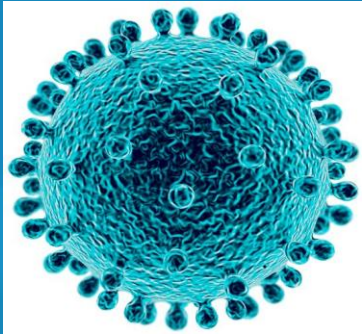


Coronavirus Disease 2019 (COVID-19)

Universal Precautions



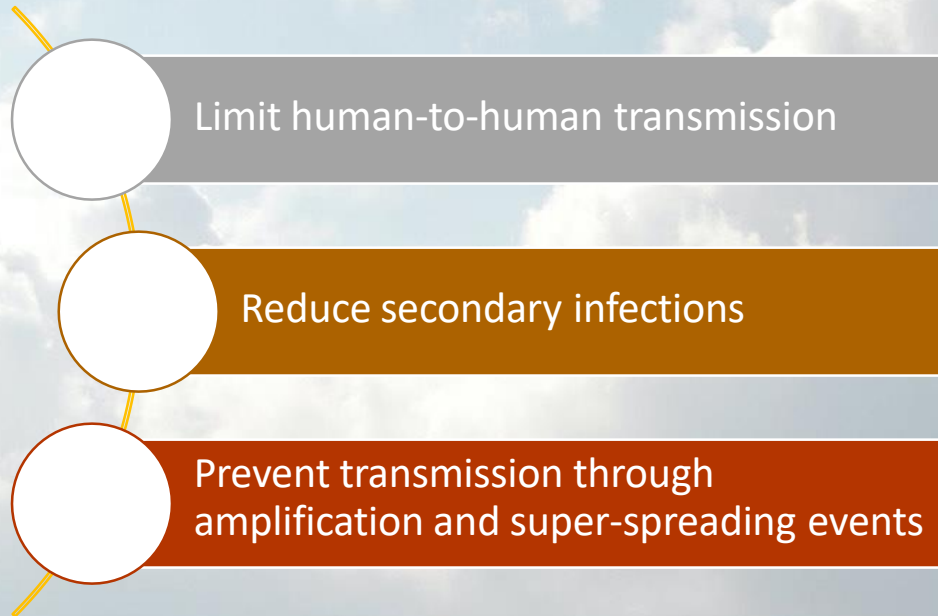
What Do We Know About Coronaviruses?



Coronaviruses have a crown-like appearance under the microscope

- Coronaviruses are a large family of viruses - some cause illness in people, and others only infect animals.
- Some coronaviruses infect animals then spread to people, and then spread person to person such as:
- Middle East Respiratory Syndrome (MERS)
- Severe Acute Respiratory Syndrome (SARS)
- Coronavirus Disease 2019 (COVID-19)
- Common coronaviruses include some that cause mild upper-respiratory illnesses, like the common cold.

Infection Prevention and Control and COVID-19



Standard precautions

*“(...) A **set of practices** that are applied to the care of patients, **regardless of the state of infection** (suspicion or confirmation), in any place where health services are provided. (...)”*

PAHO. Prevention and Control of Healthcare associated infections
– Basic Recommendations”- PAHO, 2017 (adapted)



Standard precautions



Hand hygiene (water and soap or alcohol-based solutions)



Use of personal protective equipment (PPE) according to risk



Respiratory hygiene (or cough etiquette)



Safe injection practices



Sterilization / disinfection of medical devices



Environmental cleaning

What are the Symptoms of COVID-19?

Symptoms of COVID-19 are:

- Fever
- Cough
- Shortness of breath

Symptoms appear **2 to 14 days** after exposure. The average incubation period of COVID-19 is reported to be about **5 days**.

Eighty percent of patients with confirmed COVID-19 have mild symptoms.

In very severe cases, patients with COVID-19 have developed pneumonia in both lungs. In some cases, COVID-19 can be fatal.



