

# Unit 2: COVID-19

## **RECOGNITION**

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# OSHA Disclaimer

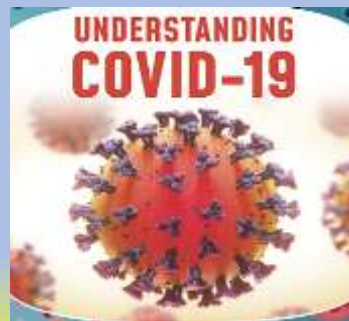
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# Learning Objectives

Upon completion of this unit, you will:

- Understand more about COVID-19 disease
- Improve your ability to identify symptoms of COVID-19 infection
- Understand more about how the SARS-CoV-2 virus spreads

# COVID-19



# Enrique and Marisol

Enrique and Marisol work at the Green Apple Orchard.

Enrique believes that COVID-19 is the same as the flu. He says that he is safe because he eats a lot of garlic. He also says that he heard that people should spray their bodies with chlorine to protect themselves from it. He claims that washing your clothes every day will kill the virus.

Marisol listens to Enrique. She asks him where he got his information. He says he got messages on his phone with the information.

What should Marisol do?

What should she say to Enrique?

# What is COVID-19?

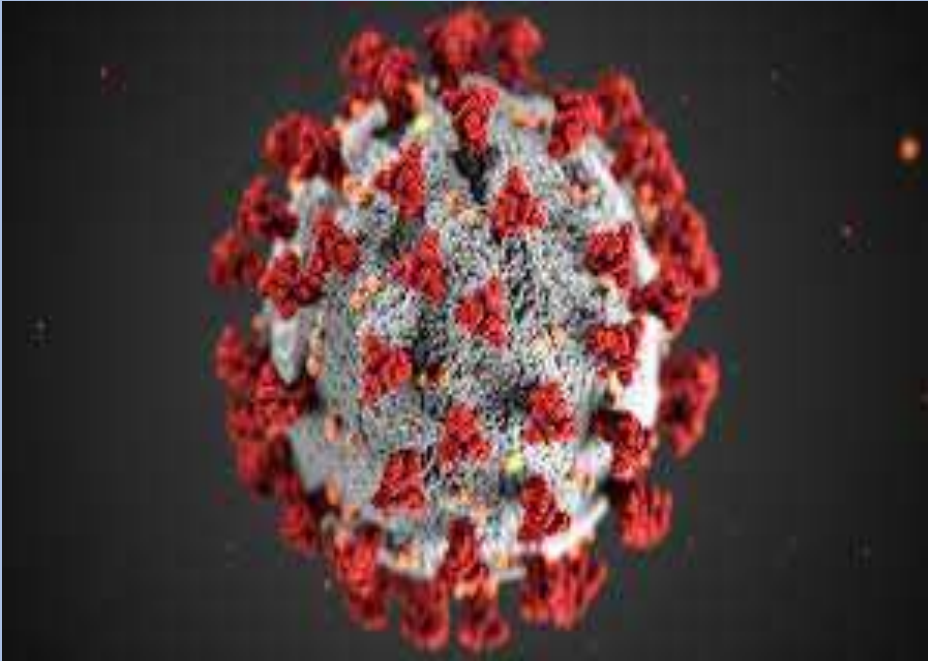


Image Source: <https://www.fda.gov/food/food-safety-during-emergencies/food-safety-and-coronavirus-disease-2019-covid-19>

- COVID-19 is a new infectious disease.
- It is caused by the SARS-CoV-2 virus.
- SARS-CoV-2 is a member of a large family of viruses called coronaviruses.
- The World Health Organization first learned about this virus on December 31, 2019.

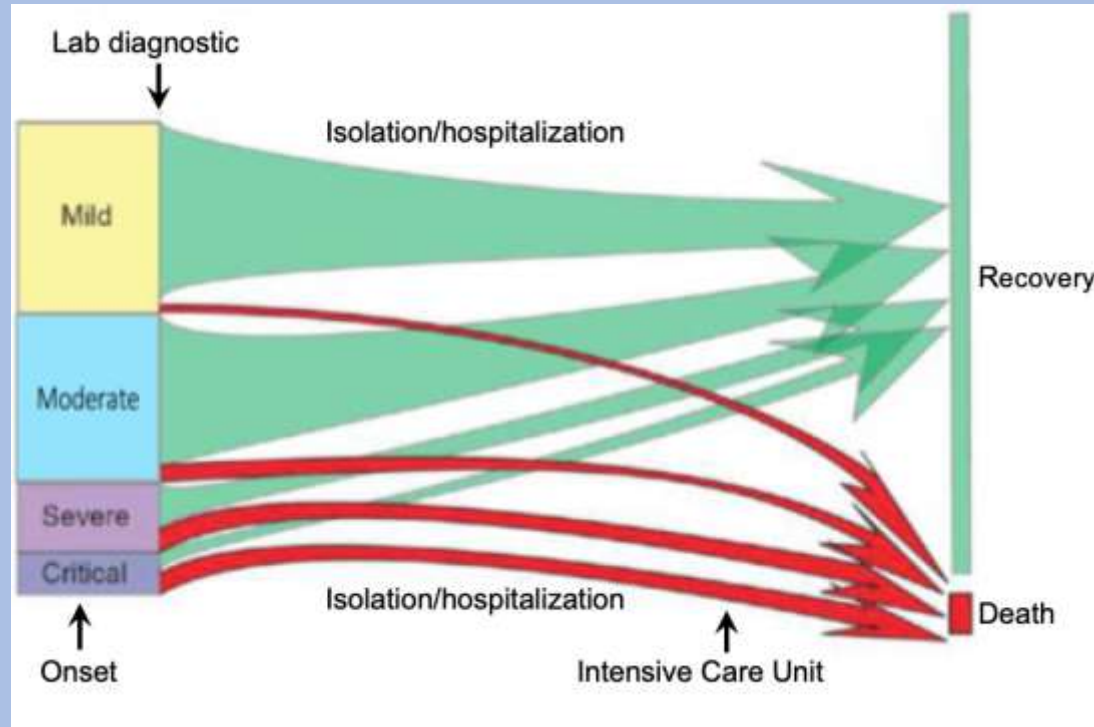
# Why do they call COVID-19 a pandemic?



- A pandemic is an outbreak of a disease that is spread across several countries.
- Pandemics affect large numbers of people.
- On January 30, 2020, the World Health Organization declared the COVID-19 outbreak a global health emergency.
- On March 11, 2020, the World Health Organization declared COVID-19 a global pandemic.
- 221 countries and territories around the world have reported cases of COVID-19.

