# Infection Prevention and Control (IPC) for COVID-19 Virus

World Health Organization

## Module 3: IPC in the context of COVID-19

## Standard precautions, transmission-based precautions & COVID-19 specific recommendations

WHO IPC Technical and Clinical Unit

## Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected

https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125

## Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages

https://apps.who.int/iris/bitstream/handle/10665/331695/WHO-2019-nCov-IPC_PPE_use-2020.3-eng.pdf

## Home care for patients with suspected novel coronavirus (nCoV) infection presenting with mild symptoms and management of contacts

https://www.who.int/publications-detail/home-care-for-patients-with-suspected-novel-coronavirus-(ncov)-infection-presenting-with-mild-symptoms-and-management-of-contacts

## Advice on the use of masks in the context of COVID-19

https://www.who.int/publications-detail/advice-on-the-use-of-masks-the-community-during-home-care-and-in-health-care-settings-in-the-context-of-the-novel-coronavirus-(COVID-19)-outbreak

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# Updated Guidance on use of masks for COVID-19

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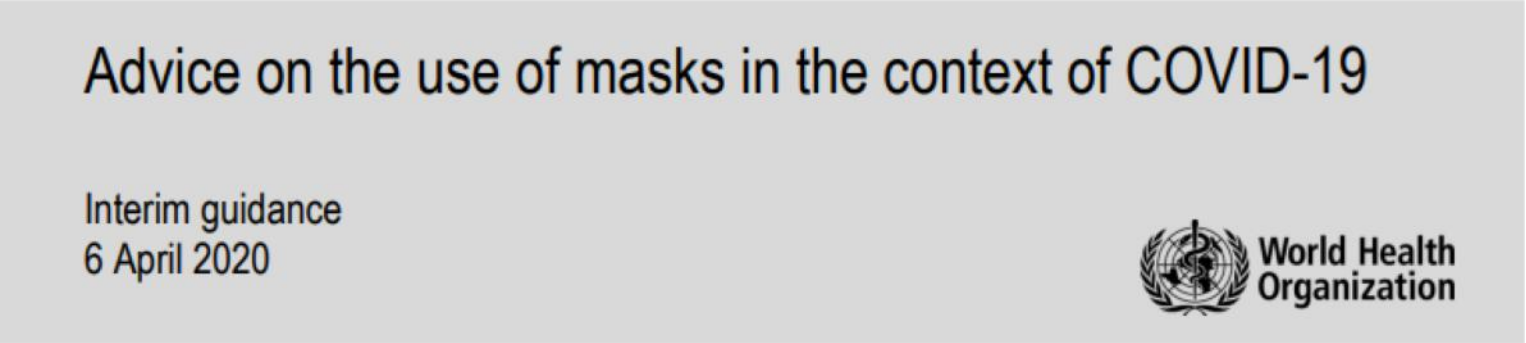


- This document provides advice on the use of masks in communities, during home care, and in health care settings in areas that have reported cases of COVID-19.
- It is intended for individuals in the community, public health and infection prevention and control (IPC) professionals, health care managers, health care workers (HCWs), and community health workers.
- Updates: Provides *Advice to decision makers on the use of masks for healthy people in community settings*
  - Communication strategy to accompany mask recommendations
  - Types of masks
  - Mask management

# Use of masks by healthy people in the community setting – available evidence

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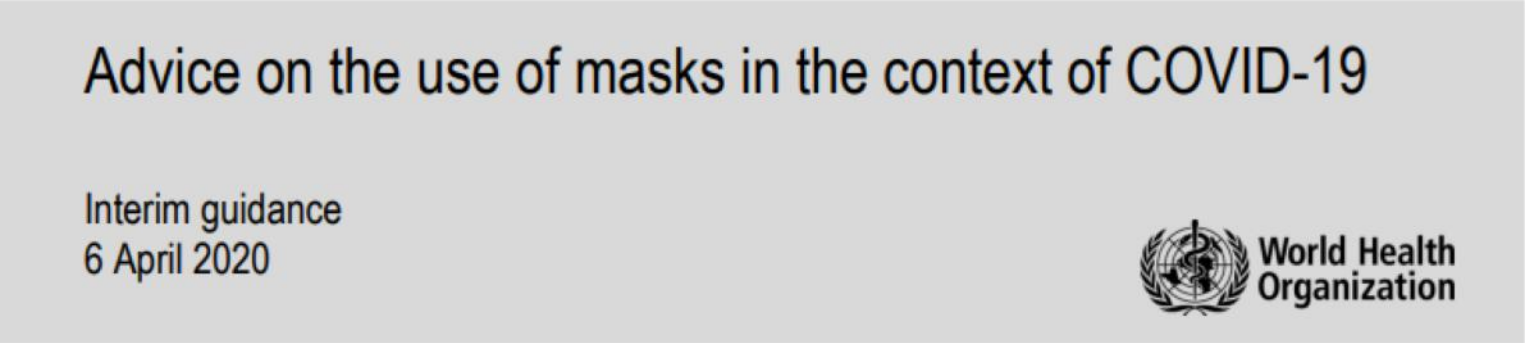


- Studies of influenza, influenza-like illness, and human coronaviruses provide evidence that the use of a **medical mask can prevent the spread of infectious droplets from an infected person** to someone else and potential contamination of the environment by these droplets.
- Limited evidence that wearing a medical mask by healthy individuals in the **households or among contacts of a sick patient, or among attendees of mass gatherings** may be beneficial as a preventive measure
- Currently **no evidence** that wearing a mask by healthy persons in the wider community setting can prevent them from infection with respiratory viruses.
- ***Masks should be worn by symptomatic individuals*** when around others, in addition to self-isolating, practicing hand hygiene and social distancing

# Use of masks by healthy people in the community setting in the context of COVID-19

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**Community masking**: **the wide use of masks by healthy people in the community setting is not supported by current evidence and carries uncertainties and critical risks.**

WHO provides advice to decision makers to apply a **risk-based approach** and define:

1. **purpose of mask use**: the rationale and reason for mask use should be clear– whether it is to be used for source control (used by infected persons) or prevention of COVID-19 (used by healthy persons)
2. **risk of exposure** to the COVID-19 virus in the local context
3. **vulnerability** of the person/population to develop severe disease or be at higher risk of death (e.g., people with comorbidities and older people)
4. **setting** in which the population lives in terms of population density (e.g. camps, closed settings) or ability to carry out physical distancing (e.g.  on a crowded bus)
5. **feasibility**: availability and costs of the mask, and tolerability by individuals
6. **type of mask**: medical mask versus nonmedical mask

# Use of masks by healthy people in the community setting in the context of COVID-19

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**Advantages**

- Population protection according to precautionary principle
- Reducing potential exposure risk from infected person during the “pre-symptomatic” period
- Reducing stigmatization of individuals wearing mask for source control

**Risks**

- self-contamination that can occur by touching and reusing contaminated mask
- depending on type of mask used, potential breathing difficulties
- false sense of security, leading to potentially less adherence to other preventive measures such as physical distancing and hand hygiene
- diversion of mask supplies and consequent shortage of mask for health care workers
- diversion of resources from effective public health measures, such as hand hygiene

# Updated guidance on rational use of PPE

World Health Organization

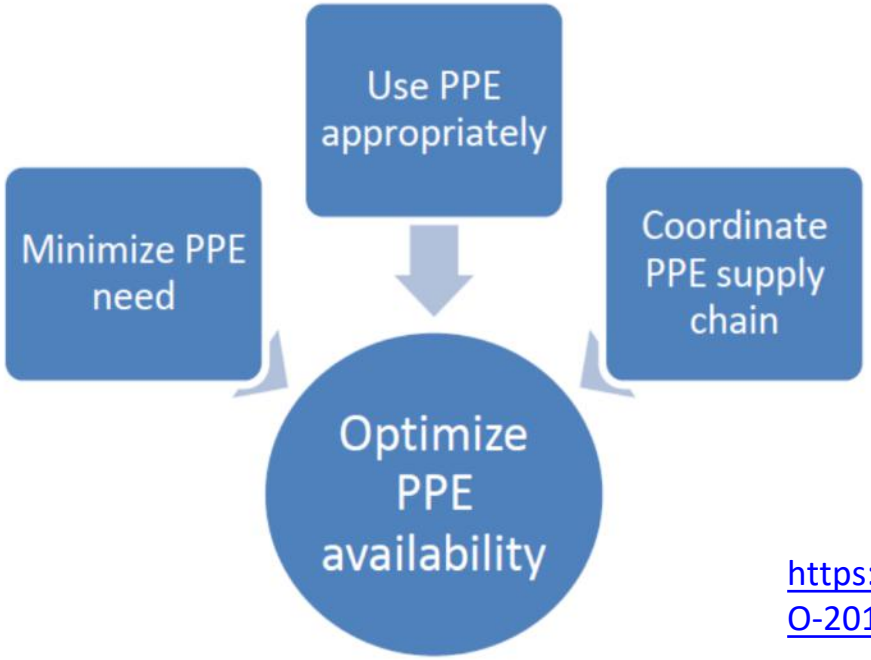
Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages

Interim guidance

6 April 2020

World Health Organization

## Strategies to optimize the availability of PPE




https://apps.who.int/iris/bitstream/handle/10665/331695/WHO-2019-nCov-IPC_PPE_use-2020.3-eng.pdf

# Considerations during severe shortages

***Key points:***

- WHO is not recommending extended use or re-use of PPE but are providing guidance on how to do this appropriately if health care facilities take this decision due to short supply
  - PPE extended use (using for longer periods of time than normal according to standards);
  - Reprocessing followed by reuse (after cleaning or decontamination/sterilization) of either reusable or disposable PPE;
  - Considering alternative items compared with the standards recommended by WHO
- Each of these measures carries significant risks and limitations - considered only as a last resort when all other strategies for rational and appropriate use and procurement of PPE have been exhausted

**Extended use of masks or respirators:**

The use without removing for up to 6h, when caring for a cohort of COVID-19 patients

**Reprocessing:**

- not advised for surgical masks

Possible for respirators using vapor of hydrogen peroxide, ethylene oxide, UV radiation lamp

# Minimizing the need for PPE

- Consider **telemedicine** to evaluate suspect cases, minimizing the need for them to visit health care facilities for evaluation
- Implement **physical barriers** (glass/plastic windows) where patients first present: triage areas, ED registration desk, pharmacy window
- **Limit** number of healthcare **workers/others entering** COVID-19 patients' **rooms**.
- **Plan ahead** what activities will be performed at bedside to avoid multiple entries and exits. Consider **bundle** activities (e.g. check vital signs when administering medication; have health workers deliver food when performing other care).
- Do not allow **visitors** where COVID-19 patients are isolated, or restrict their number and time allowed

# General WHO advice for COVID-19

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1. Practice frequent **hand hygiene**, especially after direct contact with ill people or their environment
2. Practice **social distancing**: avoid close contact with people, especially those suffering from acute respiratory infections
3. For those with **symptoms** of acute respiratory infection, they should isolate themselves and practice respiratory etiquette, wear a medical mask and seek medical care if in respiratory distress

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# What IPC strategies are recommended by WHO for COVID-19?

# WHO recommended IPC strategies for preventing or limiting the spread of COVID-19

IPC strategies to prevent or limit transmission in health care settings include the following:

1. applying standard precautions for all patients;
2. ensuring triage, early recognition, and source control;
3. implementing empiric additional precautions for suspected cases of COVID-19 infection;
4. implementing administrative controls; and
5. using environmental and engineering controls.

# Administrative Controls

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- Provision of adequate training for HCWs
- Ensuring an adequate patient-to-staff ratio
- Establishing a surveillance process for acute respiratory infections potentially caused by nCoV among HCWs;
- Ensuring that HCWs and the public understand the importance of promptly seeking medical care;
- Monitoring HCW compliance with standard precautions and providing mechanisms for improvement as needed.

# Recommendation 1. Applying standard precautions for all patients

# Standard precautions

The basic level of IPC precautions, to be used for ALL patients at ALL times:

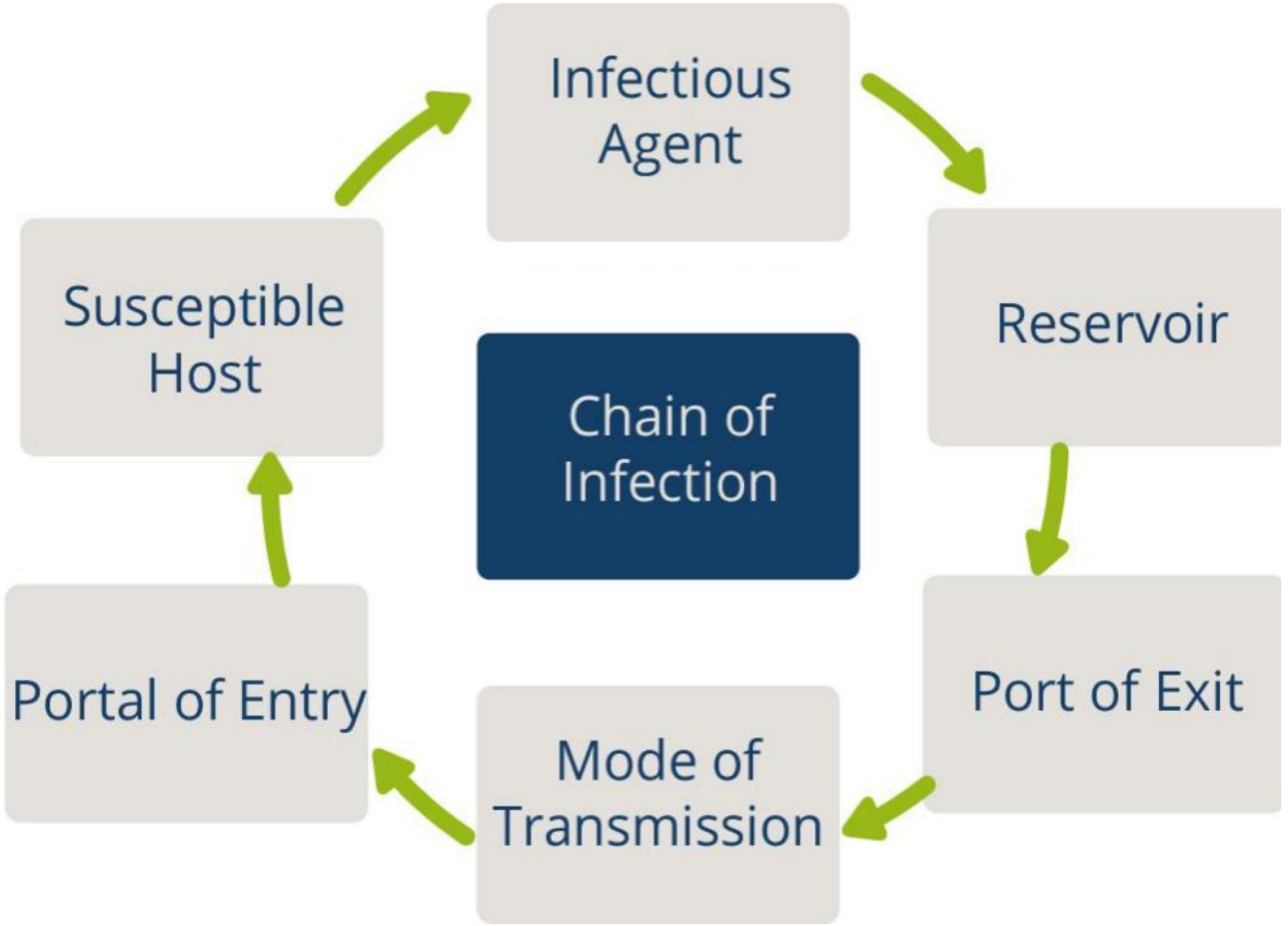
- the minimum prevention measures that apply at all times to all patient care regardless of suspected or confirmed status of the patient

Risk assessment is critical for all activities, i.e. assess each health care activity and determine the personal protective equipment (PPE) that is needed for adequate protection

# Elements of Standard Precautions

1. Hand hygiene
2. Respiratory hygiene (etiquette)
3. PPE according to the risk
4. Safe injection practices, sharps management and injury prevention
5. Safe handling, cleaning and disinfection of patient care equipment
6. Environmental cleaning
7. Safe handling and cleaning of soiled linen
8. Waste management

