** CARING FOR PATIENTS WITH COVID-19.



TOLL-FREE NUMBER 0800 029 999

Roles and Responsibilities of Health Care Workers (HCW)

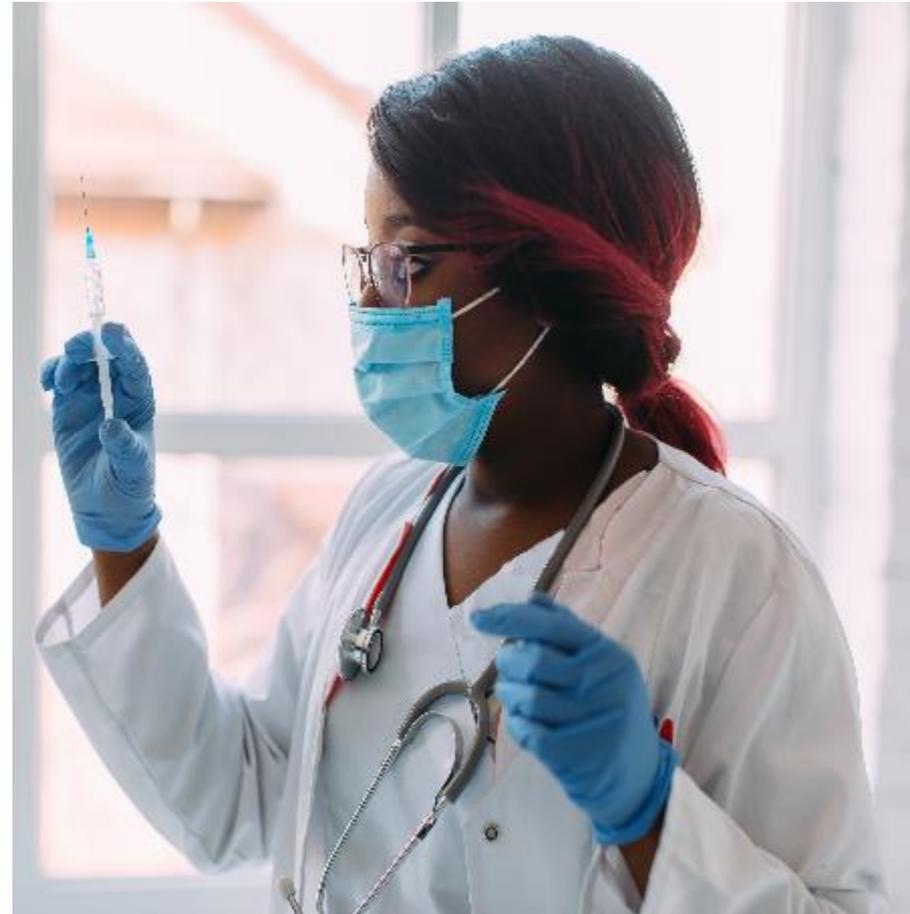
HCWs have an ethical duty and a professional responsibility to act in the best interest of their patients, both as a group and as individuals.

- Ensure **Respect**
- Ensure **Dignity**
- Ensure **Compassion for all clients and patients**
- Reduce **Stigma and discrimination**

(WHO: 2020)

Roles and Responsibilities of all HCW

- Avoid exposing others to health and safety risks
- Participate in employer provided occupational safety and health training
- Use provided protocols to assess, triage and treat patients
- Treat patients with respect, compassion and dignity
- Maintain patient privacy and confidentiality
- Understand and adhere to the relevant policies and procedures
- **Self-monitor for signs of illness and self-isolate and report illness to managers, if it occurs**



Health Care Worker Responsibilities

Responsibilities of HCW to all clients with suspected or confirmed COVID-19

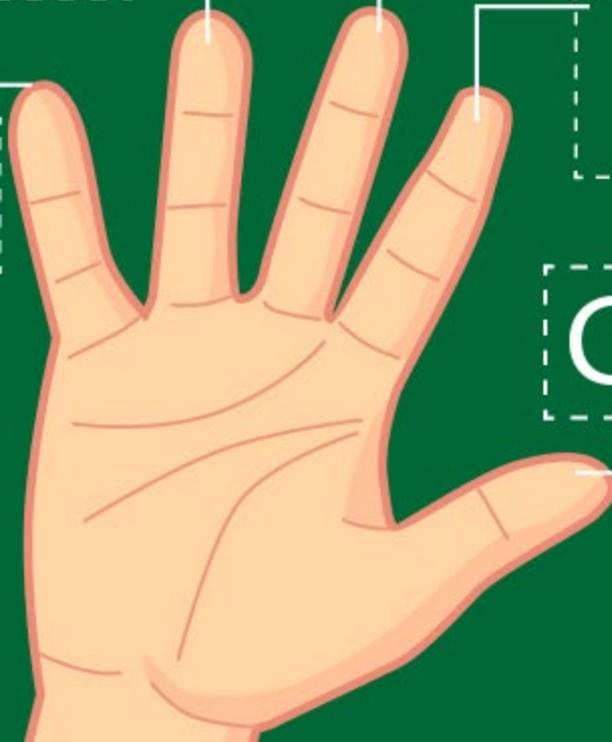
Human
Dignity

Compassion

Privacy

Respect

Confidentiality



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General IPC Precautions – All Staff