Image Source: <https://www.pexels.com/photo/hands-with-latex-gloves-holding-a-globe-with-a-face-mask-4167544/>

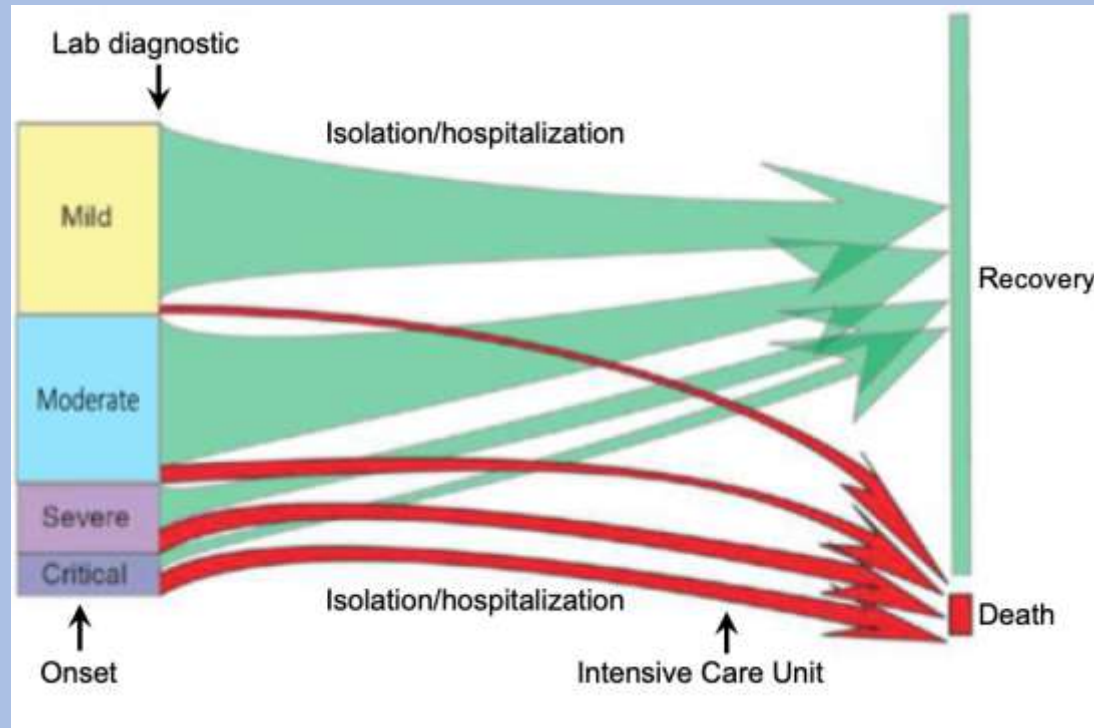
# How severe is COVID-19?



- COVID-19 can cause hospitalization and death.
- Most people will have mild symptoms.
- Most people will get better on their own.

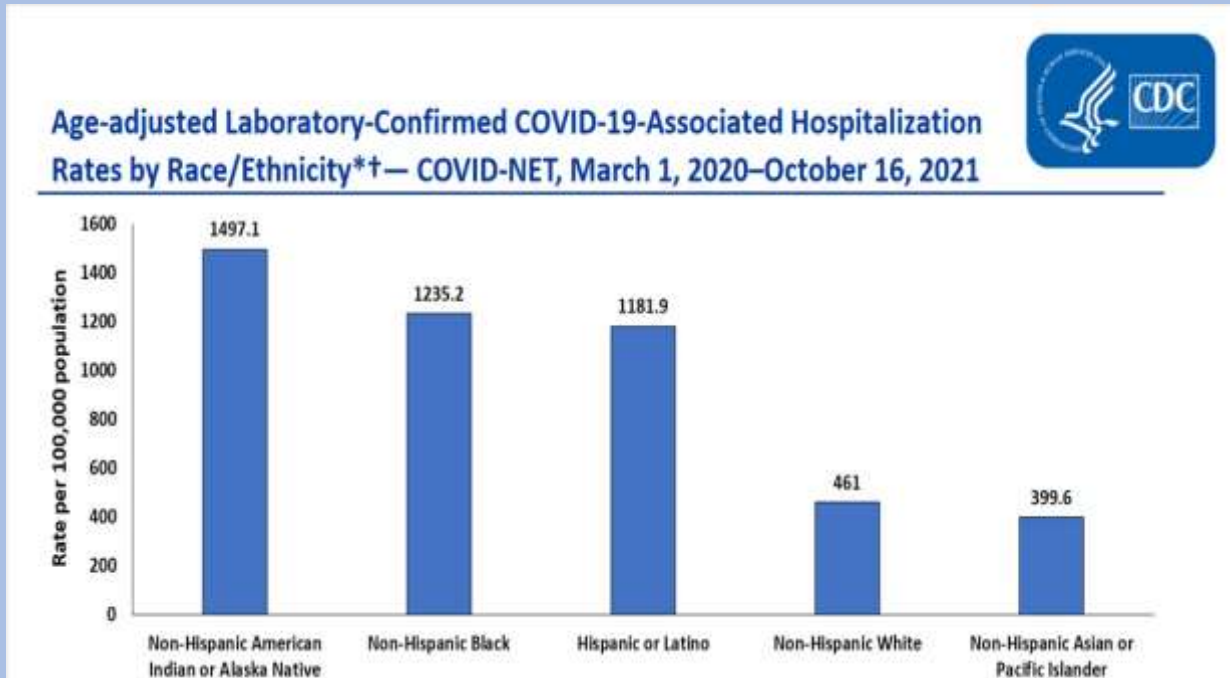


# How severe is COVID-19? (Continued)



- Some people will have severe problems.
- Unfortunately, some people will need to be hospitalized.
- Tragically, some people will die from COVID-19 disease.

# How many people with COVID-19 have been hospitalized?



- From August 1, 2020 - November 2, 2021, a total of **3,257,025** people were hospitalized for COVID in the United States.

Image Source: <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/racial-ethnic-disparities/disparities-hospitalization.html>

# How many people have died from COVID-19 around the world?



The numbers change rapidly.

As of March 2, 2022:

- Worldwide, 5,968,316 people have died from COVID-19.

# How many people have died from COVID-19 in the United States and in our area?



The numbers change rapidly.

As of March 2, 2022:

