

Overview: COVID-19 Disease



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February 10, 2021; updated March 4, 2022

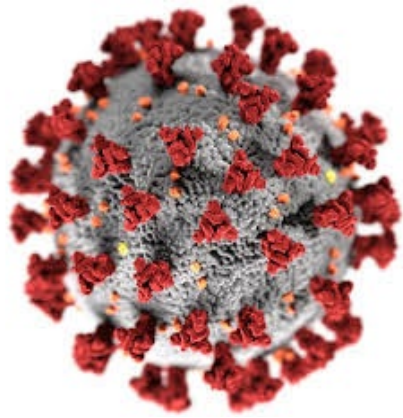
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Objectives

At the end of this session, the learner will be able to describe:

- Signs and symptoms of COVID-19 disease
 - When to seek emergency medical attention
 - Groups at high risk for severe COVID-19 disease
 - How to protect yourself and others from COVID-19
 - Treatments for COVID-19
 - COVID-19 variants
-



SARS-CoV-2 virus (COVID- 19 disease)

SARS-CoV-2, the virus that causes COVID-19 disease affects the respiratory system primarily, but other organ systems may also be impacted

Transmission is through droplet and respiratory spread but may also include indirect contact with contaminated objects

People closer than 6 feet from the infected person are most likely to get infected

COVID-19 disease symptoms: can be mild to severe and develop 2-14 days after exposure

Fever or chills

Cough

Shortness of
breath or difficulty
breathing

Fatigue

Muscle or body
aches

Headache

Loss of taste or
smell

Sore throat

GI symptoms
(nausea, vomiting,
diarrhea)

Congestion or
runny nose

When to seek emergency medical attention

Look for emergency warning signs* for COVID-19. If someone is showing any of these signs, seek emergency care immediately:

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone

*This list is not all possible symptoms. Please call your medical provider for any other symptoms that are severe or concerning to you.

Symptoms of Coronavirus (COVID-19)

Know the symptoms of COVID-19, which can include the following:



Symptoms can range from mild to severe illness, and appear 2–14 days after you are exposed to the virus that causes COVID-19.

Seek medical care immediately if someone has Emergency Warning Signs of COVID-19

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone

This list is not all possible symptoms. Please call your healthcare provider for any other symptoms that are severe or concerning to you.



	Flu	Similarities between Flu & COVID-19	COVID-19
Caused by	Influenza virus		SARS-CoV-2
Spread by		<ul style="list-style-type: none"> • Tiny droplets from coughing, sneezing, and/or talking • Touching a surface or object that has the virus and then touching your mouth, nose, or eyes 	
Symptoms	<ul style="list-style-type: none"> • Not everyone has a fever • Most people show symptoms in 1 to 4 days 	<ul style="list-style-type: none"> • Fever/chills • Cough • Sore throat • Runny/stuffy nose • Muscle/body aches • Headache • Fatigue • Vomiting/diarrhea • Shortness of breath 	<ul style="list-style-type: none"> • Loss of smell/taste • COVID toes • Can take longer for someone to show symptoms (up to 5 days; range 2 to 14 days)
Spread and duration of illness	<ul style="list-style-type: none"> • Can last 7-10 days • Contagious from 1 day prior to 7 days after testing positive 		<ul style="list-style-type: none"> • Duration of illness varies • More contagious than flu • Contagious from 2 days prior to 10 days after testing positive



	Flu	Similarities between Flu & COVID-19	COVID-19
Complications	<ul style="list-style-type: none"> • Ear infections • Sinus infections • Pneumonia 	<ul style="list-style-type: none"> • Negatively impacts pre-existing chronic conditions like asthma, heart disease, and diabetes • May require hospitalization • Can be deadly 	<ul style="list-style-type: none"> • Blood clots • Complications with major organs • MISC • Post COVID symptoms (fatigue, etc.)
Who is at high risk for complications?	<ul style="list-style-type: none"> • 65+ • Young children • Individuals with chronic illnesses 	Everyone	Individuals with: <ul style="list-style-type: none"> • Chronic illnesses • Obesity • Immunosuppression
Is there a vaccine?	YES		YES

COVID-19 variants (1)