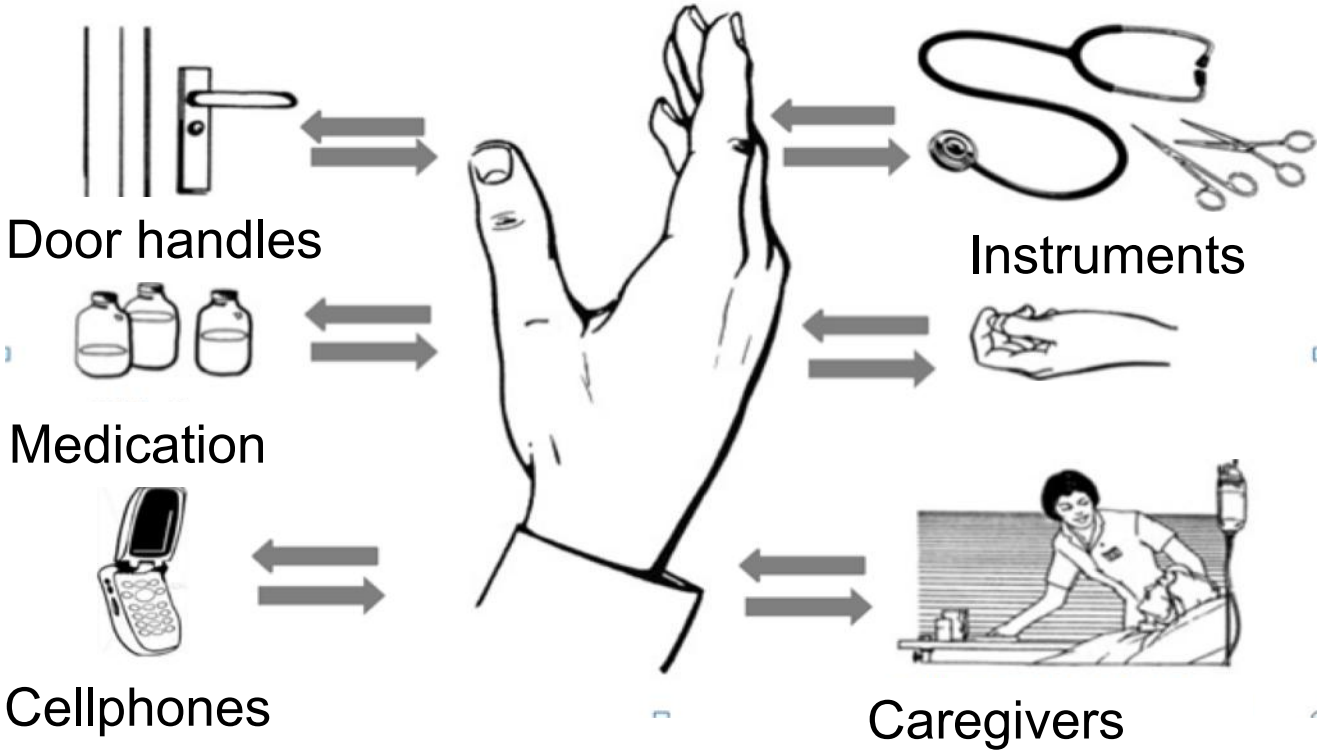
# Chain of Transmission




- For an infection to spread, all links must be connected
- Breaking any one link, will stop disease transmission!

# Hand Hygiene

- Best way to prevent the spread of germs in the health care setting and community
- Our hands are our main tool for work as health care workers- and they are the key link in the chain of transmission



# Hand Hygiene: WHO 5 moments

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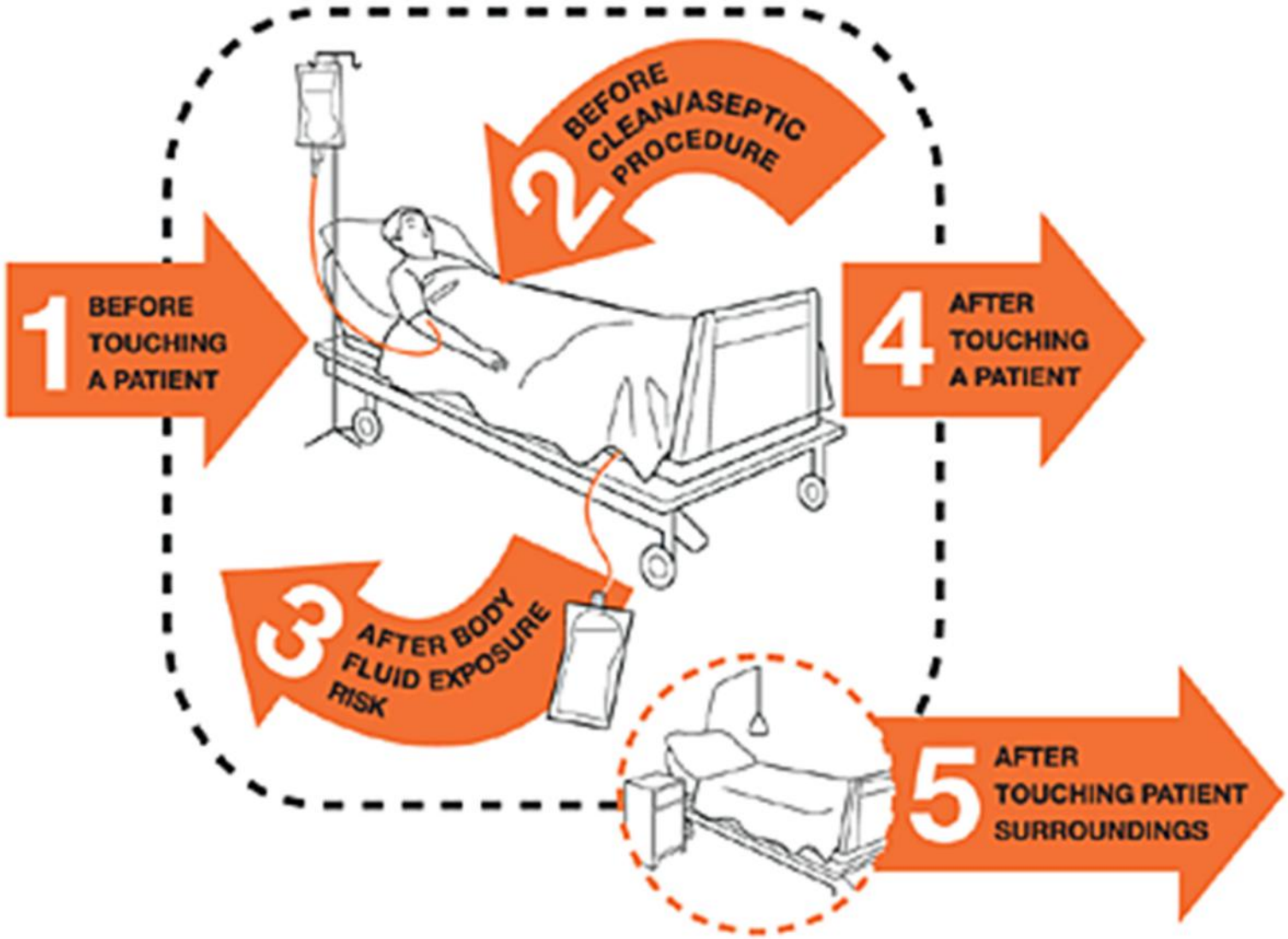
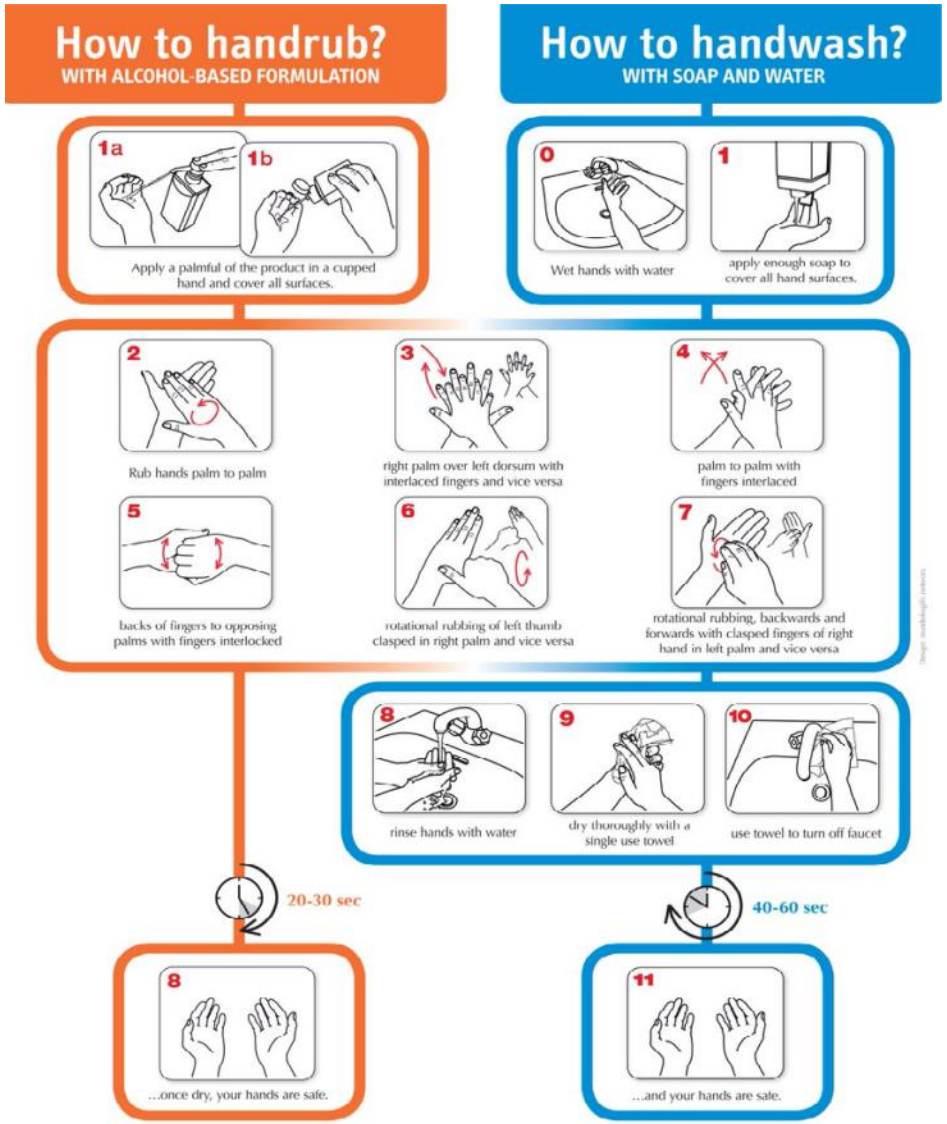