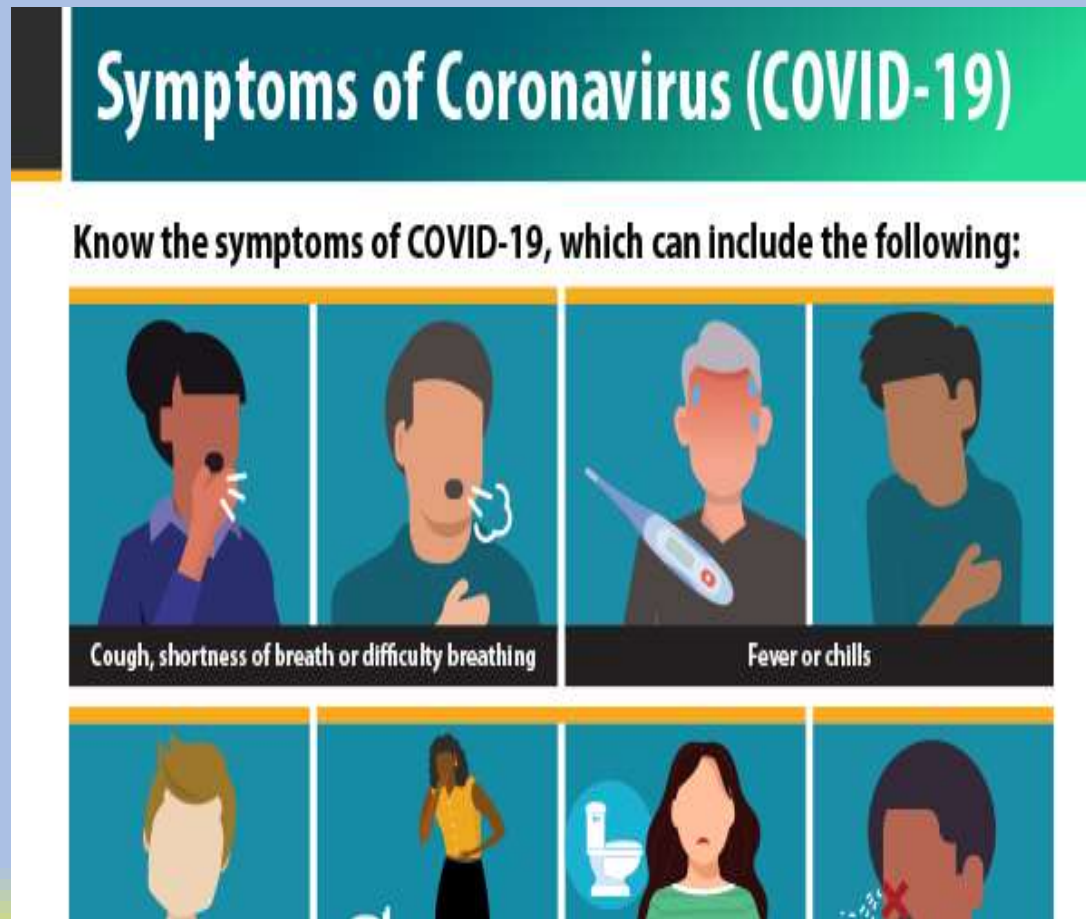
950,785 have died from COVID-19 in the United States.

43,332 people have died from COVID-19 in Pennsylvania.

1,843 people have died from COVID-19 in Lancaster county.



# What are common early symptoms of COVID disease?



- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches

# Common early symptoms of COVID disease (continued)



- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

Image Source: <https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/coronavirus-can-prove-dangerous-for-people-with-these-health-conditions/photostory/77280607.cms>

# When should I seek medical attention?



A person can have mild symptoms for about one week and then worsen rapidly.

If you or someone you know has one or more of these symptoms, you should seek medical attention immediately:

- Trouble breathing
- Persistent pain or pressure in the chest

# When should I seek medical attention? (Continued)



- New confusion
- Inability to wake or stay awake
- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone



# What underlying conditions increase people's risk for severe COVID-19?



Image Source: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6924e2.htm>

A few examples of health conditions include:

- Diabetes
- Heart conditions
- Chronic lung diseases such as
  - COPD (chronic obstructive pulmonary disease)
- Chronic kidney disease

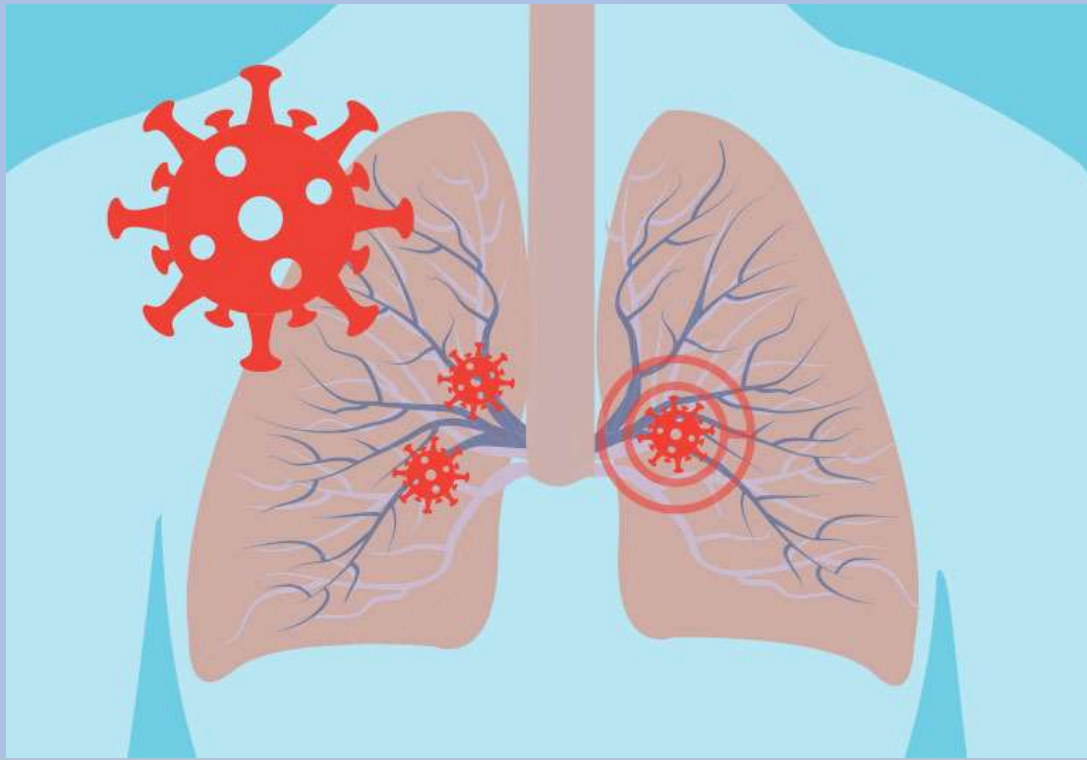
# Examples of underlying conditions that increase risk of severe COVID (continued)



- Obesity
- Pregnancy
- Smoking (current and former)
- Age (risk increases with age)
- Hypertension\*