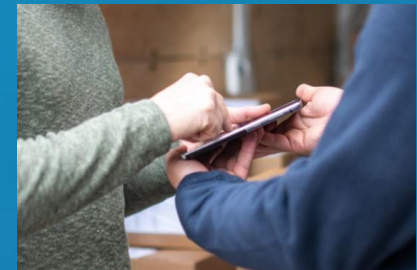
How Can COVID-19 Infection be Prevented?

- Wash your hands often with soap and warm water for at least 20 seconds - use an alcohol-based hand sanitizer if soap and water are not available.
- Avoid touching your eyes, nose and mouth with unwashed hands.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Stay home if you're sick.
- Avoid close contact with people who are sick.
- **Get a flu shot!** A flu shot won't protect against COVID-19, but if you do get the flu, your symptoms will be less severe, easing the burden on health care facilities.

Sing "Happy Birthday" two times through as you're washing.



WHERE HAVE **YOUR** HANDS BEEN?



How Can COVID-19 Infection be Prevented?

- Clean frequently touched surfaces and objects daily (e.g., tables, countertops, light switches, doorknobs, cabinet handles) using regular cleaning products and water.
- Clean your electronic devices (phones, tablets, laptops, keyboards) with approved wipes or cleaning products.
- Always follow the manufacturer's instructions for all cleaning and disinfection products.



What Do All These Things Mean?

Community spread means people have been infected with the virus in an area, including some who are not sure how or where they became infected.

Social distancing means remaining out of congregate settings, avoiding local public transportation (e.g., bus, trains, ride share), and maintaining distance (approximately 6 feet) from others.

Congregate settings are public places where close contact with others may occur, such as shopping centers, theaters, stadiums, workplaces and schools.

Incubation period refers to the time from exposure to an infection to the onset of symptoms. Different diseases have different incubation periods.

Isolation separates those with who **are sick** with a contagious disease from those who are not to avoid transmission.

Quarantine separates and restricts movement of people who **may have been exposed** to a contagious disease, but **do not show symptoms**.

Epidemic is a rapid increase in the number of cases of a disease above what is normally expected in a specific population.

Pandemic refers to a global epidemic or one that has spread over several countries or continents, affecting many people.

Outbreak carries the same definition as epidemic, but it is used for a more limited geographic area.



Preparing Schools for Outbreaks of COVID-19

How to prevent the spread of:
CORONAVIRUS DISEASE 2019 (COVID-19)

INFECTION PREVENTION STEPS

- ✓ Wash your hands often with soap + water.
- ✓ Avoid touching your eyes, nose + mouth with unwashed hands.
- ✓ Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- ✓ Avoid close contact with people who are sick.
- ✓ Get a flu shot!
- ✓ Clean + disinfect frequently touched objects and surfaces such as counters, door knobs, desks, keyboards, tablets and phones.

Keeping hands clean is one of the most important things we can do to stop the spread of respiratory illnesses like flu and COVID-19.

PROPER HANDWASHING TIPS

- Wash hands thoroughly with soap + warm water.
- Wash for 20-30 seconds or sing "Happy Birthday" two times through.
- Soap and warm water are the best way to clean your hands, but if they aren't available, use an alcohol-based hand sanitizer, that contains at least 60% alcohol.

HOW TO USE HAND SANITIZERS

- Apply the sanitizer to the palm of one hand (follow label directions on how much to use).
- Rub hands together.
- Rub the sanitizer over all the surfaces of your hands + fingers until your hands are dry.



For more information: dph.georgia.gov/novelcoronavirus
cdc.gov/coronavirus/2019-ncov/index.html

DPH
GEORGIA DEPARTMENT OF PUBLIC HEALTH

https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/guidance-for-schools.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-for-schools.html

Review, update and implement emergency operations plans.

Communicate with school staff and parents about measures to prevent illness – flu shots, handwashing, covering coughs and sneezes with a tissue, stay home if you're sick.

Monitor and plan for absenteeism – students, faculty and staff. What level of absenteeism will disrupt teaching and learning, as well as ensuring a safe environment for students and staff?