https://www.who.int/infection-prevention/tc

# Hand hygiene: HOW




Use appropriate product and technique

An alcohol-based hand rub product is preferable, if hands are not visibly soiled

- Rub hands for 20–30 seconds!

Soap, running water and single use towel, when visibly dirty or contaminated with proteinaceous material

- Wash hands for 40–60 seconds!

https://www.who.int/infection-prevention/tools/hand-hygiene/en/

# How to handrub?

**RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED**

**Duration of the entire procedure:** 20-30 seconds


Apply a palmful of the product in a cupped hand, covering all 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;

Once dry, your hands are safe.

# 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.

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https://www.who.int/infection-prevention/tools/hand-hygiene/en/

# Why is respiratory hygiene important?

Good respiratory hygiene/cough etiquette can reduce the spread of microorganisms (germs) that cause respiratory infections (colds, flu).

Image source: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

# Respiratory hygiene/etiquette procedures

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- Turn head away from others when coughing/sneezing
- Cover the nose and mouth with a tissue.
- If tissues are used, discard immediately into the trash
- Cough/sneeze into your sleeve if no tissue is available
- Clean your hands with soap and water or alcohol-based products

# Promoting respiratory hygiene

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- Encourage handwashing for patients with respiratory symptoms
- Provide masks for patients with respiratory symptoms
- Patients with fever + cough or sneezing should be kept at least 1m away from other patients
- Post visual aids reminding patients and visitors with respiratory symptoms to cover their cough
- Consider having masks and tissues available for patients in all areas

# Examples of PPE for use in health care settings for COVID-19

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**Gown**

**Body**

**Gloves**

**Hands**

**Face Mask**

**Nose + mouth**

**N95 Mask**

**Nose + mouth**

**Face shield**

**Eyes + nose + mouth**

**Goggle**

**Eyes**

# Risk Assessment and Standard Precautions

**Risk assessment:** risk of exposure and extent of contact anticipated with blood, body fluids, respiratory droplets, and/or open skin

- Select which PPE items to wear based on this assessment
- Perform hand hygiene according to the WHO “5 Moments”
- Should be done for each patient, each time

**Make this routine!**

# Minimize direct unprotected exposure to blood and body fluids

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| EYE-WEAR | MEDICAL MASK | GOWN | GLOVES | HAND HYGIENE | SCENARIO |
|---|---|---|---|---|---|
| | | | | x | Always before and after patient contact, and after contaminated environment |
| | | | x | x | If direct contact with blood and body fluids, secretions, excretions, mucous membranes, non-intact skin |
| | | x | x | x | If there is risk of splashes onto the health care worker's body |
| x | x | x | x | x | If there is a risk of splashes onto the body and face |

# Principles for using PPE (1)

Always **clean your hands** before and after wearing PPE

PPE should be **available** where and when it is indicated

- in the correct size
- select according to risk or per transmission-based precautions

Always **put on before contact** with the patient

Always **remove immediately** after completing the task and/or leaving the patient care area

NEVER reuse disposable PPE

**Clean and disinfect** reusable PPE **between each use**

# Principles for using PPE (2)

**Change PPE** immediately if it becomes contaminated or damaged

PPE should **not be adjusted or touched** during patient care; specifically

- never touch your face while wearing PPE
- if there is concern and/or breach of these practices, leave the patient care area when safe to do so and properly remove and change the PPE
- always remove carefully to avoid self-contamination (from dirtiest to cleanest areas)

# The seven steps to safe injections

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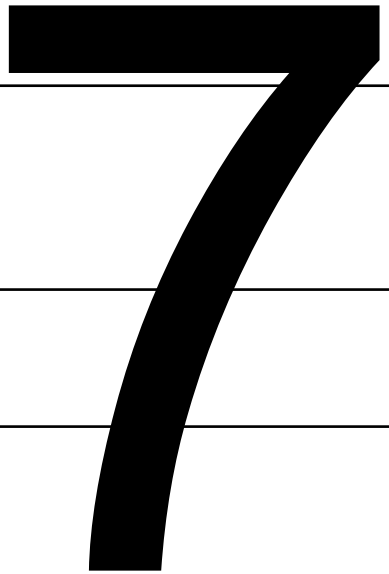
| | |
|---|---|
| 1 Clean workspace | |
| 2 Hand hygiene | |
| 3 Sterile safety-engineered syringe |  |
| 4 Sterile vial of medication and diluent | |
| 5 Skin cleaning and antisepsis | |
| 6 Appropriate collection of sharps | |
| 7 Appropriate waste management | |

https://www.who.int/infection-prevention/tools/injections/training-education/en/

# What is decontamination?

## Decontamination

Removes soil and pathogenic microorganisms from objects so they are safe to handle, subject to further processing, use or discard

- Cleaning
- Disinfecting
- Sterilization


*Source:* World Health Organization. 2016. Decontamination and reprocessing of medical devices for health-care facilities. World Health Organization. Retrieved from : https://www.who.int/infection-prevention/publications/decontamination/en/

# What is decontamination?

World Health Organization

| | |
|---|---|
| Cleaning | The first step required to physically remove contamination by foreign material, e.g. dust, soil. It will also remove organic material, such as blood, secretions, excretions and microorganisms, to prepare a medical device for disinfection or sterilization. |
| Disinfecting | A process to reduce the number of viable microorganisms to a less harmful level. This process may not inactivate bacterial spores, prions and some viruses. |
| Sterilization | A validated process used to render an object free from viable microorganisms, including viruses and bacterial spores, but not prions |

# Principles of Cleaning (1)

**Definition of cleaning:** the physical removal of foreign material (e.g., dust, soil) and organic material (e.g., blood, secretions, excretions, microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action.

The basic principles of cleaning and disinfecting apply to all patient care areas.