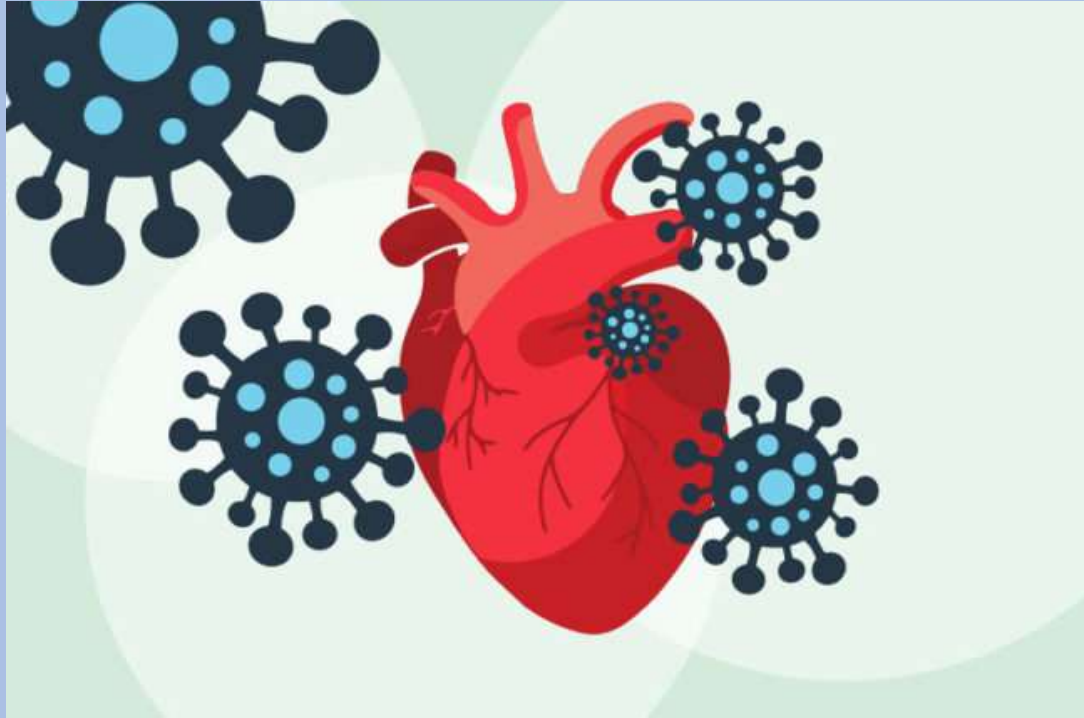
Image Source: <https://news.yale.edu/2021/04/22/immune-response-may-pose-greater-risk-pregnant-women-covid-virus>

# Does COVID-19 affect the lungs?



- Some COVID-19 patients will develop severe inflammation in the lungs.
- The inflammation can cause swelling of the respiratory system.
- The lungs will not be able to perform their normal function.
- Our lungs take in oxygen and release carbon dioxide.

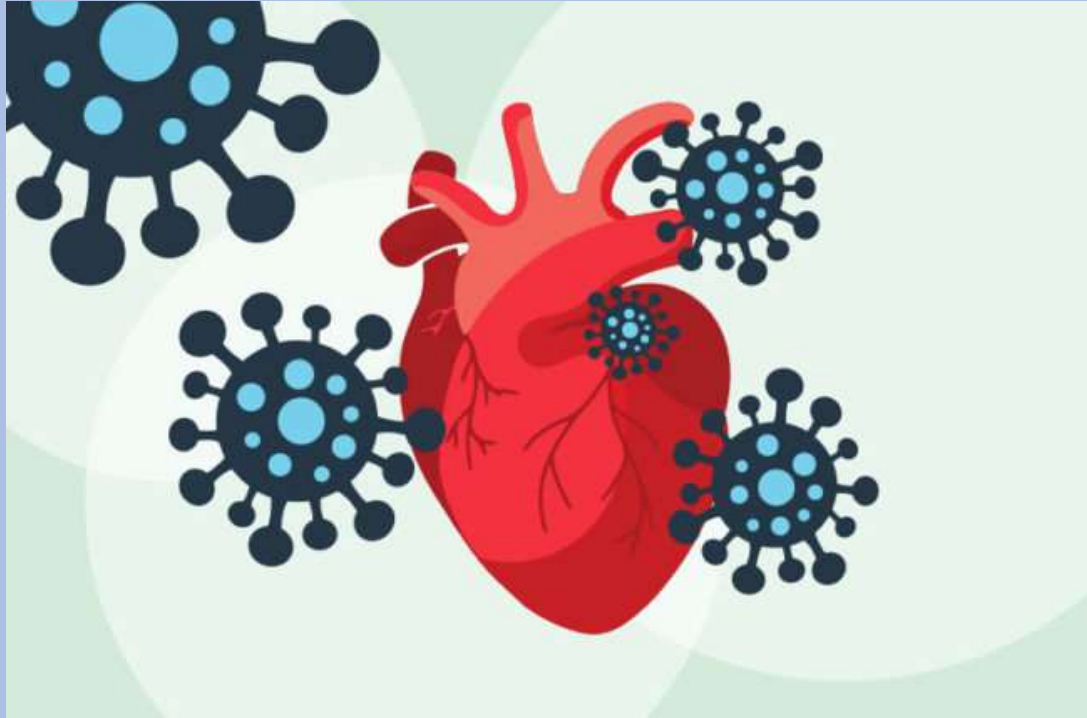
# Does COVID-19 affect the heart?



- vessels in the heart muscle. Some COVID-19 patients will develop dangerous inflammation of their hearts.
- COVID-19 may cause blood cells to clump up and form clots.
- COVID-19 may cause small blood clots to block tiny blood.

Image Source: <https://health.clevelandclinic.org/covid-19-can-also-damage-your-heart-not-just-your-lungs/>

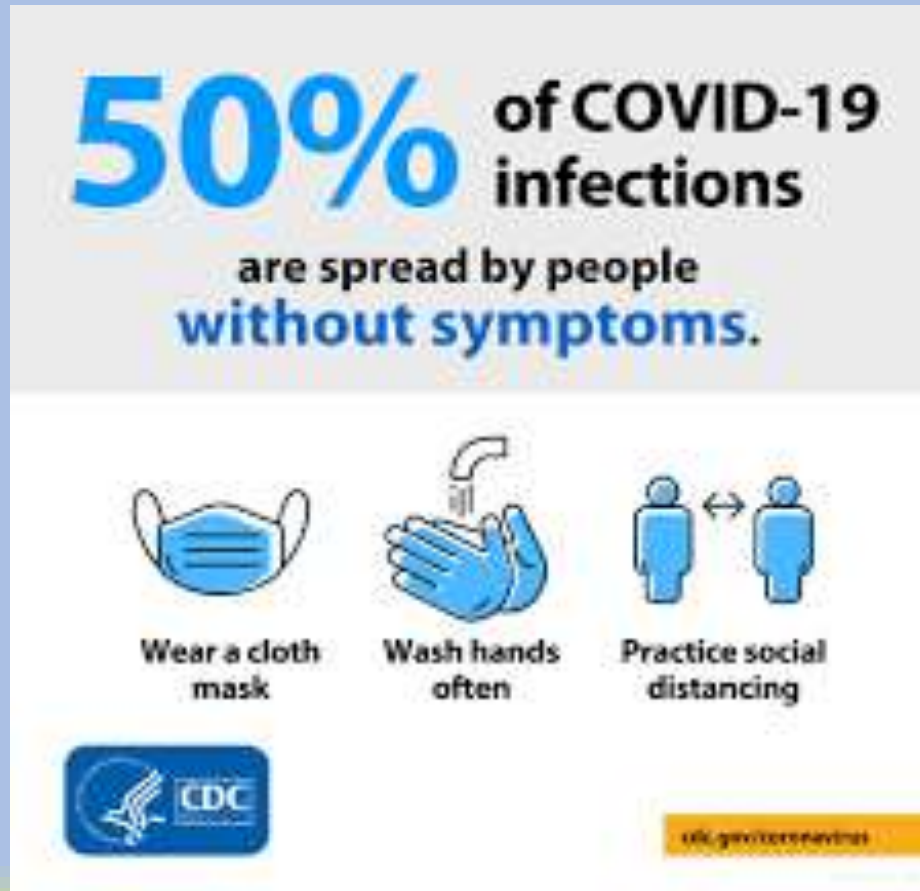
# Does COVID-19 affect the heart? (Continued)



- COVID-19 can weaken blood vessels and cause them to leak.
- Leaking blood vessels can create problems with the liver and kidneys.