Establish procedures for students and staff who become sick at school or arrive to school sick.

Continue to perform routine environmental cleaning, including frequently touched surfaces, desks, keyboards and tablets.

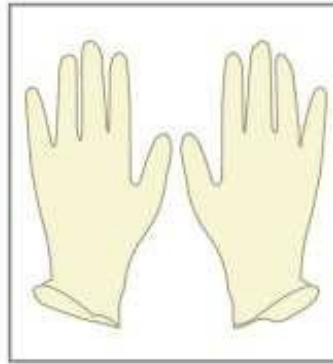


Today. . .

. . . ONE focus will be on the use of **personal protective equipment (PPE)** according to the **risk**



Hand hygiene



Gloves



Gown – other types and styles are also appropriate.



Medical mask – other types and styles are also appropriate.



Protective eyewear - eye visors, goggles, and face shields are examples of protective eyewear

Personal Protective Equipment Definition

“specialized clothing or equipment worn by an employee for protection against infectious materials”
(OSHA)



Transmission-based precautions



Contact precaution

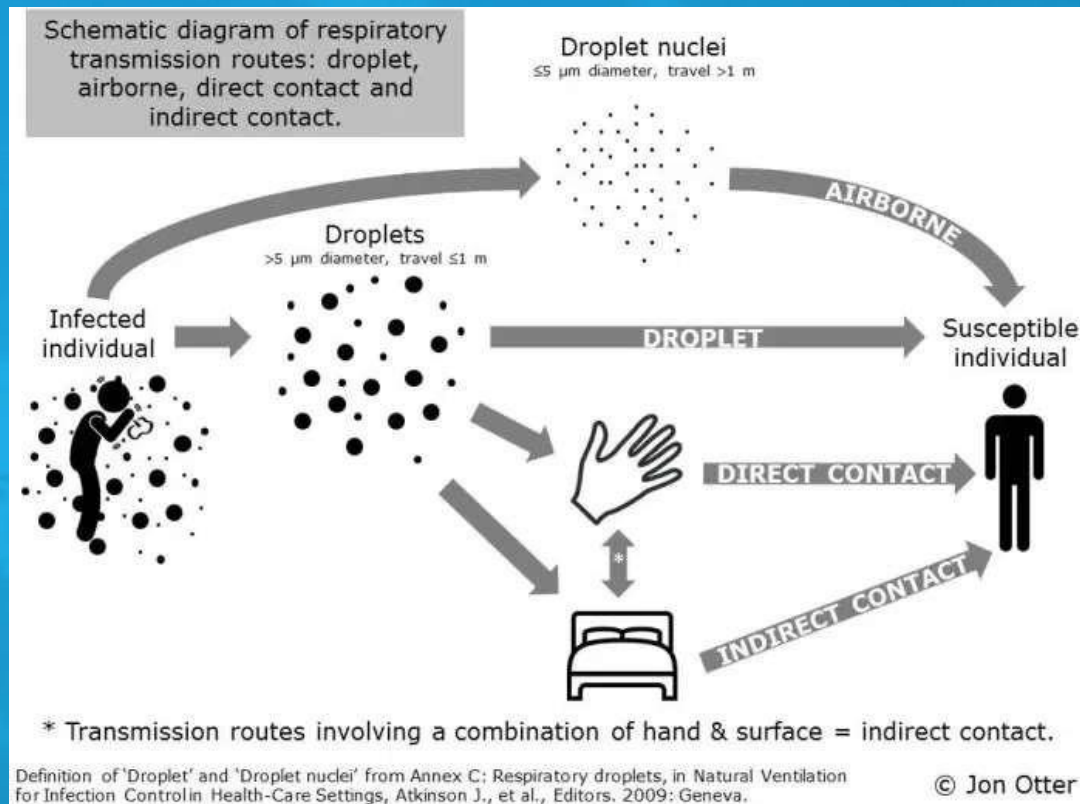


Droplet precaution



Airborne precaution

AS A REMINDER, TRANSMISSION OF COVID-19



as of February 19, 2020 – subject to change as new evidence become available



General principles of PPE



Hand hygiene should always be performed despite PPE use.