- Always be sure to clean patient care equipment between each patient use
- Where possible, dedicate cleaning supplies in higher risk areas (e.g., isolation, delivery, and operating rooms)
- Cleaning supplies for isolation should be kept in and only used in the isolation area/room

Source: CDC and ICAN. Best Practices for Environmental Cleaning in Healthcare Facilities in Resource-Limited Settings. Atlanta, GA: US Department of Health and Human Services, CDC; Cape Town, South Africa: Infection Control Africa Network; 2019. https://www.cdc.gov/hai/pdfs/resource-limited/environmental-cleaning-508.pdf

# Principles of cleaning (2)

- Always move from cleanest area to dirtiest area-
  - clean from high areas to low areas, outer to inner
  - clean isolation areas last
- Damp dusting and wet mopping is recommended to minimize dust
- Use a 3-bucket system for cleaning and disinfection
- Water for cleaning should be clean water
- Spraying of disinfectants is not recommended

Source: CDC and ICAN. Best Practices for Environmental Cleaning in Healthcare Facilities in Resource-Limited Settings. Atlanta, GA: US Department of Health and Human Services, CDC; Cape Town, South Africa: Infection Control Africa Network; 2019. https://www.cdc.gov/hai/pdfs/resource-limited/environmental-cleaning-508.pdf

# Environmental cleaning in isolation rooms/areas

- Increase frequency of cleaning by housekeeping in patient care areas
- Isolation areas should have their own cleaning supplies that are separate from clean patient care areas
- All waste from the isolation area is considered contaminated and should be disposed of following your facilities methods for contaminated waste
- Cleaners/housekeeping should ensure they are wearing the appropriate PPE when cleaning an isolation room or area
- Cleaning supplies for isolation should be kept in and only used in the isolation area/room

# Recommended cleaning procedures and frequencies

General inpatient

| General Category/ Specific Area | Area Description | Frequency | Person / Staff Responsible (facility-determined, shared requires detailed protocols) | Product(s) | Technique | Additional Guidance / Description of Cleaning |
|---|---|---|---|---|---|---|
| Inpatient area - Routine clean | not immunocompromised or acute illness (routine medical procedure) | daily and as needed | cleaning staff | clean (neutral detergent and water) | high-touch surfaces and floors; work towards patient zone | Low-touch surfaces also cleaned on a scheduled basis (e.g., weekly). |
| Inpatient area - Terminal clean | not immunocompromised or acute illness (routine medical procedure) | at discharge/transfer | cleaning staff | clean and disinfect | high-touch and low-touch surfaces and floors (see additional description) | includes:<br>1. removal of soiled/used patient care items, including linens, for reprocessing or disposal<br>2. reprocessing of all reusable (noncritical) patient care equipment<br>3. cleaning of all surfaces, including those that may not be accessible when the room/area was occupied (e.g., patient bed/mattress, |

Source: CDC and ICAN. Best Practices for Environmental Cleaning in Healthcare Facilities in Resource-Limited Settings. Atlanta, GA: US Department of Health and Human Services, CDC; Cape Town, South Africa: Infection Control Africa Network; 2019. https://www.cdc.gov/hai/pdfs/resource-limited/environmental-cleaning-508.pdf

# Steps for cleaning


**Routine cleaning:** the regular cleaning (and disinfection, when indicated) when the room is occupied to remove organic material, minimize microbial contamination, and provide a visually clean environment, emphasis is on surfaces within the patient zone.

# Steps for terminal cleaning


**Terminal cleaning:** cleaning and disinfection after the patient is discharged or transferred. Includes the removal of organic material and  significant reduction and elimination of microbial contamination to ensure that there is no transfer of microorganisms to the next patient.

# Environmental: how to manage used linen on the wards

- Wear PPE according to the risk when handling used or soiled linen
- Handle soiled linen with minimum agitation to avoid contamination
- Place soiled linen into bags/containers at point of care
- If linen is grossly soiled:
  - remove gross soil (e.g. feces, vomit) with a gloved hand and using a flat, firm object
  - discard solid material into flush toilet and dispose of towel into waste
  - place soiled linen into a clearly labelled, leak-proof container (e.g., bag and closed bin) in the patient care area.

# Environmental: how to manage used linen on the wards

- Clean linen must be sorted and transported in a way to prevent contamination (i.e. closed bins)
- Linen on the patient care wards should be stored in a designated area (i.e. a closet or room) or closed containers away from public access.

# Waste management process

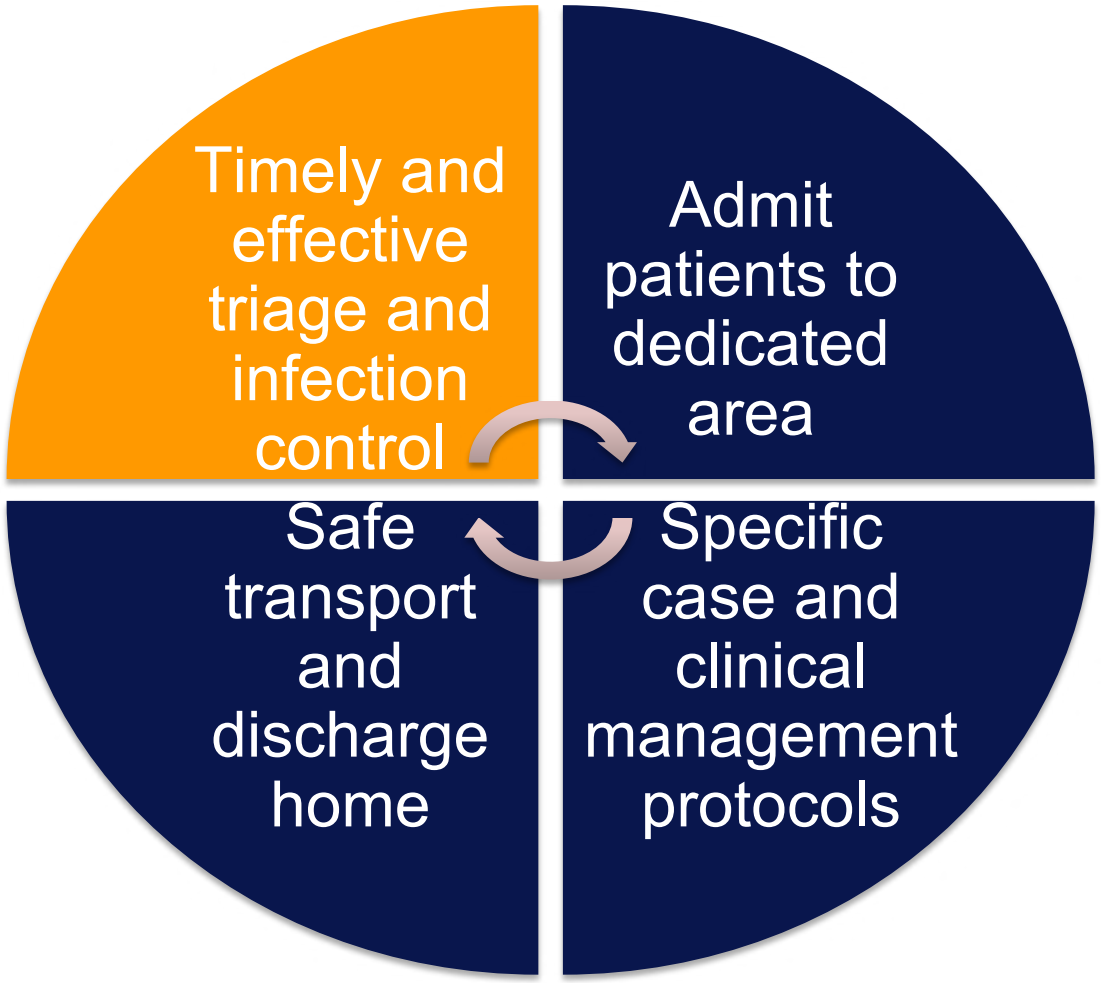

Safe treatment of waste generated during care activities is the responsibility of all staff

# Additional considerations for standard precautions

- It is important to ensure that environmental cleaning and disinfection procedures are followed consistently and correctly.
- Thorough cleaning environmental surfaces with water and detergent and applying commonly used hospital level disinfectants (such as sodium hypochlorite, 0.5%, or ethanol, 70%) are effective and sufficient procedures.
- Medical devices and equipment, laundry, food service utensils and medical waste should be managed in accordance with safe routine procedures.

# Recommendation 2. Ensuring triage, early recognition, and source control

# Triage (1)




Clinical triage is to be used in health care facilities for the early identification of patients with acute respiratory infection (ARI) to prevent the transmission of pathogens to health care workers and other patients.

# Triage (2)

The **triage or screening area** requires the following **equipment:**

- Screening questionnaire
- Algorithm for triage
- Documentation papers
- PPE
- Hand hygiene equipment and posters
- Infrared thermometer
- Waste bins and access to cleaning/disinfection
- Post signage in public areas with syndromic screening questions to instruct patients to alert HCWs.

# Triage (3)

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## Set up of the area during triage:

1. Ensure adequate space for triage (maintain at least 1 m distance between staff screening and patient/staff entering)
2. Have hand hygiene alcohol rub and masks available (also medical gloves, eye protection and gowns to be used according to risk assessment)
3. Waiting room chairs for patients should be 1m apart
4. Maintain a one-way flow for patients and for staff
5. Clear signage for symptoms and directions
6. Family members should wait outside the triage area-prevent triage area from overcrowding

# SCREENING FOR ACUTE RESPIRATORY INFECTION

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## Screening questions

### Fever

Have you experienced a new onset of fever > 38 degrees in the past 14 days?