Image Source: <https://health.clevelandclinic.org/covid-19-can-also-damage-your-heart-not-just-your-lungs/>

# Does everyone with COVID-19 infection have symptoms?



- Occasionally, some people will have no symptoms.
- People who have no symptoms can still transmit the virus.



# What is long COVID?



- “Long COVID” is the term used for symptoms that persist for more than 28 days after an initial infection.

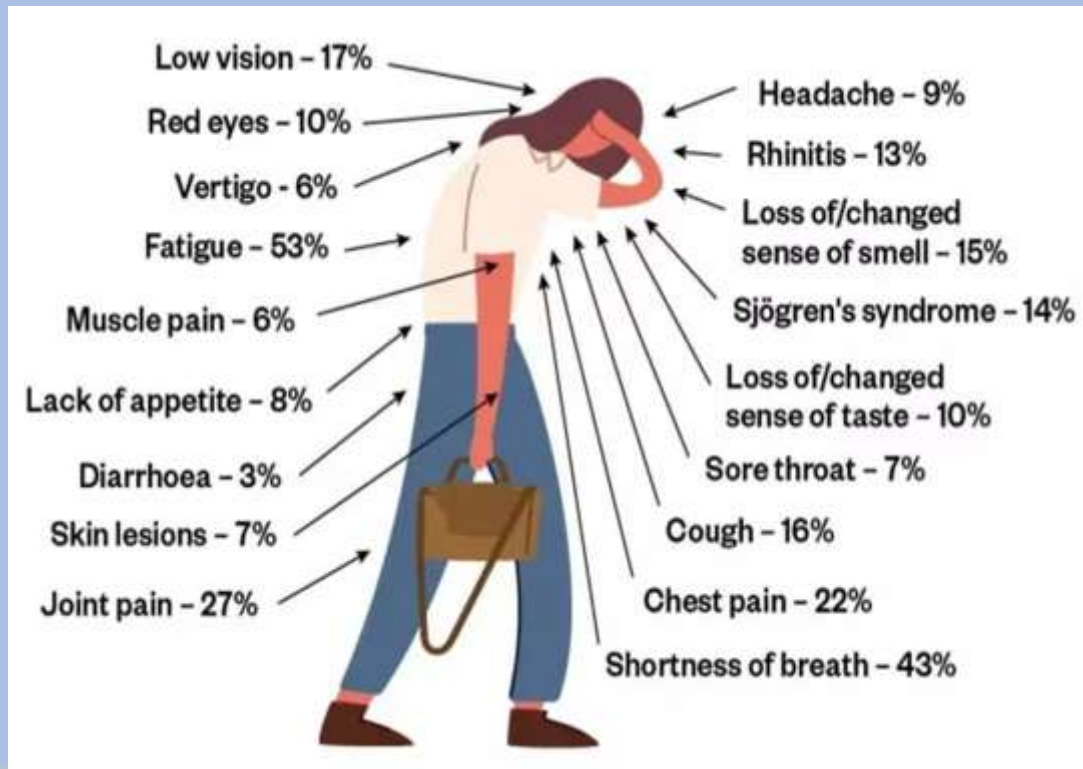
# What is long COVID? (Continued)



- Some people experience a range of new or ongoing symptoms that can last weeks or months after first being infected.



# What are some symptoms of long COVID?



A few examples of the symptoms people with long COVID report include:

- Difficulty breathing
- Tiredness
- Difficulty concentrating
- Chest pain
- Pins-and-needles feeling
- Sleep problems
- Fast beating or pounding heart

# Enrique and Marisol (revisited)

Enrique and Marisol work at the Green Apple Orchard.

Enrique believes that COVID-19 is the same as the flu. He says that he is safe because he eats a lot of garlic. He also says that he heard that people should spray their bodies with bleach to protect themselves from it. He says that washing your clothes every day will kill the virus.

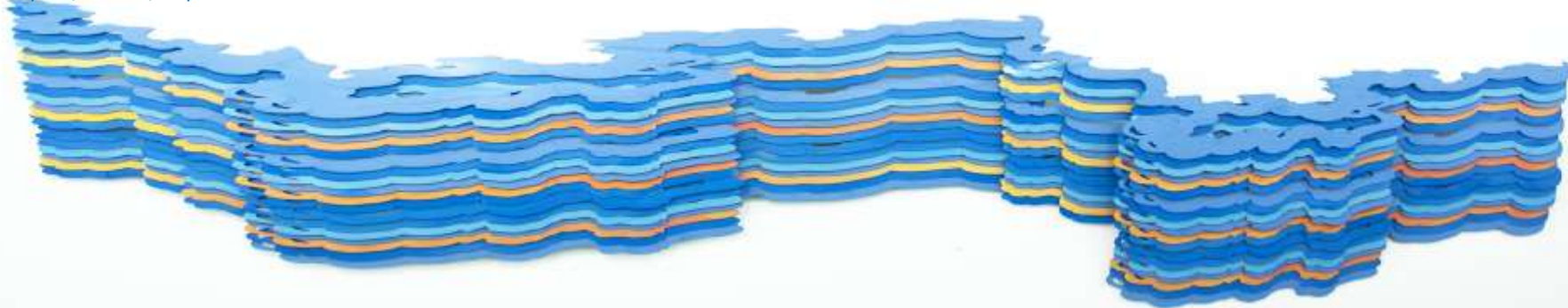
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How would you now advise Marisol?

What would you say to Enrique?

# Transmission

Image source: <https://www.artsy.net/artwork/katy-stone-transmission>



# Gabriel and Marisol's Problem

Gabriel and Marisol work at the Green Apple Orchard. They work next to each other. They sort apples on a conveyor belt.

Marisol tells Gabriel that she is worried about COVID-19.

Gabriel tells Marisol not to worry. He tells her that COVID-19 infection is transmitted through mosquito bites. He offers her some mosquito repellent. He also tells her that drinking alcohol will prevent COVID-19 infection.

What should Marisol say to Gabriel?

# How does COVID-19 usually spread?



- It spreads from contact with an infected person.
- It can spread through close contact. The CDC defines “close contact” as 15 minutes or more of contact within six feet of an infected person.