- Viruses constantly change by mutating, which is how they spread and survive—some emerge and then disappear, while others persist. These changes cause viral variants.
 - Multiple COVID-19 variants are circulating globally
 - CDC is studying them quickly to understand whether the variants
 - Spread more easily from person to person
 - Cause milder or more severe disease in people
 - Are detected by currently available viral tests
 - Respond to medicines currently being used to treat people for COVID-19
 - Change the effectiveness of COVID-19 vaccines
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COVID-19 variants (2)

- New variants of the virus are expected to occur.
 - Slowing the spread of the virus, by [protecting yourself and others](#), can help slow the emergence of new variants.
 - The Omicron variant causes more infections and spreads faster than the original [SARS-CoV-2](#) strain of the virus that causes COVID-19.
 - The Delta variant may spread more easily than other variants.
 - CDC is working with state and local public health officials to [monitor the spread of all variants](#).
 - Getting [a vaccine](#) reduces your risk of severe illness, hospitalization, and death from COVID-19. [Staying up to date on your COVID-19 vaccines](#), which includes getting a booster when eligible, further improves your protection.
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Increased risk factors for COVID-19 disease

Groups at increased risk for severe illness

- Some people are more likely than others to become severely ill.
 - Severe illness means that a person with COVID-19 may need: hospitalization, intensive care, a ventilator to help them breathe or they may even die.
 - People at increased risk, and those who live or visit with them, need to take precautions to protect themselves from getting COVID-19.
 - Higher risk groups include:
 - Older adults
 - People with certain medical conditions
 - Pregnant and recently pregnant people
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Underlying conditions with higher risk of severe COVID-19 outcomes

Evidence shows a higher risk for severe COVID-19 outcomes for people with the following conditions*:

- Cancer
- Cerebrovascular disease
- Chronic kidney disease
- Chronic lung diseases
- Chronic liver diseases
- Cystic fibrosis
- Diabetes mellitus (type 1 and 2)
- Disabilities
- Heart conditions (heart failure, coronary artery disease, or cardiomyopathies)
- HIV (Human Immunodeficiency Virus)
- Mental health disorders (mood disorders, schizophrenia spectrum disorders)
- Neurologic conditions limited to dementia
- Obesity (BMI ≥ 30 kg/m²)
- Primary immunodeficiencies
- Pregnancy and recent pregnancy
- Physical inactivity
- Smoking, current and former
- Solid organ or hematopoietic cell transplantation
- Tuberculosis
- Use of corticosteroids or other immunosuppressive meds

*Visit the CDC website for more details

Increased risk for severe illness from COVID-19 during pregnancy (1)

- Although the overall risks are low, people who are [pregnant or recently pregnant](#) are at an increased risk for severe illness from COVID-19 compared with people who are not pregnant.
- Severe illness includes illness that requires hospitalization, intensive care, need for a ventilator or special equipment to breathe, or illness that results in death.
- They are also at increased risk of preterm birth and stillbirth and might be at increased risk of other pregnancy complications.



Increased risk for severe illness from COVID-19 during pregnancy (2)

Other factors can further increase the risk for getting severely ill from COVID-19 during or recently after pregnancy, such as:

- Having certain [underlying medical conditions](#)
- Being older than 25 years
- Living or working in a community with high numbers of COVID-19 cases
- Living or working in a community with low levels of COVID-19 vaccination
- Working in places where it is difficult or not possible to keep at least 6 feet apart from people who might be sick
- Being part of some racial and ethnic minority groups, which have been put at [increased risk of getting sick from COVID-19 because of the health inequities they face](#)