**and/or**

### Cough

Have you a new onset of cough or shortness breath in the past 14 days?

**and one of these**

### Travel

Have you had travel to a country of high-transmission of COVID-19 in the past 14 days?

**and/or**

### Contact

Have you had contact with someone experiencing respiratory symptoms in the past 14 days?

## If yes for any of the above questions

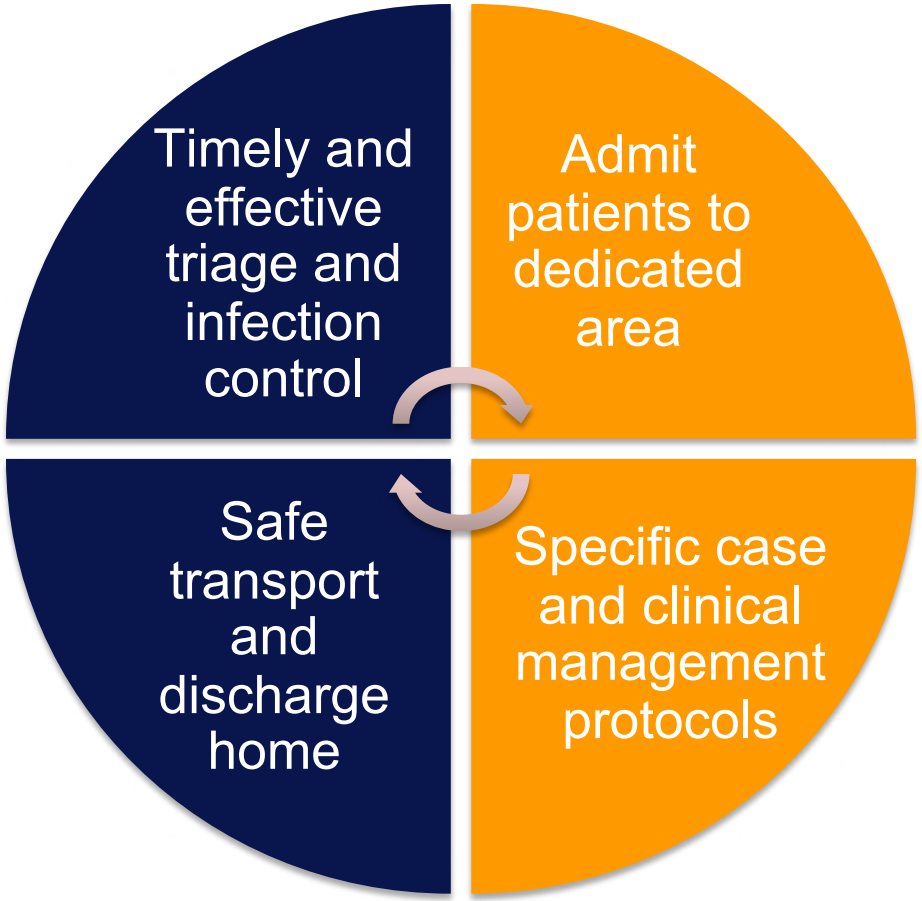
### Actions for patients

1. Perform hand hygiene
2. Practice social distancing (by minimum 1 meter)
3. Wear a medical mask

### Actions for healthcare workers

1. Until single room is found, separate by minimum 1 meter distance and ask patients wear a medical mask
2. Place patient in single room under contact/droplet precautions

# Hospital admission




- Avoid admitting low-risk patients with uncomplicated respiratory signs and symptoms of infection and no underlying diseases.
- Cohort patients with the same diagnosis in one area.
- Do not place suspect patients in same area as those who are confirmed.
- Place patients with ARI of potential concern in single, well ventilated room, when possible.
- Assign health care worker with experience with IPC and outbreaks.

# Recommendation 3. Implementing additional precautions for cases of COVID-19

# Additional precautions

- for patients who are symptomatic and suspected or who have a confirmed infection with a highly transmissible pathogen,
- when the pathogen is considered important from an epidemiological point of view,
- when medical interventions increase the risk of transmission of a specific infectious agent,
- when the clinical situation prevents the systematic application of standard precautions

# What do additional precautions include?

Standard Precautions

+

Special accommodations/isolation

(i.e. single room, adequate ventilation, space between beds, separate toilet etc.)

+

Signage

+

PPE

+

Dedicated equipment and additional cleaning

+

Limit transport

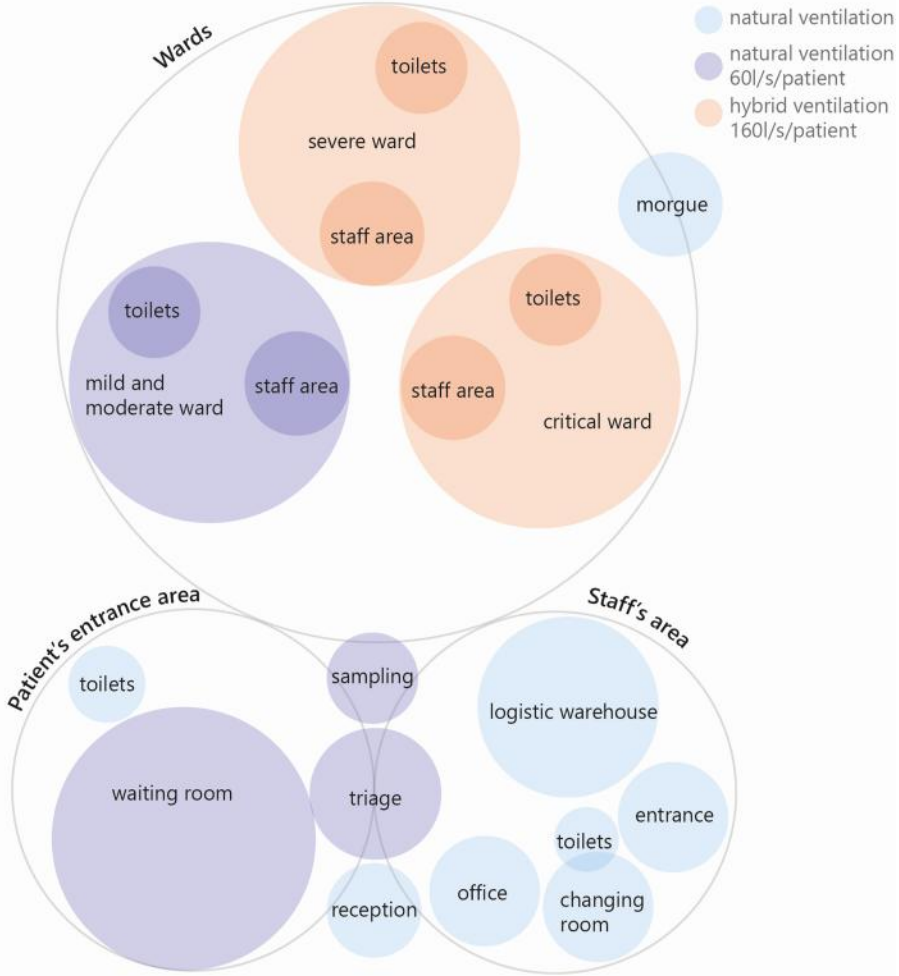
+

Communication

Adapted from :Ontario Agency for Health Protection and Promotion, Provincial Infectious Diseases Advisory Committee. Routine Practices and Additional Precautions in All Health Care Settings. 3rd edition. Toronto, ON: Queen's Printer for Ontario; November 2012.

# Ventilation and light

- Natural ventilation should be assured for the waiting room, triage, mild and moderate wards with a minimum flow rate of 60 l/s/patient.
- Hybrid ventilation should be assured for severe and critical wards. A top-down airflow moving from clean to dirty zones with a minimum flow rate of 160 l/s/patient.
- Negative pressure rooms should be assured if AGPs are performed



# Additional precautions are based on modes of transmission: direct modes

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## Direct contact

Direct contact occurs through touching; an individual may transmit microorganisms to others by skin-skin contact or contact with surfaces, soil or vegetation

## Droplet spread

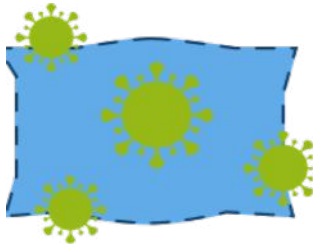
Droplet spread refers to spray with relatively large, short-range aerosols produced by sneezing or coughing.