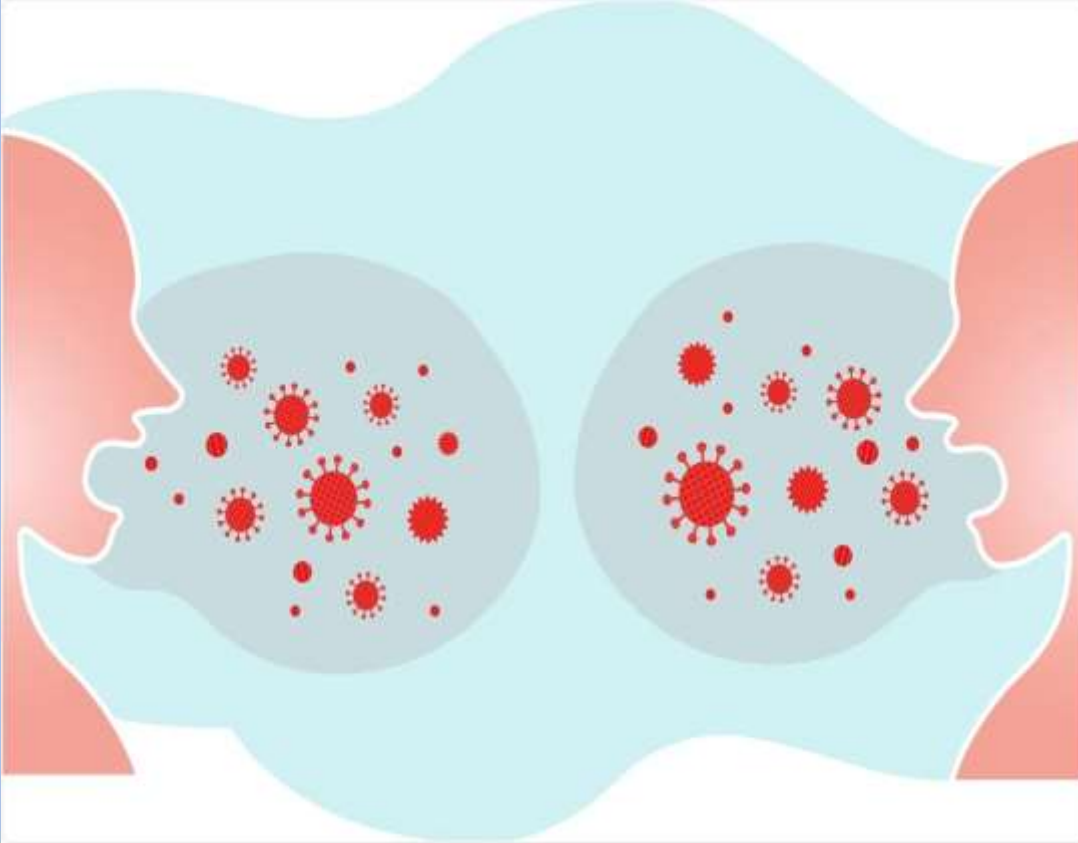


# How does COVID-19 usually spread? (Continued)



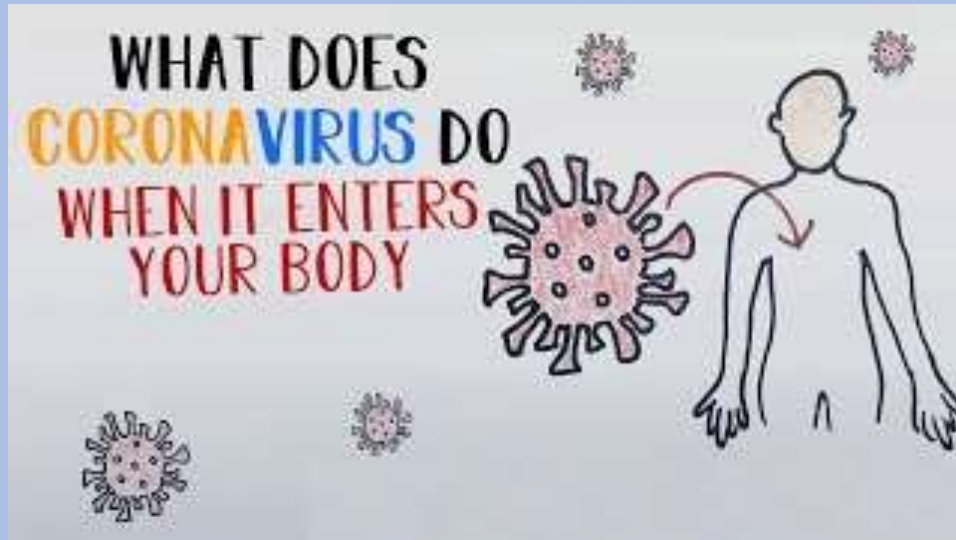
- It spreads mostly in crowded settings.
- It spreads easily in closed spaces with poor ventilation.

# How does contact with an infected person transmit the virus?



- It spreads through contact with an infected person.
- The virus is expelled into the air when an infected person breathes, talks, coughs, sneezes or sings.

# How does the SARS-CoV-2 virus enter the body?

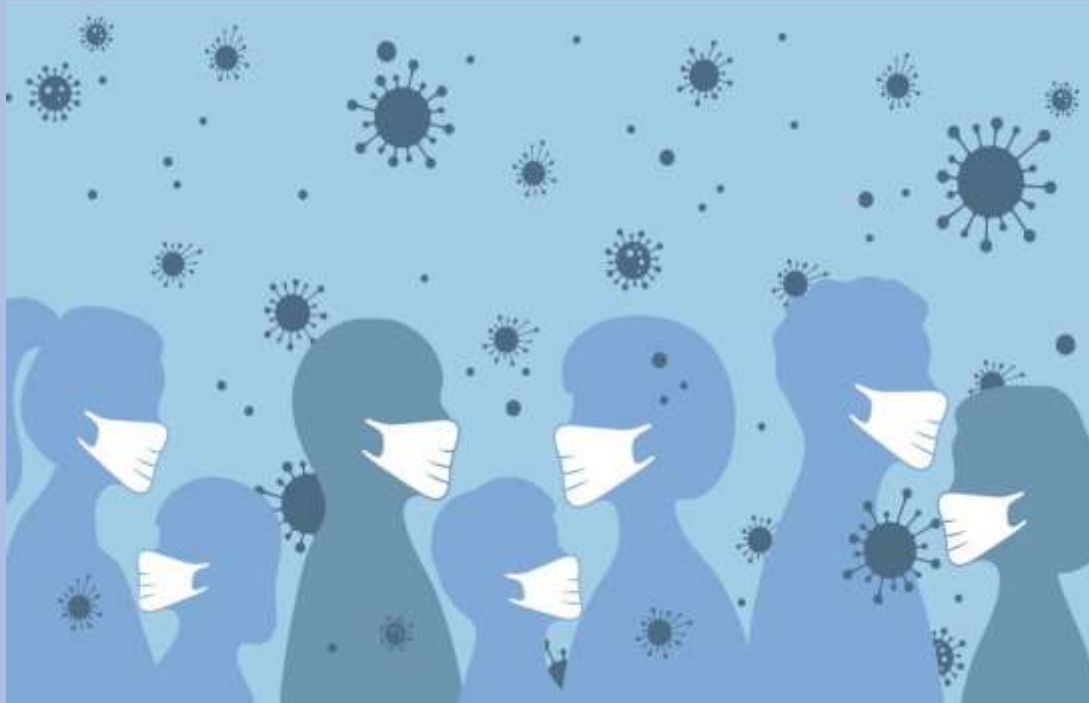


- The virus enters the body through the eyes, nose, or mouth.
- After it enters the body, the virus progresses into the lungs.