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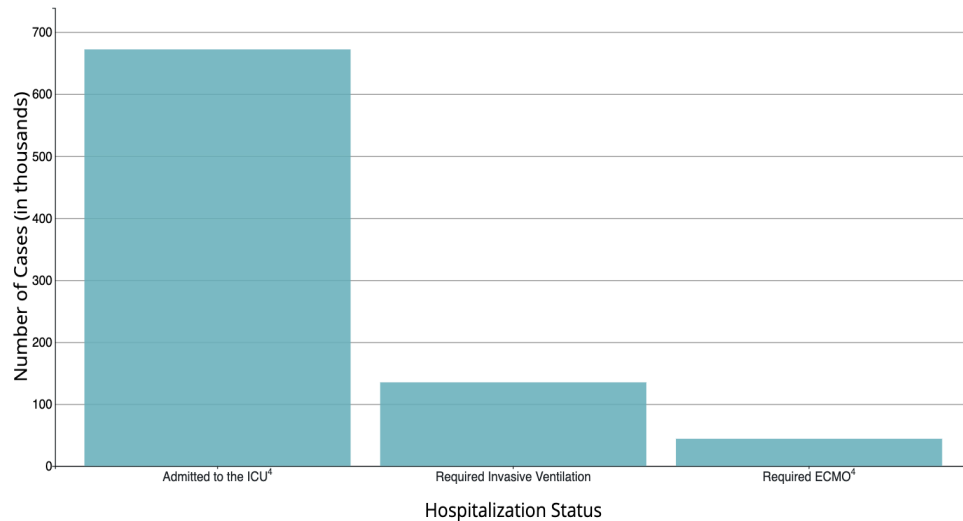
CDC Data: COVID-19 during pregnancy: severity of maternal illness

HOSPITALIZED CASES³

27,854

Pregnant Women with COVID-19 Admitted to the ICU, Who Required Invasive Ventilation, or Who Required ECMO, United States, January 22, 2020 - January 24, 2022

Data were collected from 166,935 women, but ICU admission data were only available for 17,667 (10.6%) women, invasive ventilation data were only available for 12,782 (7.7%) women, and ECMO data were only available for 13,439 (8.1%).



Pregnant Women¹ with COVID-19, United States, January 22, 2020 - January 24, 2022

TOTAL CASES¹
166,935

TOTAL DEATHS
267

Dangers of COVID-19 infection during pregnancy

- A study of pregnant women in Scotland, published in Jan 2022 in Nature medicine: 77.4% of COVID-19 infections, 91% COVID infections associated with hospitalizations, 98% of COVID infections associated with ICU admission and all baby deaths occurred in pregnant women who were unvaccinated.
 - Another study published in the Lancet in Jan 2022, COVID-19 infection in pregnancy led to an increased risk of preterm delivery and stillbirth.
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Post-COVID disease

Reinfections and COVID-19

- Reinfection with the virus that causes [COVID-19](#) means a person was infected, recovered, and then later became infected again. After recovering from COVID-19, most individuals will have [some protection from repeat infections](#). However, reinfections do occur after COVID-19. We are still learning more about these reinfections.
 - Ongoing studies of COVID-19 are helping us understand:
 - How often reinfections occur
 - Who is at higher risk of reinfection
 - How soon reinfections take place after a previous infection
 - The severity (how serious the infection is) of reinfections compared with initial (the first) infections
 - The risk of transmission to others after reinfection
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Post-COVID conditions

- **Post-COVID conditions** are a wide range of new, returning, or ongoing health problems people can experience **four or more weeks** after first being infected with the virus that causes COVID-19
 - As of July 2021, “long COVID,” also known as post-COVID conditions, can be considered a disability under the Americans with Disabilities Act (ADA). Learn more: [Guidance on “Long COVID” as a Disability Under the ADA, Section | HHS.govexternal icon](#)
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Post- COVID symptoms

- Difficulty breathing or shortness of breath
- Tiredness or fatigue
- Symptoms that get worse after physical or mental activities (also known as post-exertional malaise)
- Difficulty thinking or concentrating (sometimes referred to as “brain fog”)
- Cough
- Chest or stomach pain
- Headache
- Fast-beating or pounding heart (also known as heart palpitations)
- Joint or muscle pain
- Pins-and-needles feeling
- Diarrhea
- Sleep problems
- Fever
- Dizziness on standing (lightheadedness)
- Rash
- Mood changes
- Change in smell or taste
- Changes in menstrual period cycles

Multiorgan effects of COVID-19 (MIS-C and MIS-A)

- Multiorgan effects or autoimmune conditions over a longer time with symptoms lasting weeks or months after COVID-19 illness.
 - Multiorgan effects can affect many, if not all, body systems, including heart, lung, kidney, skin, and brain functions. Autoimmune conditions happen when your immune system attacks healthy cells in your body by mistake, causing inflammation (swelling) or tissue damage in the affected parts of the body.
 - While it is very rare, some people, mostly children, experience [multisystem inflammatory syndrome \(MIS\)](#) during or immediately after a COVID-19 infection. MIS is a condition where different body parts can become inflamed. MIS can lead to post-COVID conditions if a person continues to experience multiorgan effects or [other symptoms](#).
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MIS-C and MIS-A signs and symptoms

