

# The COVID-19 Virus

How does the virus infect humans?

How do we prevent or manage infection?

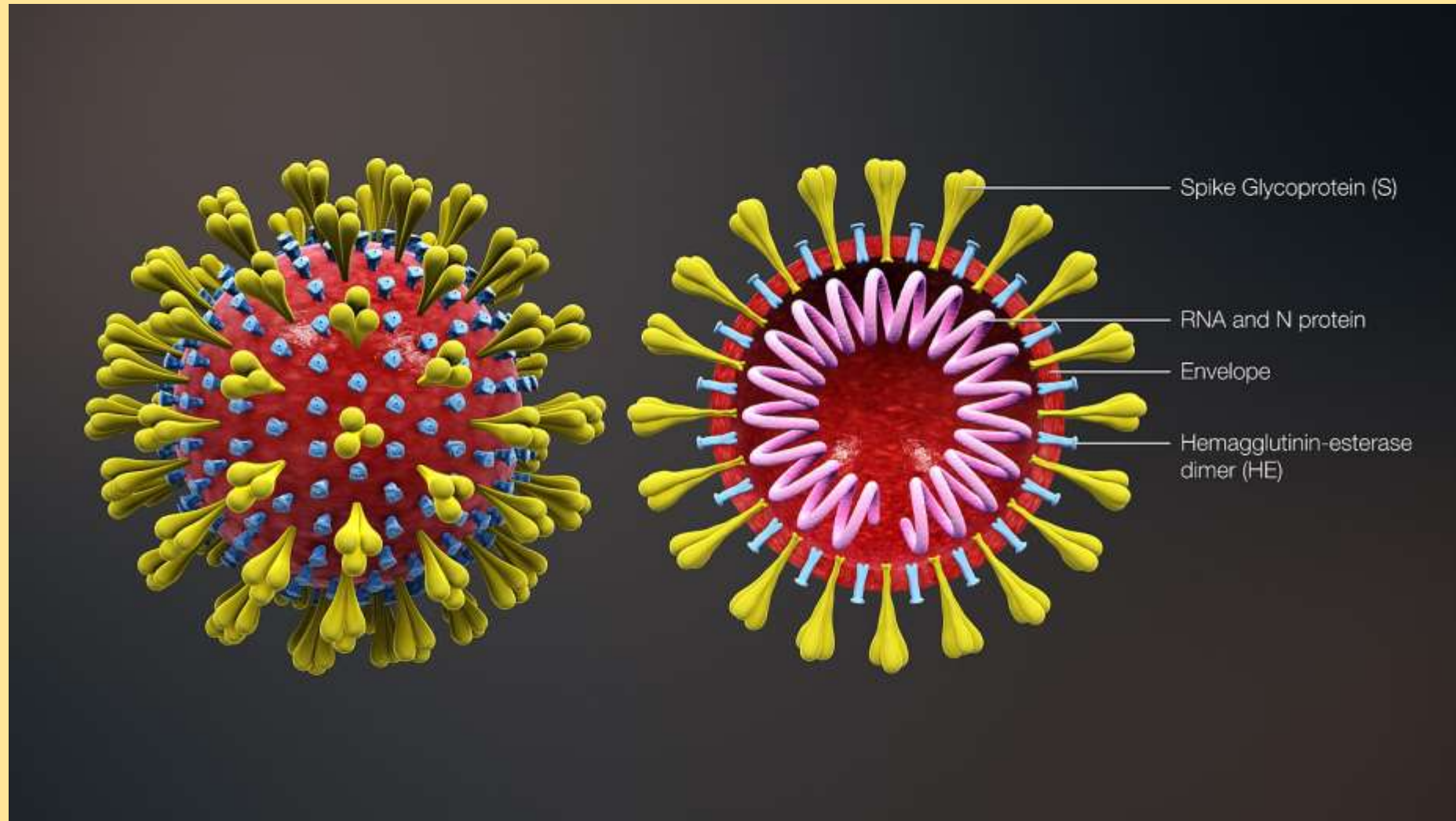
# Objectives

1. Describe the common ways that COVID-19 is transmitted, so that community members can identify lower and higher risk situations
2. identify effective strategies for preventing COVID-19
3. Demonstrate skills for setting the tone and acknowledging different perspectives and areas of concern when talking with patients about the COVID-19 vaccine.