**Clinical, Security,
Food Aids,
Cleaning Staff,
Nurses, and
Doctors**

- 1** Frequent hand washing and use of alcohol-based hand rub (ABHR)
- 2** Correct cough etiquette and respiratory hygiene
- 3** Social distancing: Keep a distance of 1.5 to 2 m when in contact with other people except during patient's examination or procedure
- 4** Do not touch your face unless your hands are clean
- 5** PPE is necessary at the workplace

General IPC Precautions – Laboratory and Clinical Staff

- 1 Take the correct required samples and send to the laboratory for processing
- 2 Ensure nasopharyngeal and other samples are processed and reported timeously
- 3 Implement effective management of patients (triage, isolation, treat promptly, discharge)
- 4 Follow IPC protocols meticulously
- 5 Use IPC equipment as indicated to avoid unnecessary wastage



COVID-19 Isolation Area Droplet and Contact Precautions

All Persons



Perform hand hygiene



Wear a surgical mask

Nurses, Doctors, Clinical Staff



Wear gloves



Wear an apron or gown



Wear eye protection



Wear N95 respirator



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Key Elements of Standard Precautions

Standard precautions (SP) are aimed at reducing the risk of transmission. The key elements of SP precautions are:

- **hand hygiene**
- **appropriate use of personal protective equipment**
- patient placement (isolation)
- appropriate use of antiseptics, disinfectants and detergents
- **safe handling of linen and laundry**
- **health care waste management**
- respiratory hygiene and **cough etiquette**
- **environmental cleaning**



Hand Hygiene

- Hands are most frequently in touch with patients, surfaces and parts of the health care worker's body, such as the face, nose and mouth.
- To remove microbes optimally, hands must be thoroughly and systematically washed paying special attention to the most contaminated areas, such as the fingers and thumbs.

How to handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

 Duration of the entire procedure: 40-60 seconds



Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Rinse hands with water;



Dry hands thoroughly with a single use towel;