Ongoing fever PLUS more than one of the following:

- Stomach pain
- Bloodshot eyes
- Diarrhea
- Dizziness or lightheadedness (signs of low blood pressure)
- Skin rash
- Vomiting

When to seek Emergency Care

- Trouble Breathing.
- Pain or pressure in the chest that does not go away
- Confusion or unusual behavior
- Severe abdominal pain
- Inability to wake or stay awake
- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone
- This list does not include all possible symptoms. Please call a medical provider for any other symptoms that are severe or concerning to you.
- **Call 911 or call ahead to your local emergency facility:** Notify the operator that you are seeking care for someone who has or may have COVID-19.

Long COVID resources

- CDC pages for public on [post-COVID conditions](#) and [caring for people with post-COVID conditions](#)
 - CDC pages for healthcare providers on [post-COVID conditions](#) and [evaluating and caring for patients with post-COVID conditions](#)
 - Resolve to Save Lives' [Voices of Long COVID](#) campaign
 - CHOP video on [COVID-19 and MIS-C, MIS-A and long-haulers](#)
 - Johns Hopkins article on [long haulers and long-term effects of COVID-19](#)
 - US Dept. of Labor [resources for workers, employers, youth and policymakers](#)
 - HHS [guidance on long COVID as a disability](#)
 - Administration for Community Living [resources for people with long COVID](#)
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Protecting yourself from COVID-19 disease

How to protect yourself and others from COVID-19

- Get a [COVID-19 vaccine](#) as soon as you can. [Find a vaccine](#) here. [Everyone 12 years and older should get a booster shot when eligible.](#)
 - Consistently and correctly wear a [well-fitting mask that covers your nose and mouth](#) to help [protect yourself and others](#).
 - [Stay 6 feet apart from others](#).
 - Avoid crowds and poorly ventilated indoor spaces.
 - Know when to [test](#) to be informed and prevent spread to others.
 - [Wash your hands often](#) with soap and water and dry thoroughly. Use hand sanitizer with at least 60% alcohol if soap and water aren't available.
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PHCC mask resources- English/Spanish

¿Qué mascarilla debo usar?

Además de vacunarse y reforzarse, los expertos médicos le recomiendan mejorar su mascarilla si desea protección óptima.

Ninguna protección

Alguna protección

La máxima protección



Sin mascarilla o uso incorrecto

- La máscara debe cubrir la nariz y la boca y ajustarse bien a la cara sin dejar espacios
- No utilice máscaras que estén húmedas, sucias o dañadas
- No utilice mascarillas con válvulas de exhalación porque permiten la salida de partículas de virus

Mascarillas de tela

- Lavables y reutilizables. Se lavan las mascarillas por lo menos cada día o cuando se ensucien
- Varias capas de tejido transpirable



Si no tiene acceso a una máscara respiratoria de alta filtración, use dos máscaras. Las máscaras de una sola capa, como las bandanas y las pañuelos, son menos efectivas, así que use una máscara de tela con múltiples capas o use una máscara de tela sobre una máscara quirúrgica. Asegúrese de que la mascarilla se ajusta correctamente: los alambres de la nariz mejoran el ajuste.

Mascarillas quirúrgicas

- Desechable y de un solo uso
- Varias capas de tejido transpirable
- Proporciona protección contra las gotas grandes

Mascarillas de alta filtración *(Respiradores - N95, KN95, KF94)*

- Varía según el tipo de máscara, pero es reutilizable hasta 5 veces el cuidado apropiado
- Filtra hasta el 95% de las partículas del aire
- Se ajusta bien a la cara cuando se coloca correctamente (un poco de vello facial puede interferir con este sellado)
- Diseñadas y reguladas para cumplir las normas internacionales. Consulte las listas de fabricantes de confianza de los CDC y del Proyecto N95 para evitar las mascarillas falsificadas.

What Mask Should I Wear?

Along with getting vaccinated and boosted, experts recommend upgrading your mask if you want optimal protection.