Image Source: <https://www.youtube.com/watch?v=T8ecKS5G1kU>



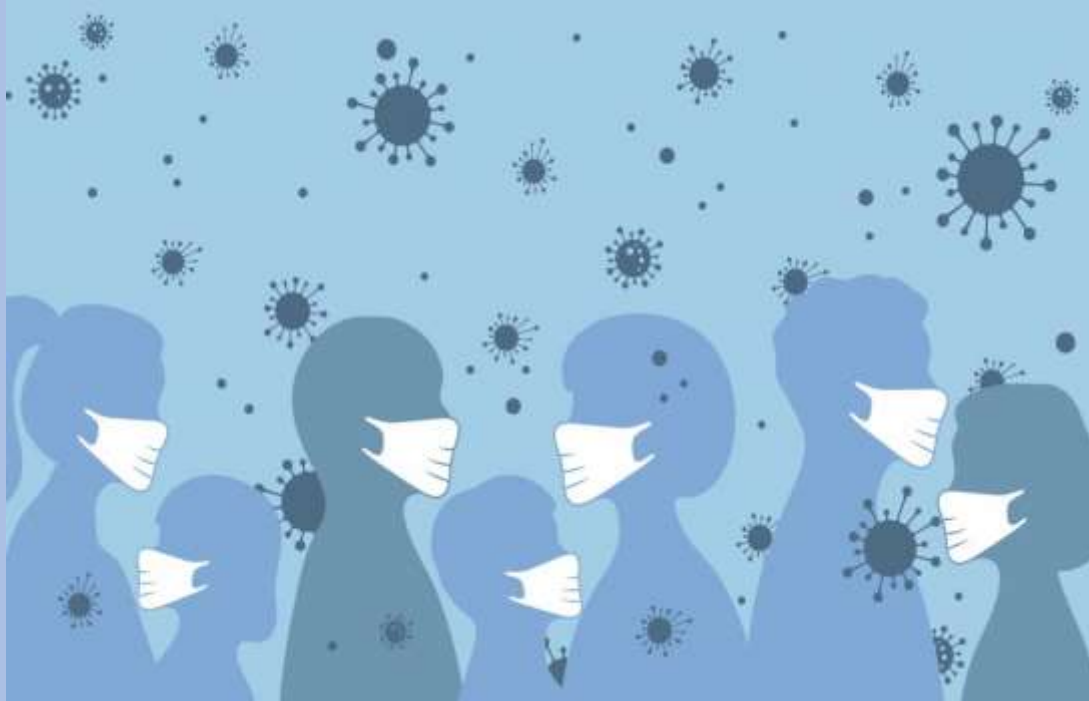
# How does the virus spread through the air?



- When an infected person breathes, talks, coughs, sneezes or sings liquid particles are expelled into the air.
- The particles carry the virus and transmit the infection.
- Larger particles are called droplets.

Image Source: <https://ec.europa.eu/jrc/en/news/covid-19-how-better-understanding-airborne-transmission-key-break-chain-infection>

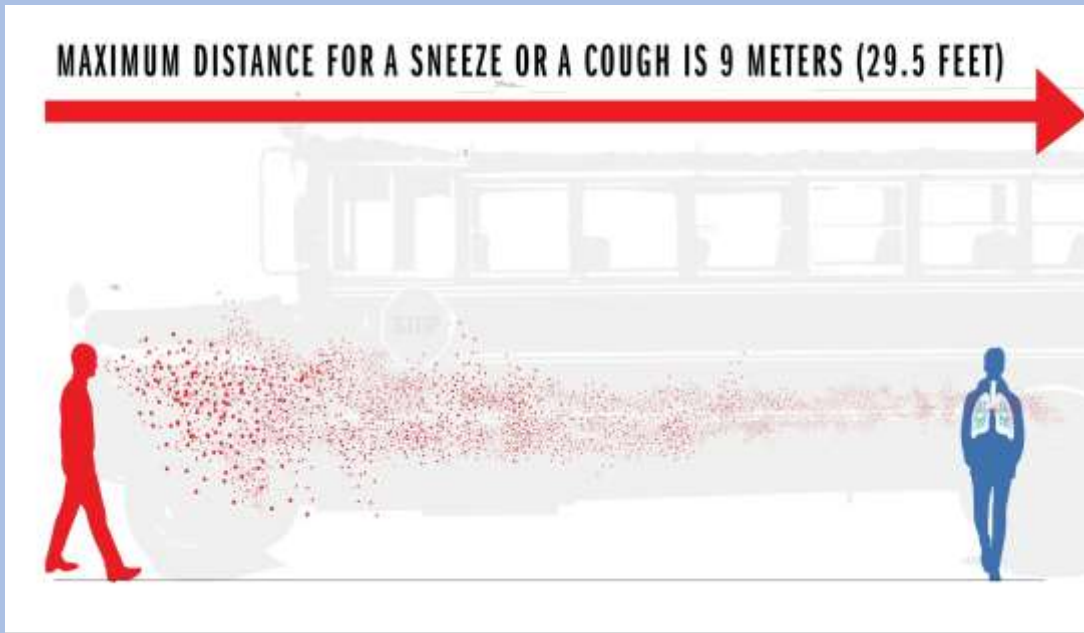
# How does the virus spread through the air? (Continued)



- Smaller particles are called aerosols.
- You can get infected when the particles come into contact with your eyes, nose or mouth.

Image Source: <https://ec.europa.eu/jrc/en/news/covid-19-how-better-understanding-airborne-transmission-key-break-chain-infection>

# Spread through the air (continued)



- Loud speech can emit thousands of droplets per second.
- A cough produces approximately 3,000 droplets.
- A sneeze produces approximately 40,000 droplets

Image Source: <https://time.com/5820118/coronavirus-questions-answered/>

# Why does the SARS-CoV-2 virus spread in enclosed spaces?



- Aerosols can float or drift around in the air.
- The aerosols can remain suspended in the air.
- The aerosols can travel more than six feet.