Remove and replace if necessary any damaged or broken pieces of reusable PPE as soon as you become aware that they are not in full working order.



Remove all PPE as soon as possible after completing the care and avoid contaminating the environment outside the isolation room; any other patient or worker; and yourself.



Discard all items of PPE carefully and perform hand hygiene immediately afterwards.

Source: <https://apps.who.int/iris/handle/10665/69793>



Factors Influencing PPE Selection

- Type of exposure anticipated
 - Splash/spray versus touch
 - Category of isolation precautions
- Durability and appropriateness for the task
- Fit



Types of PPE Used in Healthcare Settings

- Gloves – protect hands
- Gowns/aprons – protect skin and/or clothing
- Masks and respirators– protect mouth/nose
 - Respirators – protect respiratory tract from airborne infectious agents
- Goggles – protect eyes
- Face shields – protect face, mouth, nose, and eyes



How to apply Gloves

- Select correct type and size
- Insert hands into gloves
- Extend gloves over hands



Do's and Don'ts of Glove Use

- Work from “clean to dirty”
- Limit opportunities for “touch contamination” - protect yourself, others, and the environment
 - Don't touch your face or adjust PPE with contaminated gloves
 - Don't touch environmental surfaces except as necessary during patient care



Do's and Don'ts of Glove Use (cont'd)

- Change gloves
 - During use if torn and when heavily soiled
 - After use on each individual.
- Discard in appropriate receptacle
 - Never wash or reuse disposable gloves



Gloves (sterile / nonsterile)

- **Gloves are an essential item of PPE and are used to prevent the healthcare worker from being exposed to direct contact with the blood or body fluid of an infected patient.**
- **Gloves DO NOT replace hand hygiene.**



Source: <https://apps.who.int/iris/handle/10665/69793>

Gowns or Aprons

- Purpose of use
- Material –
 - Natural or man-made
 - Reusable or disposable
 - Resistance to fluid penetration
- Clean or sterile



Gowns (and aprons)

- Gowns are used in addition to gloves if there is **risk of fluids or blood** from the patient splashing onto the healthcare worker's body.
- The same gown can be used when providing care to more than one patient but only those patients in a cohort area and only if the gown does not have direct contact with a patient.
- Plastic aprons should be used in addition to gowns if the material of the gown is not fluid repellent and the task to be performed may result in splashes onto the healthcare worker's body.



An example of a gown.
Other styles of gowns can
also be used.

Face Protection

- Masks – protect nose and mouth
 - Should fully cover nose and mouth and prevent fluid penetration
 - Most often used in schools
- Goggles – protect eyes
 - Should fit snugly over and around eyes
 - Personal glasses not a substitute for goggles
 - Not often used in schools
 - Antifog feature improves clarity



Face Protection

- Face shields – protect face, nose, mouth, and eyes
 - Should cover forehead, extend below chin and wrap around side of face
 - Not used often in schools



How to Safely Use PPE

- Keep gloved hands away from face
- Avoid touching or adjusting other PPE
- Remove gloves if they become torn; perform hand hygiene before donning new gloves
- Limit surfaces and items touched