# Indirect modes

## **Indirect contact**:

Indirect transmission refers to the transfer of an infectious agent from a reservoir to a host

**Airborne transmission** occurs when infectious agents are carried by dust or droplet nuclei suspended in air



**Vehicles** may indirectly transmit an infectious agent

**Vectors** may carry an infectious agent or may support growth or changes in the agent

# Patients suspected or confirmed COVID-19 (1)

- **Contact and droplet precautions** for all patients with suspected or confirmed COVID-19.
- **Airborne precautions** are recommended **only** in circumstances and settings in which AGPs and support treatment are performed (i.e. open suctioning of respiratory tract, intubation, bronchoscopy, cardiopulmonary resuscitation)**.**
- All **patients** with respiratory illness should be in a single room, or **minimum 1m away from other patients** when waiting for a room
- A team of HCW should be dedicated to care exclusively for suspected patients
- **HCW to wear PPE**: a medical mask, goggles or face shield, gown, and gloves
- **Hand hygiene** should be done **any time the WHO "5 Moments" apply**, and **before** PPE and **after** removing PPE

# Patients suspected or confirmed COVID-19 (2)

- **Equipment** should be **single use** when possible, dedicated to the patient and disinfected between uses
- **Avoid transporting** suspected or confirmed cases – if necessary, have patients wear masks. HCW should wear appropriate PPE.
- Frequent **cleaning and disinfection** of the environment is crucial
- **Limit** the number of HCW, visitors, and family members who are in contact with the patient. If necessary, everyone must wear PPE.
- All persons entering the patient's room (including visitors) should be recorded (for contact tracing purposes).
- Precautions should continue until the patient is asymptomatic.

# Contact precautions


- **Single room**
- **Hand hygiene**
  - according to the “5 Moments”, in particular before and after contact with the patient and after removing PPE
  - Avoiding touching eyes, nose or mouth with contaminated gloved or ungloved hands.
- **PPE: gown + gloves**

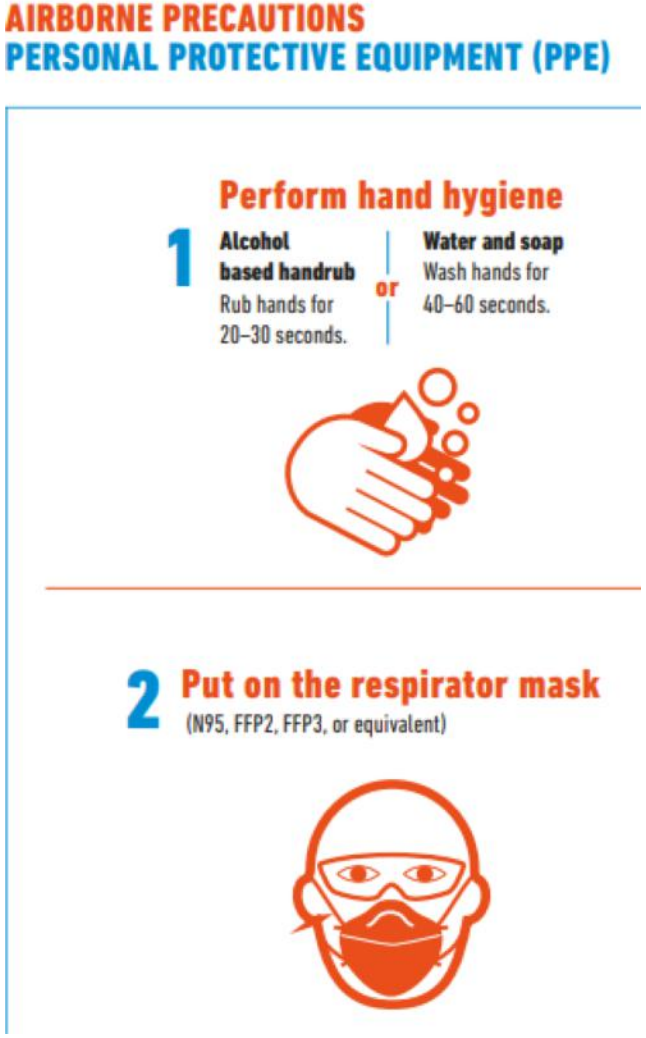
## Other measures:

- **Equipment**; cleaning, disinfection, and sterilization
- **Environmental cleaning**
  - Avoiding contaminating surfaces not involved with direct patient care (e.g., doorknobs, light switches, mobile phones)

# Droplet precautions


- **Single room**
  - if single rooms are not available, separating patients from others by at least 1m
- **PPE**
  - Medical mask
  - Eye protection (goggles or face shield)
  - Gown
- **Limit movement:** Patient to stay in the room
  - If transport/movement is required, require the patient using a medical mask and use predetermined transport routes to minimize exposure for staff, other patients and visitors.

# Airborne precautions
## (in the context of COVID-19)




**Recommended ONLY for aerosol generating procedures:**

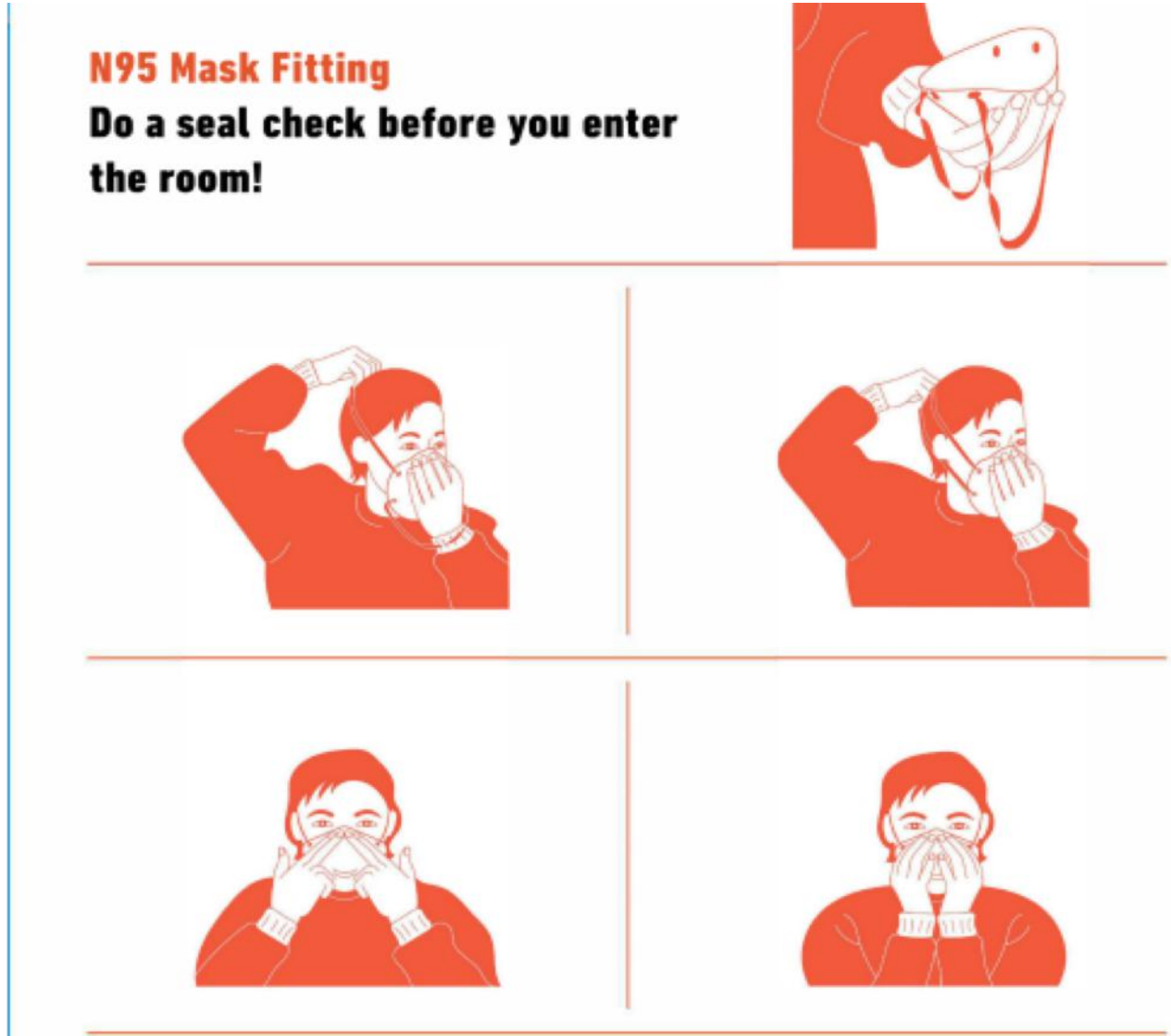
- bronchoscopy,
- tracheal intubation,
- pressure on the chest during cardiopulmonary resuscitation may induce production of aerosol
- and others that are aerosol producing.