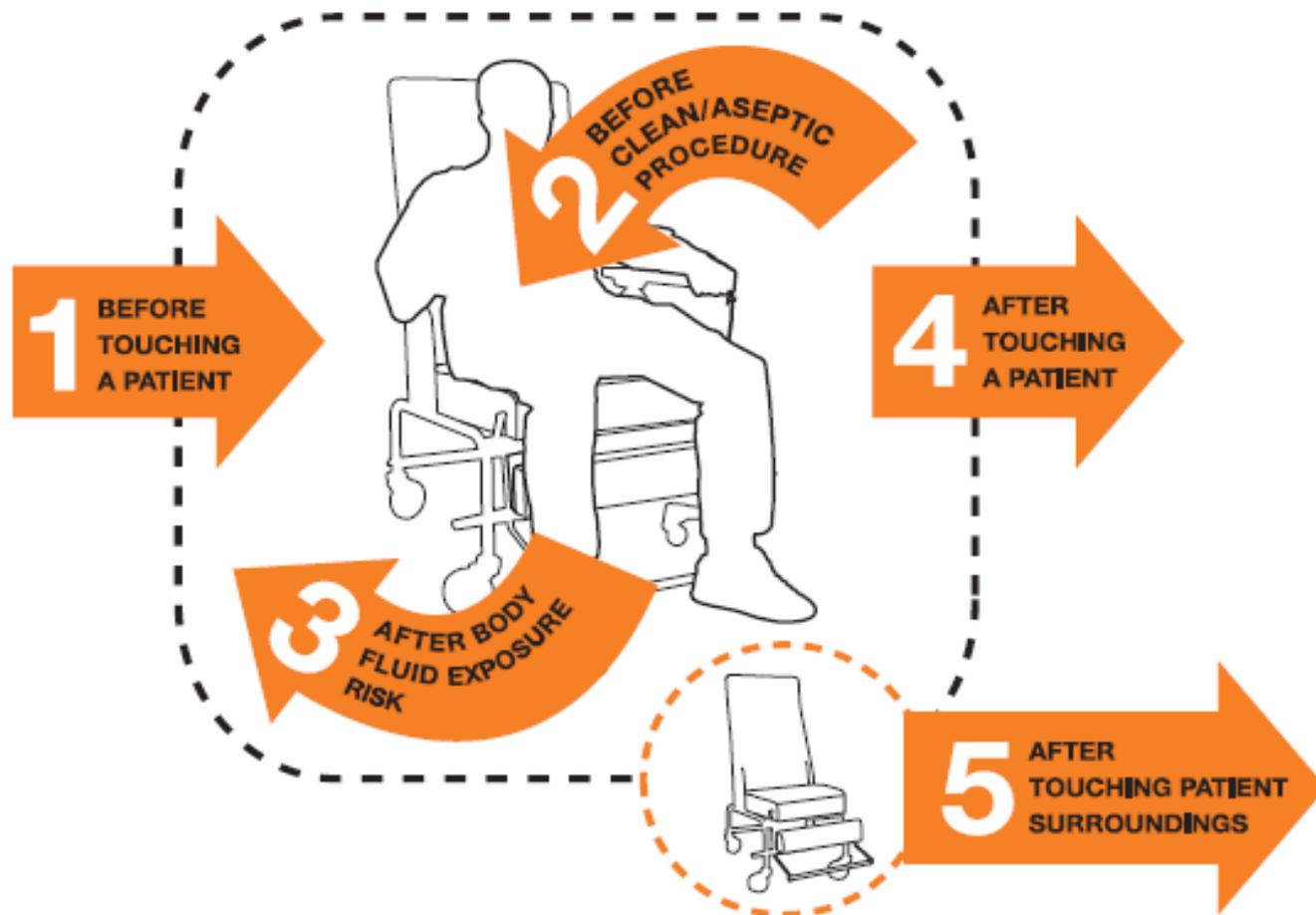


Use towel to turn off faucet;



Your hands are now safe.

Your 5 Moments for Hand Hygiene



Hand Hygiene: Video



[Play video](#)

Alcohol-based Hand Rub (ABHR)

- ABHR must be available at all points of care.
- Use ABHR between patients if hands not visibly soiled.
- When using ABHR, make sure all surfaces are covered. Dip fingers in the ABHR in your palm and then move to the other surfaces.



Personal Protective Equipment (PPE)

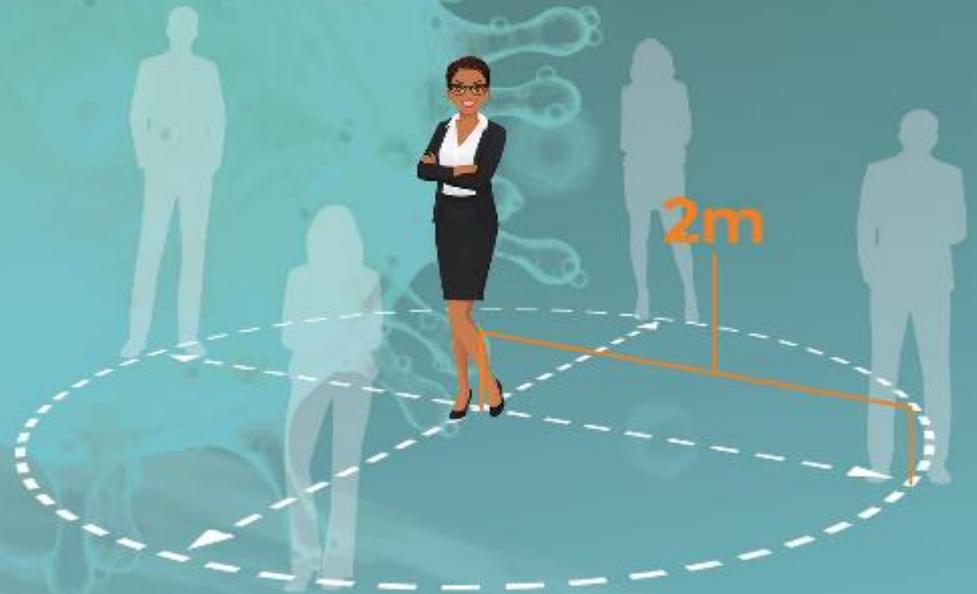
- PPE is specifically used to protect clinical and non-clinical health workers from exposure to body fluids or from droplet or airborne pathogens, chemicals or heat.
- The use of PPE is based on risk assessment and evidence of the route of transmission for a given microbe.



DISEASE PREVENTION

MAINTAIN PHYSICAL DISTANCING

Keep a distance of at least **2 metres (3 steps)** away from other people.



Coughing and sneezing etiquette



Cover your mouth and nose with a tissue.



Dispose of your tissue properly.

