



Inside Infection Control Participant Booklet

Welcome

Thank you for joining us. This booklet is a quick guide to the information presented in each topic, including topic overviews, learning objectives, key messages and content outlines, and space to write. Please keep it with you to use during the sessions.

About Project Firstline

Our goal at Project Firstline is to make sure you have the infection control knowledge that you need and deserve to keep yourself, your patients, your colleagues, and your family safe.

To stop the spread of infectious disease threats—including COVID-19—anyone working in a healthcare facility needs a basic knowledge of infection control and must understand and be ready to use infection control processes and procedures throughout their work day, including during every patient care activity and healthcare interaction.

CDC's Project Firstline is a collaborative of diverse healthcare, public health, and academic partners that is working to provide engaging, innovative, and effective infection control training for millions of frontline U.S. healthcare workers as well as members of the public health workforce.

Infection Control

- **Works**—The right practices can stop germs from spreading in healthcare facilities.
- **Is a Team Effort**—Infection control is most effective when all team members use it consistently.
- **Matters**—Infection control is a critical part of safe healthcare delivery in all healthcare settings.

SARS-CoV-2? COVID-19? What's the Difference?

Please note that the following three pages are all part of **Topic Two: The Basic Science of Viruses**.

Overview

Topic Two: The Basic Science of Viruses

Content summary: SARS-CoV-2 is the virus that causes the disease COVID-19.

Inside Infection Control Video: *SARS-CoV-2? COVID-19? What's the Difference?*

Learning Objectives

By the end of this episode, participants will be able to:

Differentiate one (1) core difference between SARS-CoV-2 and COVID-19

Key Educational Takeaways

- SARS-CoV-2 is the official, scientific name of the virus, the germ that causes the disease COVID-19.
- COVID-19 is the name of the disease—the fever, cough, chills and other symptoms that people have when they are infected with the virus SARS-CoV-2.

Content Outline

- SARS-CoV-2 is the virus that causes the disease COVID-19.
- We get infected with SARS-CoV-2 the virus, which makes us sick with COVID-19 the disease.
- Having one name for the virus, and another name for the disease it causes, happens in other places in medicine—like with the disease chickenpox, which is caused by the varicella zoster virus.
- Since SARS-CoV-2 is the official, scientific name of the virus that causes COVID-19, we use that name when we talk about what it does to make people sick, when test results are recorded, and often when we talk about vaccines.
- COVID-19 stands for COroNAVirus Disease 2019: CO - VI - D - 19.
- COVID-19 is the illness that people come down with fever, chills, cough, difficulty breathing, and all the other symptoms that people have.
- COVID-19 is the “disease,” and it’s how we mostly talk about the pandemic.
- We don’t want to get infected with SARS-CoV-2 or sick with COVID-19, and we don’t want anyone else to, either—that’s where infection control comes in.

Notes

What's a Virus?

Overview

Topic Two: The Basic Science of Viruses

Content summary: SARS-CoV-2 is a virus. Viruses have three main parts: genes, proteins, and an envelope.

Inside Infection Control Video: *What's a Virus?*

Learning Objectives

By the end of this episode, participants will be able to:

Identify, and explain to others, the three (3) main parts of a virus

Key Educational Takeaways

- All viruses have two parts:
 - ▶ Genes that contain all the information needed to make more virus copies
 - ▶ Proteins that protect the genes and help the virus spread
- Some viruses—SARS-CoV-2 is one of them—also have a third part: an envelope made of special fats that protects the genes and proteins.

Content Outline

- If we know a little bit about viruses, then we can understand how it travels between people and makes us sick, and why the things we do for infection control work to stop this from happening.
- COVID-19 is caused by a virus: SARS-CoV-2.
- Viruses use living things, including people, to make copies of themselves, and then keep spreading from one living thing to another.
- All viruses have genes that contain all the information needed to make more virus copies, like an “instruction booklet” or a “blueprint.”
- Viruses have proteins that come together to create a shell that protects the “blueprint” genes.
- Some proteins stay inside the shell and are only used when it’s time to build more virus copies, but other proteins can stick out from the shell and help the virus get from one place to another in the body, and also from one person to another.
- Some viruses—not all, but SARS-CoV-2 is one of them—have another protective layer covering the shell called an envelope.
- The envelope is made of fats with some proteins mixed in.
- Some proteins stick out of the envelope to help the virus get around and into cells, and also to help it spread from one person to another.

Notes

How Do Viruses Make You Sick?

Overview

Topic Two: The Basic Science of Viruses

Content summary: How do viruses make you sick?

Inside Infection Control Video: *How Do Viruses Make You Sick?*

Learning Objectives

By the end of this episode, participants will be able to:

- Describe three (3) steps showing how viruses use the cells of living things to make more copies of themselves
- Explain one (1) reason why infection control actions focus on keeping respiratory droplets out of the air and away from other people

Key Educational Takeaways

- Viruses are able to use cells in living things, including people, to make copies of themselves. It's how viruses spread within a body, and from person to person.
- When enough viruses have been able to get into our cells and make copies of themselves, the body recognizes that there's an infection, and our immune system revs up to fight off the virus.
- It is the activity of our immune system fighting the virus that makes us feel sick.

Content Outline

- Viruses are able to use cells in living things, including people, to make copies of themselves. It's how viruses spread within a body, and from person to person.
- Our bodies are made up of billions of microscopic cells.
- On the outside of our body's cells, there are tiny parts that stick out, that are made of proteins.
- These tiny parts act like a lock on a door: if you have the right "key" for the "lock," then you can get into the cell. If you don't, then you can't.
- Some viruses have a little part that sticks out on their outside of the virus that works like a false key that will fit the lock to at least one type of our cells.
- The virus's false key isn't an exact match to our cell's lock, but it's close enough that the virus can hack in and invade that type of cell.
- When the virus can get inside, it hijacks the cell's machinery and uses it to make more copies of itself.
- Those new virus copies, with their false keys on the outside, then break out of the infected cell and move on to infect new cells.
- In many cases, the cell that's been hijacked and infected is destroyed in the process.
- Our bodies don't mean for this to happen. The locks on our cells are for other things that our bodies naturally do.

- When enough viruses have been able to use their false keys to get into our cells and make copies of themselves, the body recognizes that there's an infection, and our immune system revs up to fight off the virus.
- Sometimes we know that our immune system is fighting something, because we feel sick – but sometimes we don't know it's happening at all.
- When someone who is infected with a respiratory virus, whether they feel sick or not, breathes out or talks, their respiratory droplets, with virus in them, are carried out.
- Those droplets with virus could reach other people, getting into their nose, throat, lungs, and eyes, and letting the virus use its key on their cells to start the process all over again.
- To keep this from happening, many of the things we do for infection control focus on keeping respiratory droplets out of the air and away from other people.

Notes



PROJECT FIRSTLINE

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for Healthcare Infection Prevention & Control

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