**The following is required:**

- Single room
- Adequate ventilation
- PPE: gown, gloves, N-95, or FFP2 or equivalent masks, eye protection (goggles or face shield)

# Airborne: N95 Mask Fitting
## Do a seal check before you enter the room!

World Health Organization




**5A Positive seal check**

- Exhale sharply. A positive pressure inside the respirator = no leakage. If leakage, adjust position and/or tension straps. Retest the seal.
- Repeat the steps until respirator is sealed properly.

**5B Negative seal check**

- Inhale deeply. If no leakage, negative pressure will make respirator cling to your face.
- Leakage will result in loss of negative pressure in the respirator due to air entering through gaps in the seal.

# COVID-19 Precautions

# Contact/Droplet

# with option for Airborne (N95) for AGP

## CONTACT/DROPLET PRECAUTIONS - COVID-19
## PERSONAL PROTECTIVE EQUIPMENT (PPE)

World Health Organization

**1 Perform hand hygiene**

**Alcohol based handrub**
Rub hands for 20–30 seconds.

or

**Water and soap**
Wash hands for 40–60 seconds.

**2 Put on the gown**

**3 Eye protection**
Put on goggles or face shield.

**4 Put on the mask**
Medical mask
— or —
Respirator mask (N95, FFP2, FFP3, or equivalent).
Only use if performing aerosol generating procedures.


**5 Put on gloves**
Ensure gloves are placed over the cuff of the gown

**Full PPE**
Gloves, gown, mask (medical or N95), goggles.

# HOW TO GUIDE – PUTTING ON PPE FOR CONTACT/DROPLET PRECAUTIONS

## 1 Perform hand hygiene

**Alcohol based handrub**

Rub hands for 20–30 seconds.

or

**Water and soap**

Wash hands for 40–60 seconds.

## 2 Put on the gown

## 3 Put on the mask

Medical mask.

## 4 Put on eye protection

Put on goggles or face shield.

## 5 Put on gloves

Ensure glove is placed over the cuff of the gown.

## Full PPE

# HOW TO GUIDE – TAKING OFF PPE FOR CONTACT/DROPLET PRECAUTIONS

**Order is important**

## 1 Remove gloves

## 2 Remove the gown

Ensure gown is taken off in a manner in which it does not spread anything off of the gown

## 3 Perform hand hygiene

**Alcohol based handrub**

Rub hands for 20–30 seconds.

or

**Water and soap**

Wash hands for 40–60 seconds.

## 4 Remove eye protection

Remove goggles or face shield.

## 5 Remove the mask

## 6 Perform hand hygiene

**Alcohol based handrub**

Rub hands for 20–30 seconds.

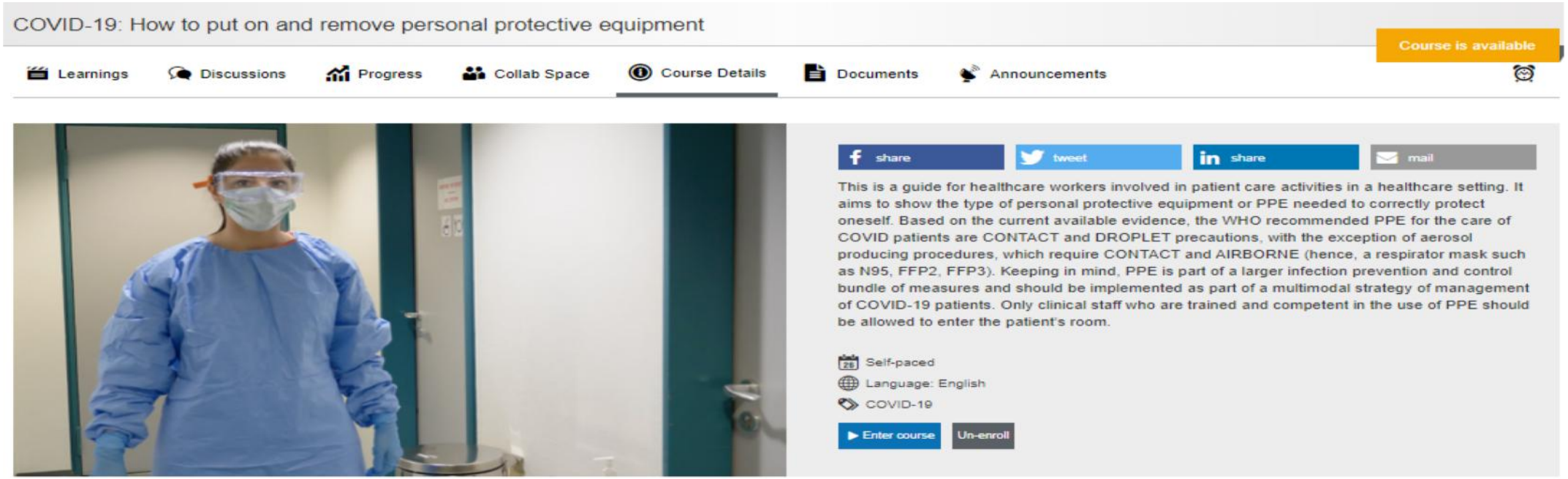
or

**Water and soap**

Wash hands for 40–60 seconds.

# How to guide – to putting on and removal of PPE

World Health Organization




- COVID How to put on and remove PPE for COVID-19 Droplet/contact precautions
  https://openwho.org/courses/IPC-PPE-EN

- COVID AGP: How to put on and remove PPE for COVID-19 Airborne/contact precautions for aerosol generating procedures
  https://openwho.org/courses/IPC-PPE-EN/items/6o69URMIg5sManZMkdaMQD

- How to guide: poster version

https://openwho.org/courses/IPC-PPE-EN/items/3aIpyT8H8qa0pj1IdPtzKX

# Outpatient Care

The basic principles of IPC and standard precautions should be applied in all health care facilities, including outpatient care and primary care.

For COVID-19 infection, the following measures should be adopted:

- Triage and early recognition;
- syndromic screening to be done in clinics;
- emphasis on hand hygiene, respiratory hygiene and medical masks to be used by patients with respiratory symptoms (consider having signage);

# Outpatient Care

For COVID-19 infection, the following measures should be adopted (continued):

- if possible – place patients in separate rooms or away from other patients in the waiting rooms, and wear mask, gloves and gown if possible when seeing them in the clinic (as much of contact and droplet precautions as possible);
- when symptomatic patients are required to wait, ensure they have a separate waiting area (1m separation);
- prioritization of care of symptomatic patients;
- educate patients and families about the early recognition of symptoms, basic precautions to be used and which health care facility they should refer to.

World Health Organization

# HOME CARE

## What IPC strategies are recommended by WHO for COVID-19?

World Health Organization

# Home care for patients with suspected novel coronavirus (2019-nCoV) infection presenting with mild symptoms and management of contacts

Interim guidance
04 February 2020

World Health Organization

https://www.who.int/publications-detail/home-care-for-patients-with-suspected-novel-coronavirus-(ncov)-infection-presenting-with-mild-symptoms-and-management-of-contacts

# Home Care – for HCW

Patients with mild respiratory illness are likely to need care in the home.

WHO recommends the patient has ongoing communication with a health care provider or public health person during the full duration of the home care period – until resolution of symptoms.

# Home Care – for HCW

HCW should:

- Wear a mask and perform appropriate hand hygiene,  when providing care
- Educate the  patient on how to limit exposure to the rest of their family. Also teach them respiratory etiquette and hand hygiene (cover their mouth and nose when coughing or sneezing).
- Educate caregivers on how to appropriately care for the ill member of the family as safely as possible; and provide the patient and family with ongoing support, education and monitoring.

# Home Care – for caregivers

Caregivers and family members should (if possible):

- Be advised on the type of care they are supposed to be providing and the use of available protection to cover their nose and mouth
- If not providing care, ensure physical separation (keep them in a separate room or at least 1 meter) away from others in the household
- Remind the patient to wear a mask when in the presence of other family members (if possible)

# Resources for COVID-19

World Health Organization

WHO Coronavirus Homepage
https://www.who.int/emergencies/diseases/novel-coronavirus-2019
All coronavirus (COVID-19) technical guidance documents
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance
IPC documents
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/infection-prevention-and-control
https://www.who.int/infection-prevention/publications/en/
Questions and Answers
https://www.who.int/news-room/q-a-detail/q-a-coronaviruses

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