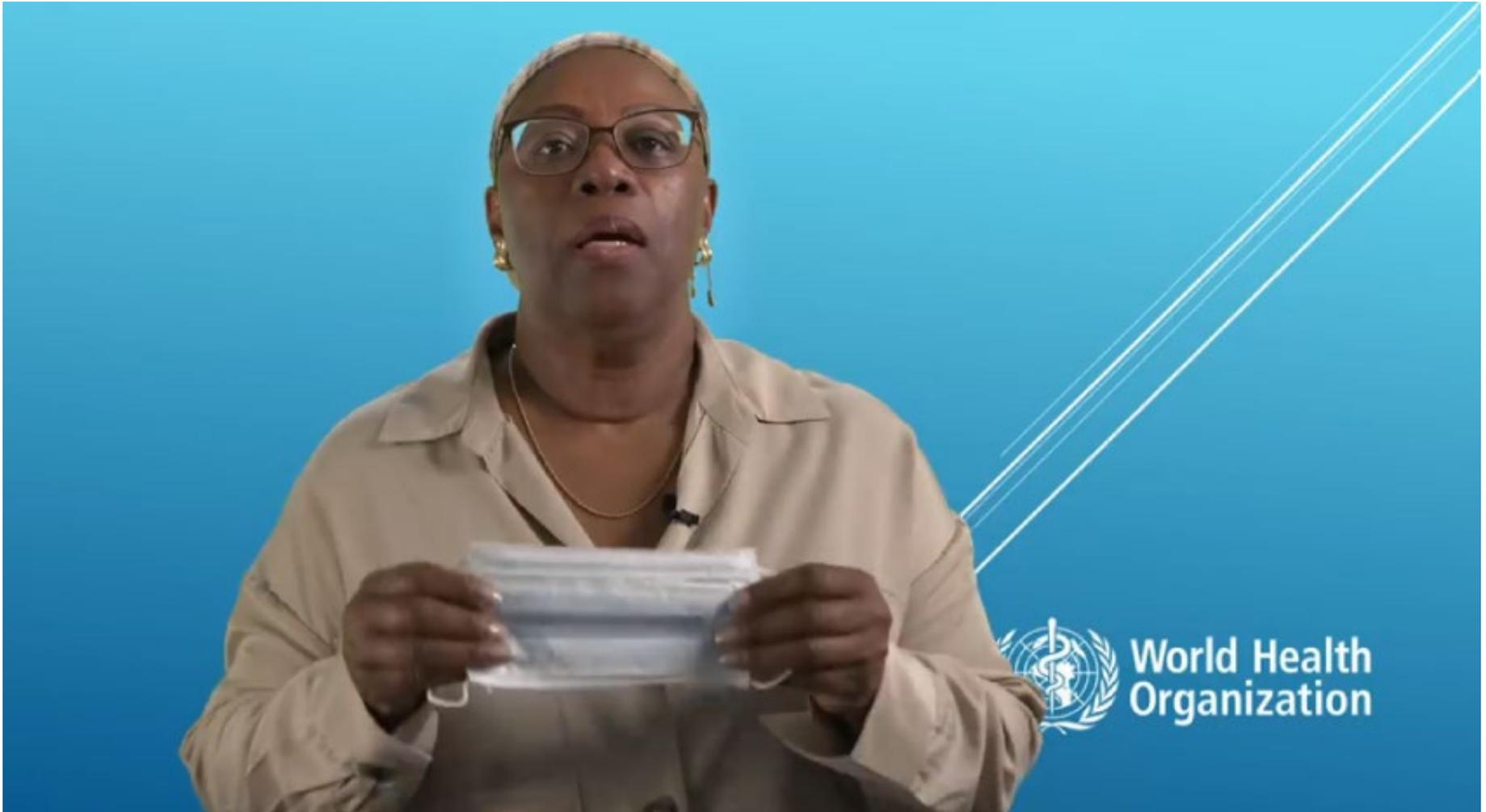


If there is no tissue, cough or sneeze into the bend of elbow – not your hand.



If you sneeze or cough into hand, wash your hands as soon as possible.

Face Masks: Video



Play video

Don't touch your face

Avoid touching your face, especially your mouth, nose and eyes.

Your hands touch many surfaces and can pick up viruses.



Once contaminated, your hands can transfer the virus to your eyes, nose or mouth.

Patient Transport



Implement effective management of patients

Patient transportation

- Patient to wear face mask during transfer
- Advise EMS patient has COVID-19
- Transfer as a single case
- Guidance for EMS and others when transporting patient

Management of Visitors



- Ideally no visitors are allowed however exceptions could be made in special circumstances and if absolute necessary.
- Surgical mask should be used.
- Hand hygiene before and after wearing and taking off PPE.
- Mothers of hospitalized or isolated children allowed in with face mask and instructed on hand hygiene and social distancing.