# Main points

1. Viruses are not “alive” in the same way as other creatures
2. They can't reproduce themselves; instead they hijack their infected host's body to make and spread copies of the virus
3. With COVID-19, that means infecting our breathing passages so that we spread the virus when we exhale or cough
4. ... So we prevent spreading COVID-19 in 2 ways:
  - By not exposing our breathing passages to the virus:  
**MASKING AND SOCIAL DISTANCING**
  - By preparing our body to fight off the virus even if we are exposed -  
**VACCINATION**

# SARS-CoV-2



# COVID-19 is airborne!



To fight COVID-19:  
Be outside.  
The wind is your friend.  
Open the windows.  
Socially distance.



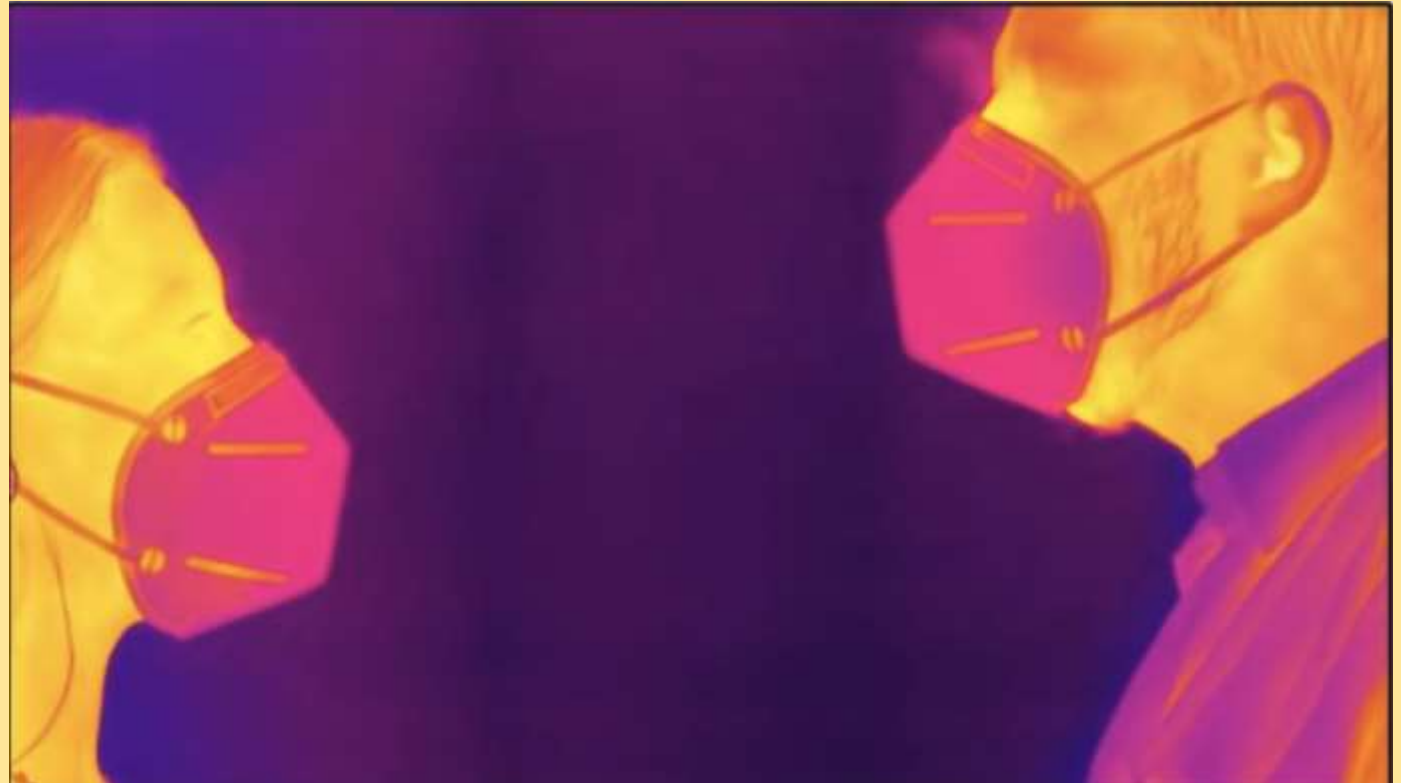
# CO2 flow during conversation



From Washington Post

<https://www.youtube.com/watch?v=xEp-Sdgl9AU>

# Conversational airflow with surgical mask and N95



From Washington Post

<https://www.youtube.com/watch?v=xEp-Sdgl9AU>

# Why is COVID-19 still around??

- The virus keeps mutating.
- The latest variants, B.4 and B.5, are more contagious and better at escaping our bodies' defenses.
- People are sometimes able to catch the newer strains more than once, which wasn't common with the original COVID strain.
- The current strains of COVID are also more likely to cause infections among vaccinated people than the original strains. That's because they are different enough from the strain that vaccines "trained" our bodies to recognize.



# Vaccines are the best tool we have

- **VACCINES REMAIN GOOD PROTECTION AGAINST DEATH FROM COVID-19**
- 2 boosters: 99% protection against death.
- 1 booster: 86% protection.
- Initial vaccines only, no boosters: 81% protection
- (<https://covid.cdc.gov/covid-data-tracker/#rates-by-vaccine-status>)
- In the Spring of 2022, unvaccinated people 50 and older were 42 times as likely to die from COVID-19 as people with 2 booster doses.
- A SECOND BOOSTER IS IMPORTANT FOR PEOPLE AT RISK:
- People 50 and older with initial vaccine doses and one 1 booster were 4x as likely to die from COVID as people with 2 booster doses.

# When should I wear a mask?

- When rules require it
- In crowded indoor spaces
- Around people at high risk from COVID-19 infection