No Protection

Some Protection

Most Protection



No Mask or Improper Use

- Mask should fit over your nose and mouth and be snug against your face with no gaps
- Don't use masks that are damp, dirty or damaged
- Don't wear masks with exhalation valves, which allow virus particles to escape

Cloth Masks

- Washable and reusable. Masks should be washed at least once a day or as soon as they become dirty
- Multiple layers of woven, breathable fabric

Surgical Masks

- Disposable, intended for one time use
- Multiple layers of non-woven material
- Provides protection against large droplets

High Filtration Masks *(Respirators - N95, KN95, KF94)*

- Varies by mask type, but reusable up to 5 times with proper care
- Filters up to 95% of particles in the air
- Seals tightly to the face when fitted properly (some facial hair can interfere with this seal)
- Designed and regulated to meet international standards. Check lists of trusted manufacturers from CDC and Project N95 to avoid counterfeit masks



If you don't have access to a high filtration respirator mask, double up. Single layer masks, such as bandanas and gaiters, are less effective, so wear a cloth mask with multiple layers or wear a cloth mask over a surgical mask. Be sure your mask fits properly—nose wires improve fit.

When to wear a mask

- [Wear a mask](#) with the best fit, protection, and comfort for you.
 - If you are not [up to date](#) with your COVID-19 vaccines and are ages 2 or older, you should wear a mask indoors in public.
 - In general, people do not need to wear masks when outdoors. In areas of [substantial or high transmission](#), people might choose to wear a mask outdoors when in sustained [close contact](#) with other people, particularly if
 - They or someone they live with has a [weakened immune system](#) or is at [increased risk for severe disease](#).
 - They are not [up to date](#) on COVID-19 vaccines or live with someone who is not up to date on COVID-19 vaccines.
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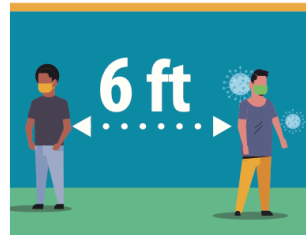
STOP THE SPREAD OF GERMS | COVID-19 |



Get a COVID-19 vaccine.



Cover your cough or sneeze with a tissue, then throw the tissue in the trash and wash your hands.



Stay at least 6 feet (about 2 arm lengths) from other people.



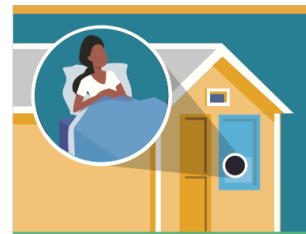
When in public, wear a mask over your nose and mouth.



Do not touch your eyes, nose, and mouth.



Clean and disinfect frequently touched objects and surfaces.



Stay home when you are sick, except to get medical care.



Wash your hands often with soap and water for at least 20 seconds.



[cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

COVID-19 video from El Salvador- Spanish

Video includes messages on maintaining good health to reduce the complications of COVID



Reduce las complicaciones por COVID-19 manteniendo un estilo de vida saludable

Aliméntate saludablemente con una dieta balanceada, para acercarte a tu peso ideal. Haz actividades al aire libre, así respiras aire fresco y recibes algo de sol, lo que tu cuerpo necesita para producir vitamina D. Toma por lo menos dos litros de agua al día para mantener tus riñones saludables. Reduce el estrés dedicándote tiempo a ti ...

www.youtube.com

Treatment for COVID-19 disease

Treatment for COVID-19 (1)

- If you test positive for COVID-19 and have [one or more health conditions](#) that increase your risk of becoming very sick, treatment may be available.
 - Contact a health professional right away after a positive test to determine if you may be eligible, even if your symptoms are mild right now.
 - **Don't delay: Treatment must be started within the first few days to be effective.**
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Treatment for COVID-19 (2)

For people at high risk of disease progression, the FDA has issued EUAs for a number of treatments for COVID-19.

- Monoclonal antibody treatments could help the immune system recognize and respond more effectively to the virus.
 - Oral antiviral medications that target specific parts of the SARS-CoV-2 virus can help reduce its multiplication and spread through the patient's body.
 - Some of these treatments may not be effective against the Omicron variant. Your healthcare provider will decide which, if any, of these treatments are appropriate to treat your illness.
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Thank You!!