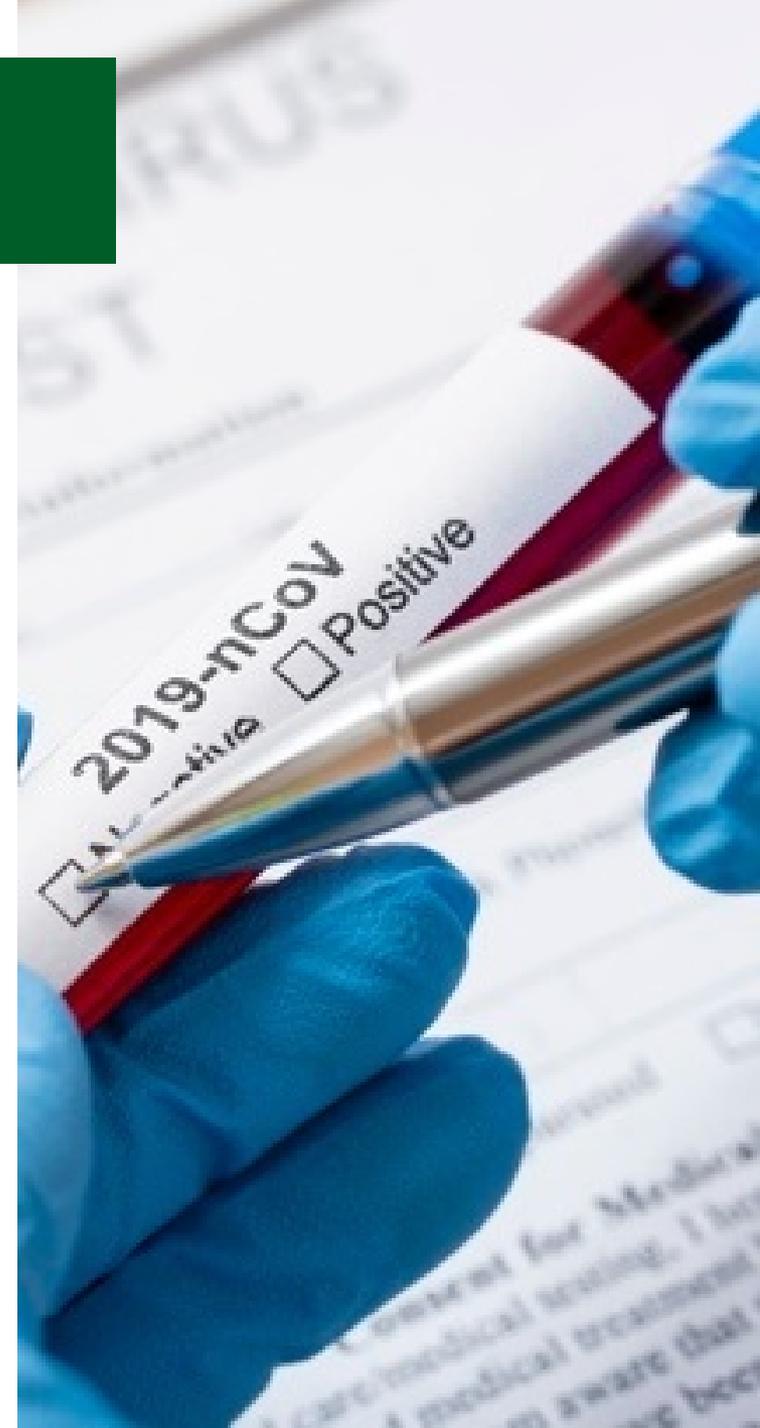
Environmental Controls

Patient placement or accommodation

- Confirmed or suspected patients with COVID-19 not requiring ICU care should be accommodated either in a single room or in cohort isolation.

Single room:

- Single occupancy room with en-suite toilet facilities
- Natural ventilation of 60l/sec per patient or 6 air changes per hour (ACH)



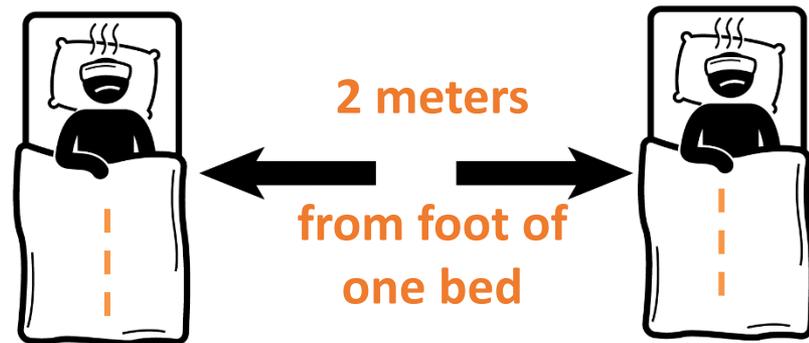
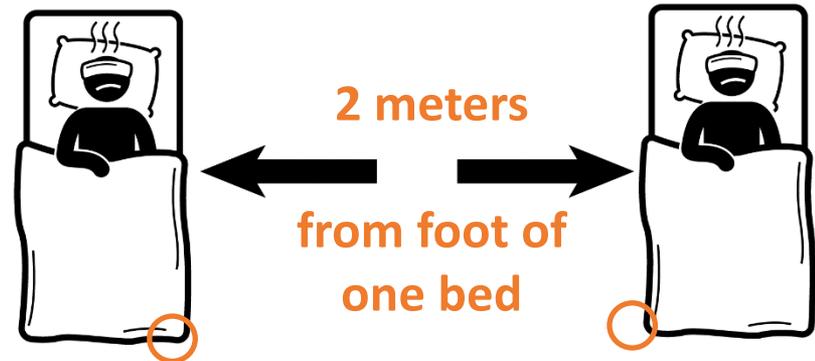
Spacing of Beds

Cohort (group) isolation:

Bed distance must be at least 2m from the foot of one bed to the foot so that the head of each bed is further than 2m.