# What common activities put you at higher risk of COVID-19 infection?

**KNOW YOUR RISK DURING COVID-19**  
**How risky is it?**

LOW RISK	MEDIUM RISK	HIGH RISK
<b>LOWEST</b> <ul style="list-style-type: none"><li>Opening the mail</li><li>Getting restaurant takeout</li><li>Pumping gasoline</li><li>Playing tennis</li><li>Going camping</li></ul>	<b>MEDIUM</b> <ul style="list-style-type: none"><li>Going to the beach</li><li>Shopping at a mall</li><li>Having dinner at someone's house</li><li>Attending a backyard barbecue</li></ul>	<b>HIGH</b> <ul style="list-style-type: none"><li>Going to a salon or barber shop</li><li>Eating inside at a restaurant</li><li>Attending a wedding or funeral</li><li>Traveling by plane</li><li>Playing basketball or football</li><li>Hugging a friend</li><li>Shaking hands with a friend</li></ul>
<b>LOW</b> <ul style="list-style-type: none"><li>Grocery shopping</li><li>Riding bicycles with others</li><li>Walking/running with others</li><li>Playing golf</li></ul>	<b>MEDIUM-HIGH</b> <ul style="list-style-type: none"><li>Sending kids to school or daycare</li><li>Sending kids to camp</li><li>Working a week in an office bldg.</li><li>Swimming in a public pool</li><li>Visiting an elderly person's home</li></ul>	<b>HIGHER</b> <ul style="list-style-type: none"><li>Eating at a buffet</li><li>Working out at a gym</li><li>Going to an amusement park</li><li>Going to a movie theater</li></ul>
<b>MEDIUM-LOW</b> <ul style="list-style-type: none"><li>Staying at a hotel for 2 nights</li><li>Waiting in a doctor's lobby</li><li>Going to a library or museum</li><li>Eating outside at a restaurant</li><li>Walking in a busy downtown</li><li>An hour at a playground</li></ul>		<b>HIGHEST</b> <ul style="list-style-type: none"><li>Attending a large or crowded music concert</li><li>Going to a sports stadium</li><li>Going to a bar</li><li>Attending a large or crowded religious service</li></ul>

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**PUBLIC Health**  
DEPARTMENT

- Working next to someone who is infected.
- Living with someone who is infected.
- Travelling in a car or van with someone who is infected.
- Talking with an infected person within 6 feet and for longer than 15 minutes.

# Gabriel and Marisol's Problem (revisited)

Gabriel and Marisol work at the Green Apple Orchard. They work next to each other. They sort apples on a conveyor belt.

Marisol tells Gabriel that she is worried about COVID-19.













Gabriel tells Marisol not to worry. He tells her that COVID-19 infection is transmitted through mosquito bites. He offers her some mosquito repellent. He also tells her that drinking alcohol will prevent COVID-19 infection.

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How would you *now* advise Marisol?  
What would you *now* say to Gabriel?



# Question number 1

COVID-19 vs. Flu		
SYMPTOMS	COVID-19*	FLU
 <b>Fever</b>	Common (measured at 100°F or higher)	High (100-102°F), can last 3-4 days
 <b>Headache</b>	Sometimes	Intense
 <b>General aches &amp; pains</b>	Sometimes	Common, often severe
 <b>Fatigue &amp; weakness</b>	Sometimes	Common, often severe
 <b>Extreme exhaustion</b>	Sometimes (progresses slowly)	Common (starts early)
 <b>Chills/Repeated shaking</b>	Sometimes	Sometimes
 <b>Stuffy, runny nose &amp;/or sneezing</b>	Rare	Sometimes
 <b>Sore throat</b>	Rare	Common
 <b>Cough</b>	Common	Common, can become severe
 <b>Shortness of breath</b>	In more serious infections	Rare
 <b>Loss of taste and smell</b>	Sometimes	Rare
 <b>Vomiting and diarrhea</b>	Sometimes	Sometimes**

*\*Information is still evolving  
\*\*Sometimes for children*

*Source: CDC, WHO, KDHE*

COVID-19 is another name for the flu?

True

False

# Answer to question # 1 - False

COVID-19 is a new infectious disease. It is caused by a different virus from the flu.





## Question number 2



COVID-19 first enters the body through the skin.

True

False

# Answer to question # 2 - False

The SARS-CoV-2 virus first enters the body through the nose, mouth, or eyes.

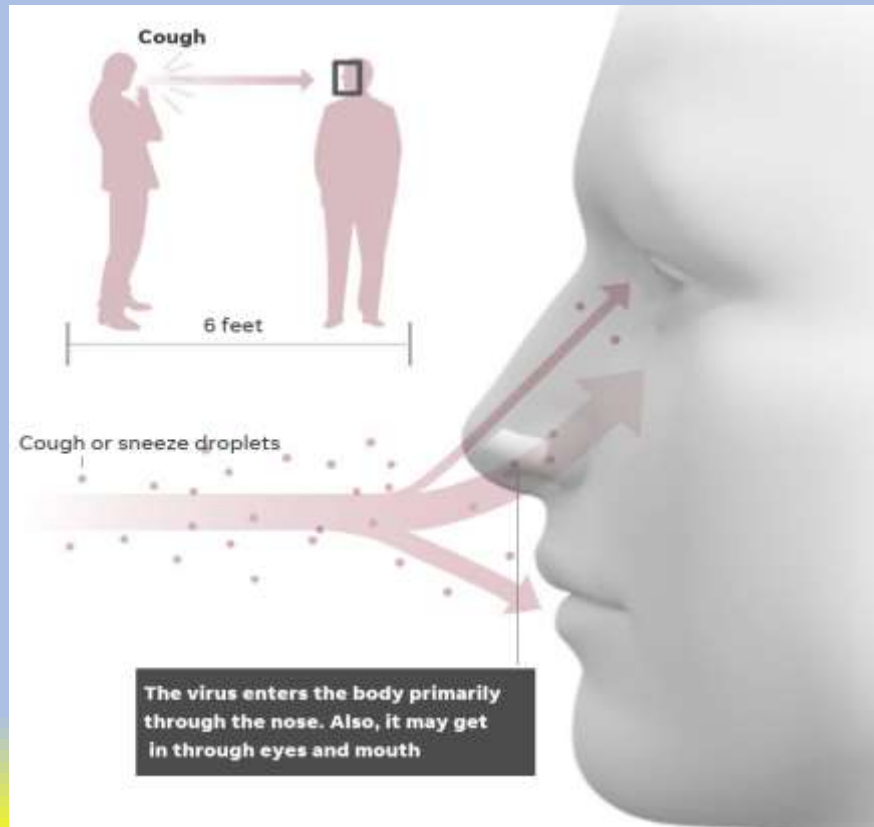


Image Source: <https://www.usatoday.com/in-depth/news/2020/03/13/what-coronavirus-does-body-covid-19-infection-process-symptoms/5009057002/>

# Question number 3



Image Source: <https://www.cam.ac.uk/research/news/free-online-tool-calculates-risk-of-covid-19-transmission-in-poorly-ventilated-spaces>

The SARS-CoV-2 virus is easily transmitted in closed and poorly ventilated spaces.

True

False

# Answer to question #3 - True

True. The virus can remain suspended in the air in closed and poorly ventilated spaces. People can be infected when they breathe it in.



# Question number 4



You should remain a minimum of 6 feet away from someone and limit the time you speak in-person with someone.

- True
- False

# Answer to question 4 - True

True. Having person to person contact less than six feet apart and for longer than 15 minutes increases your risk of infection.