Sequence for Removing PPE

- Gloves
- Face shield or goggles
- Gown
- Mask or respirator



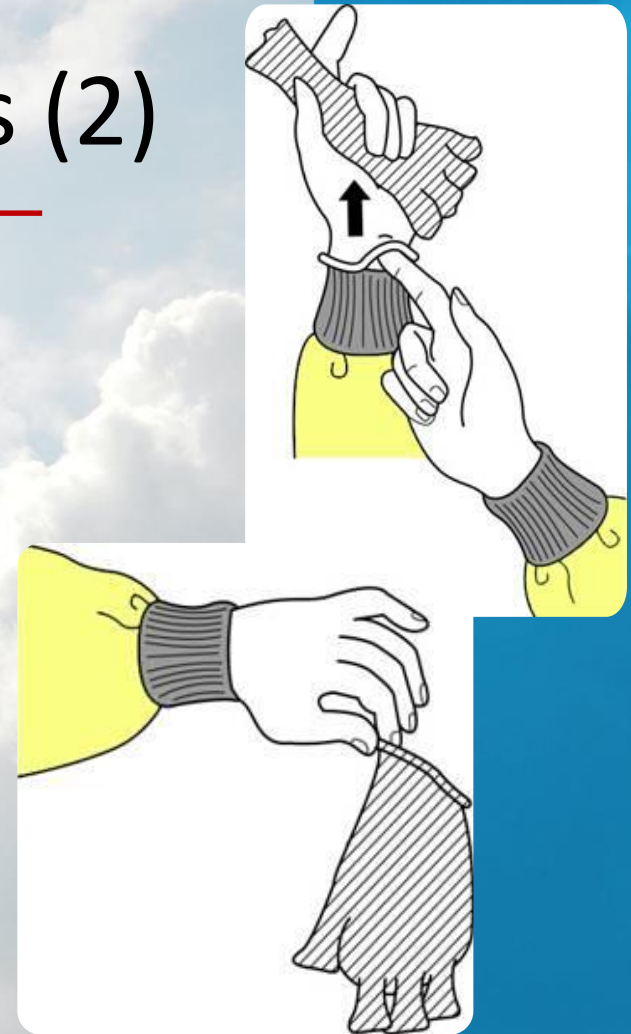
How to Remove Gloves (1)

- Grasp outside edge near wrist
- Peel away from hand, turning glove inside-out
- Hold in opposite gloved hand



How to Remove Gloves (2)

- Slide ungloved finger under the wrist of the remaining glove
- Peel off from inside, creating a bag for both gloves
- Discard



Remove Goggles or Face Shield

- Grasp ear or head pieces with ungloved hands
- Lift away from face
- Place in designated receptacle for reprocessing or disposal



Removing a Mask

- Untie the bottom, then top
- For mask that loops behind ears, remove one side at a time.
- Remove from face
- Discard



Hand Hygiene

- Perform hand hygiene immediately after removing PPE.
 - If hands become visibly contaminated during PPE removal, wash hands before continuing to remove PPE
 - Wash hands with soap and water or use an alcohol-based hand rub
- * Ensure that hand hygiene facilities are available at the point needed, e.g., sink or alcohol-based hand rub



Standard Precautions

- Previously called Universal Precautions
- Assumes blood and body fluid of ANY patient could be infectious
- Recommends PPE and other infection control practices to prevent transmission in any healthcare setting
- Decisions about PPE use determined by type of clinical interaction with patient



Hand Hygiene

- Required for Standard and Expanded Precautions
- Perform...
- Several times a day
 - Immediately after removing PPE
 - Between contacts and touching surfaces
- Wash hands thoroughly with soap and water or use alcohol-based hand rub



USE OF PPE ACCORDING TO LEVEL OF CARE

([HTTPS://BIT.LY/2HDK2BG](https://bit.ly/2HDK2BG))

Level of care	Hand hygiene	Gown	Medical mask	Respirator (N95 or FFP2)	Goggle (eye protection) OR Face shield (facial protection)	Gloves
Triage	X		X			
Collection of specimens for laboratory diagnosis	X	X				X
Suspected or confirmed case of COVID-19 requiring healthcare facility admission and NO aerosol-generating procedure	X				X	X
Suspected or confirmed case of COVID-19 requiring healthcare facility admission and WITH aerosol-generating procedure						



In summary,

- The use of **personal protective equipment (PPE) is essential at this time** ;
- Please encourage the proper use of PPE
- The following precautions are recommended for the care of patients with suspected or confirmed cases of COVID-19:
 - For any suspected or confirmed cases of COVID-19
 - **standard + contact + droplet precautions**
 - For any suspected or confirmed cases of COVID-19 **standard + contact + airborne precautions**
- *as of February 19, 2020 – subject to change as new evidence become available*