A distance of at least 2.5m between the centre of one bed to the centre of the next bed or 1.5m from edge of one bed to the next.

Shared toilet facilities must be cleaned regularly (2-4 hourly).



Intensive Care Units (ICU)

- Bed spacing: 3m or more to allow ease of movement of staff and equipment
- Good ventilation: 160L/hour/patient or 12 air changes per hour (ACH)
- Closed suctioning: use fresh sterile water each time to clean the suction catheter
- **Open suctioning: NOT RECOMMENDED**
- Dedicated ventilator equipment with single patient use circuit
- Dedicated patient care equipment
- Carry out hand hygiene and change gloves after each patient contact
- Do not touch face, front of apron, mask, goggles or face shield during a clinical ward round
- Keep patient charts far from the patient's bed (outside the room, if possible)
- Always carry out hand hygiene before and after touching the notes (persistence on cardboard and paper reported)

Ventilation

- Provision of fresh air to a room/building
- Where possible, natural ventilation is preferred giving air exchange of 60L/sec/patient
- Mechanical ventilation must be checked by the engineers and records kept of airflow and air changes per hour (ACH) which should be a minimum of 6 ACH
- IPC team to check airflow using a smoke test

Ventilation in Operating Theatre

Should a COVID-19 patient need surgery, the operating theatre ventilation must be checked for ACH and airflow. It is not necessary to convert the operating theatre into negative ventilation as long as there is sufficient air volume (160L/sec) changes (up to 24 ACH) to keep a high dilution factor particularly when carrying out AGP.

Maternity and Labour Ward

- The delivery suites should have good bed spacing and ventilation.
- Operating rooms should be similar to conventional operating theatre environment.
- Mothers who are positive for SARS-CoV-2 are advised to wear face masks when feeding their baby for 14 days after their symptoms have resolved as mother to baby transmission via respiratory droplets can occur.
- There is no evidence of viral presence in breastmilk and breastfeeding is strongly encouraged.

Standard Precautions



Standard precautions are critical for all HCW

- Standard precautions are aimed at reducing the risk of transmission of microorganisms from recognised and unrecognised sources.
- Patients and staff may serve as reservoirs for microorganisms, even if only colonised and not exhibiting any signs of infection.

Standard Precautions

Type	Recommendations	Alternatives
Patient placement	<ul style="list-style-type: none">• Dedicated equipment• Disposable where possible• Shared equipment to be heated or chemical disinfected after cleaning	Shared toilet facilities to be cleaned regularly (2-4 hr)
Hand hygiene	<ul style="list-style-type: none">• Before and after each patient contact (5 Moments of Hand Hygiene)• Before wearing PPE• After removing PPE	Use ABHR between patients if hands not visibly soiled
Healthcare waste	<ul style="list-style-type: none">• Healthcare risk waste for secretions (infectious)• PPE for handlers	
Terminal cleaning	<ul style="list-style-type: none">• Remove all linen, healthcare waste and medical equipment and send for disinfection or discard. Clean with water and detergent. Wipe with disinfectant• Change linen regularly. Send to laundry marked as infectious: temp 65-70°C cycle	Use universal wipes which is a combination of detergent and disinfectant

Standard Precautions

Type	Recommendations	Alternatives
Terminal cleaning	<ul style="list-style-type: none"> Remove all linen and medical equipment and send for disinfection or discard as healthcare risk waste (HCRW) if cannot be reused. Clean with water and detergent. Wipe with disinfectant Clean and disinfect all surfaces. Gloves and protective clothing (e.g. plastic aprons) should be used when cleaning surfaces or handling clothing or linen soiled with body fluids. Change linen regularly. Send to laundry marked as infectious: temp 60-90°C cycle 	Use universal wipes which is a combination of detergent and disinfectant
Healthcare waste	<ul style="list-style-type: none"> Waste (e.g. masks , gloves, etc.) from patients, people and staff from isolation and quarantine facilities/wards should be treated as healthcare risk waste (HCRW). HCRW to be disposed of in doubled bagged red liners using designated single-use box containers, marked “COVID-19”. ¾-full sealed box sets be removed and stored at the central storage area. Health Care Waste Officers/designated representatives to witness collection of waste at all times. A separate COVID-19 waste manifest document to be available at the health care facility. COVID-19 waste to be collected and transported with other HCRW streams/categories provided it is clearly identified and marked “COVID-19” 	

2020: Guidelines for Management of Human Remains in the Context of COVID-19

- Before attending to a body, ensure that the necessary hand hygiene and personal protective equipment (PPE) supplies are available for standard precautions including hand hygiene.
- PPE for routine use will be gloves and apron, however if there is a risk of splashing, face protection, such a face mask, face shield or goggles may be worn.
- After removing all medical devices, ensure that any leaking from orifices is contained.
- Keep movement and handling of the body to a minimum.
- The dignity of the dead, their cultural and religious traditions, and their families should be respected and protected throughout.