  - “Who around you is most vulnerable?”
- When local infection rates are high
- Public transit

# Where can I not worry about masking?

- When you can feel the breeze on your face ... unless people are packed very close together.

# Talking about vaccines

- Resource guide available at <https://covid19community.nih.gov/resources/learning-about-vaccines>
- <https://covid19community.nih.gov/booster-QandA-social-media-toolkit>
- Available en English y Español

# Asking about vaccines

- “Hesitancy” umbrella is problematic:
  - Could describe anywhere on the spectrum from “Undecided” to “No Way!”
  - Doesn’t point to a specific direction for conversation
- Consider the “5 C’s”
  - Confidence: Trust/Mistrust in the vaccine system; *History of social exclusion*
  - Constraints: Ease/Difficulty getting vaccinated
  - Complacency: See / Don’t see self at risk from COVID-19
  - Calculation: Weighing risks and benefits to make the best decision
  - Collective responsibility: “I help protect others” If vs. “If everyone else is vaccinated, I don’t need it.”

# Treatments

- An expanding menu of anti-viral treatments is emerging.
- Most effective if started early in illness; first 5-7 days depending on the medication
- Access and coverage issues critical for those at highest risk from COVID-19

Treatment	Who	When	How
<a href="#">Nirmatrelvir with Ritonavi (Paxlovid)</a> Antiviral	Adults; children ages 12 years and older	Start as soon as possible; must begin within 5 days of when symptoms start	Taken at home by mouth (orally)
<a href="#">Remdesivir (Veklury)</a> Antiviral	Adults and children	Start as soon as possible; must begin within 7 days of when symptoms start	Intravenous (IV) infusions at a healthcare facility for 3 consecutive days
<a href="#">Bebtelovimab</a> Monoclonal antibody	Adults; children ages 12 years and older	Start as soon as possible; must begin within 7 days of when symptoms start	Single IV injection
<a href="#">Molnupiravir (Lagevrio)</a> Antiviral	Adults	Start as soon as possible; must begin within 5 days of when symptoms start	Taken at home by mouth (orally)



# “Long COVID”

Also known as PASC:

**Post-Acute Sequelae of COVID-19**

U.S. data from 273,618 pts