Cleaning of Mortuary

- To date, there is no evidence of persons having become infected from exposure to the bodies of persons who died from COVID-19.
- The mortuary must be kept clean and properly ventilated at all times.
- Surfaces must first be cleaned with soap and water, or a commercially prepared detergent solution. After cleaning, a disinfectant with a minimum concentration of 0.1% (1000 ppm) sodium hypochlorite (bleach), or 70% ethanol should be used.



Handling of Human Remains in Mortuaries/Funeral Undertaker

- The act of moving a recently deceased patient onto a hospital trolley for transportation to the mortuary might be sufficient to expel small amounts of air from the lungs and thereby present a minor risk.
- A body bag should be used for transferring the body to the mortuary and those handling the body at this point should use full personal protective equipment (PPE).
- The outer surface of the body bag should be decontaminated immediately before the body bag leaves the ward or anteroom area.
- The trolley carrying the body must be disinfected prior to leaving the ward or anteroom.
- Prior to leaving the ward or anteroom, the staff members must remove their PPE.
- Once in the hospital or private mortuary, it would be acceptable to open the body bag for family viewing only (mortuary attendant to wear full PPE).
- Family to be provided with mask and gloves for viewing and should not kiss the body.

Preparing the Body in Mortuaries/ Funeral Undertaker

- Washing or preparing the body is acceptable if those carrying out the task wear PPE. Mortuary staff and funeral directors must be advised by the Environmental Health Practitioner of the biohazard risk.
- Washing of the human remains can only be performed at the mortuary/ funeral undertaker's premises, no washing is allowed out of the mortuary/ funeral undertaker's premises.
- If the family wishes to dress the human remains, they may do so at the funeral undertaker's premises prior to the body being placed in the body bag.
- If a post mortem is required safe working techniques (for example manual rather than power tools) should be used and full PPE worn.
- After use, empty body bags should be treated or disposed of as health care risk waste.

Measures When a Patient Passes on at Home

- If a COVID-19 patient dies at home, family members may not at any stage handle the body, a funeral undertaker must be called immediately.
- The belongings of the deceased person should be handled with gloves and cleaned with a detergent followed by disinfection with a solution of at least 70% ethanol or 0.1 % (1000 ppm) bleach.
- Clothing and other fabric belonging to the deceased should be machine washed with warm water at 60-90°C (140-194° F) and laundry detergent.
- If machine washing is not possible, linens can be soaked in hot water and soap in a large drum using a stick to stir and being careful to avoid splashing. The drum should then be emptied, and the linens soaked in 0.05% chlorine for approximately 30 minutes.
- The laundry should be rinsed with clean water and the linens allowed to dry fully in sunlight.

Viewing of Human Remains

If the family wishes to view the body, they may do so without touching it, using standard precautions at all times including hand hygiene.

Family members should not touch or kiss the body and should wash their hands thoroughly with soap and water following the viewing; physical distancing measures should be strictly applied (at least 1 m between people).

People with respiratory symptoms should not participate in the viewing or at least wear a medical mask to prevent contamination of the place and further transmission of the disease to others.

Adults >60 years and immunosuppressed persons should not directly interact with the body.

Environmental Cleaning and Control

- Human coronaviruses can remain infectious on surfaces for up to 9 days, therefore cleaning the environment is paramount.
- The mortuary must be kept clean and properly ventilated and illuminated at all times.
- Surfaces and instruments should be made of materials that can be easily disinfected as prescribed in Regulations Relating to the Management of Human Remains, Regulation No. R. 363 of 22 May 2013 as framed in terms of the National Health Act, 2003 (act No. 61 of 2003).
- Environmental surfaces, where the body was prepared, should first be cleaned with soap and water, or a commercially prepared detergent solution; after cleaning, a disinfectant with a minimum concentration of 0.1% (1000 ppm) sodium hypochlorite (bleach), or 70% ethanol should be used to disinfect.

Conveyance of Infectious Human Remains

1. The human remains of a person who, at the time of his or her death suffered from disease or condition which is capable of transmitting an illness even after death and in the opinion of the health authority concerned, may pose a health hazard or endanger public health in one way or another, may not be conveyed in public in any way unless:
 - such human remains are placed in a polythene bag, sealed in an airtight container, placed in a sturdy non-transparent sealed coffin, embalmed and/or the total surface of the body covered with a 5 cm layer of wood sawdust or other absorbent material which is treated with a disinfectant; or
 - a medical practitioner declares in writing that in his or her opinion the conveyance of such human remains will not constitute a health hazard.



Conveyance of Infectious Human Remains

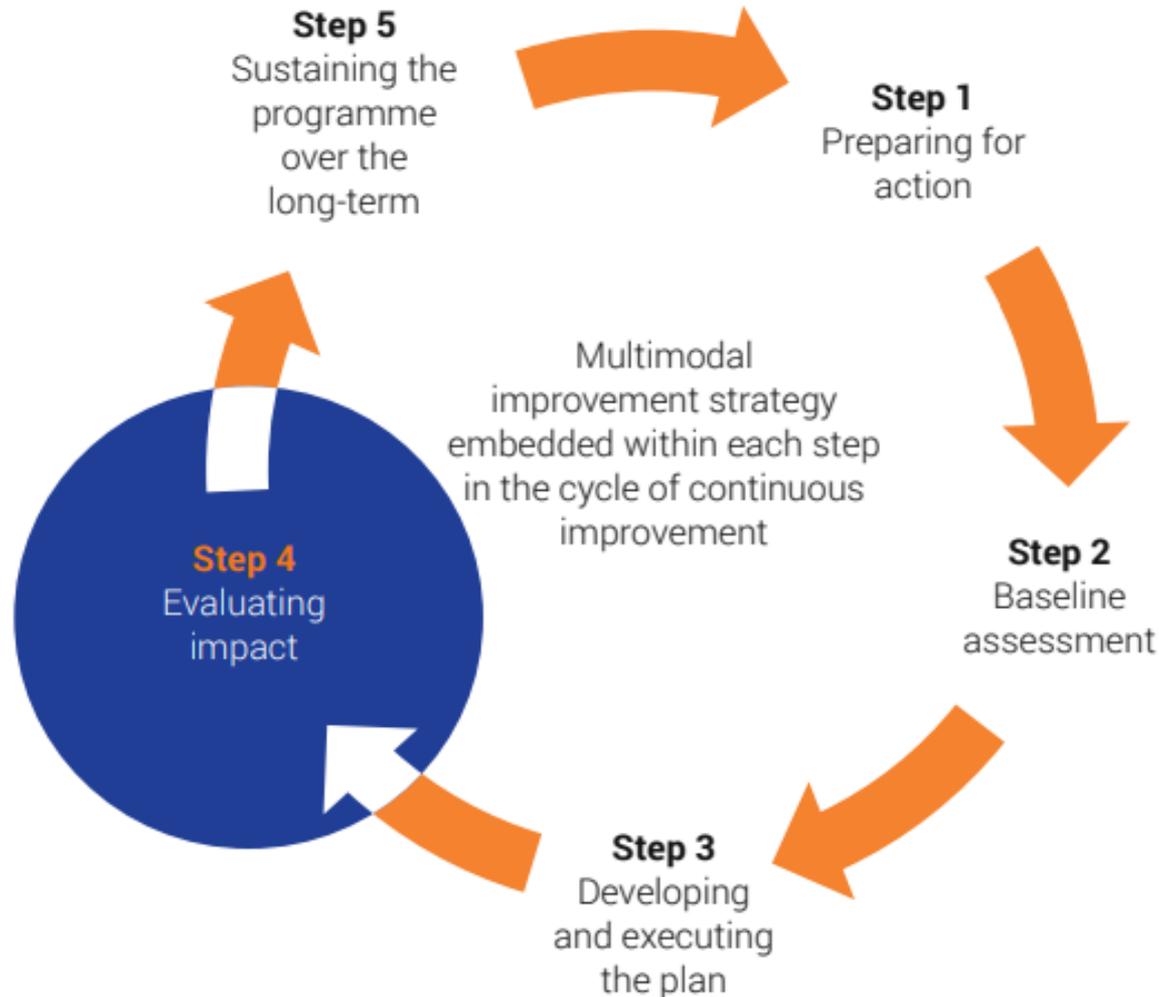
- No person other than an attending medical practitioner or attending forensic
- pathologist or a medical practitioner who can prove that they have treated the
- deceased during illness may certify that the person did not die of an infectious
- disease:
- such declaration must accompany the human remains at all times during the conveyance and up to the burial; and
- the declaration shall be shown to an EHP on demand by the person responsible for the conveyance of the human remains;
- no person shall damage a container, or open such container or remove the human remains from the container or come into direct contact with the human remains after it has been sealed without prior approval from an EHP.

Monitoring and Evaluation

- There is little value in monitoring or auditing without timely feedback to managers and health workers at unit/ward level
- Regular feedback promotes best practices and over time results in behaviour or system change towards improved quality of care and patient safety



Monitoring and Evaluation



References

- The National Infection Prevention and Control Strategic Framework, March 2020
- Practical Manual for the Implementation of the National IPC Strategic Framework, March 2020
- Provincial Personal Protective Equipment Plan, Western Cape Government, (Circular H34-2020) 25th March, 2020
- WHO recommendations for COVID-19 2020. Deliberations of the COVID 19 Expert Committee will be used to update these guidelines



Questions?