

Infection Control Micro-Learns User Guide

ABOUT THE MICRO-LEARNS

The Project Firstline Infection Control Micro-Learns are a series of guided infection control discussions that provide brief, on-the-job educational opportunities. Each micro-learn focuses on a single infection control topic and connects infection control concepts to immediate, practical value. Health care workers (HCWs) can easily apply the key points to their daily work and perform the recommended actions to keep germs from spreading.



USING THE MICRO-LEARNS

The micro-learns can be incorporated into existing opportunities where groups of health care workers gather, such as pre-shift “huddles” or team meetings. The sessions should be led or facilitated by an experienced team member with infection control expertise.

Each micro-learn package includes:

- **An adaptable discussion guide for the facilitator:** The discussion guide is not a script. Facilitators are encouraged to adapt the guide for their audience by including relevant and practical questions and ideas.
- **A job aid for the facilitator:** The visual job aid helps to reinforce the key messages of the micro-learn. Facilitators are encouraged to make the job aid available after the micro-learn session, such as in digital or hard copy form.

Notes for Facilitators

-  Before presenting a micro-learn, check the policies and protocols at your facility and adapt the content accordingly.
-  Build on your knowledge, experience, and awareness to connect the content to local context or relevant recent events so your audience can apply the concepts confidently.
-  The micro-learns reinforce infection control concepts when risks are observed in patients or in the patient environment, not necessarily in visitors or other staff members.

Carbapenem-Resistant Enterobacterales (CRE)

Micro-Learn Discussion Guide

Use the talking points below and accompanying job aid to engage your team in short, focused discussion.
Adapt to meet your needs.



INTRODUCE THE TOPIC

Share information about the topic that your audience should know:

- Carbapenem-resistant Enterobacterales (CRE) are a group of bacteria that cannot be effectively killed by carbapenems, the last line antibiotics.
- CRE are considered to be multidrug-resistant organisms (MDROs).
- **Resistant** - means the germs are not killed by medication and the infection continues to survive within a person.
- CRE infects wounds, urinary tract, respiratory tract, and the bloodstream.
- CRE can be transmitted if a patient has an active infection or colonized.
- CRE primarily colonizes the gastrointestinal tract.
- **Colonization** - patients can carry CRE on and in their body and do not show signs or symptoms of illness or infection.
- Over 30% of CRE are carbapenemase producing (CP).



EXPAND THE TOPIC

Share additional information about what your audience should know on the job:

- In 2017, CRE caused about 13,100 infections in hospital patients and about 1,100 deaths in the United States.
- Patients with indwelling medical devices (e.g., catheters) and patients taking long courses of antibiotics are at highest risk for CRE infections.
- To prevent CRE transmission in healthcare settings remember to:
 - Follow proper hand hygiene protocols
 - Adhere to proper transmission-based precautions
 - Thoroughly clean and disinfect patient rooms and equipment
 - Communicate prevention methods to staff, patients and visitors
 - When transferring a patient colonized or infected with CRE, notify accepting facilities and units of the patient's CRE history
 - Prescribe and use antibiotics appropriately

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DISCUSS WITH YOUR TEAM

Find out how your audience feels about the topic:

- Are you familiar with the transmission-based precautions required for a patient with CRE colonization or infection?
- Do you know what specific cleaning product in your facility is effective against CRE?
- Can you list a few ways CRE can spread in your facility?
- Do you understand why CRE are a threat in healthcare facilities?
- What ways can you prevent the spread of CRE?



WRAP UP AND REINFORCE

Reinforce key takeaways:

- CRE can cause outbreaks in healthcare settings, tend to be more difficult to treat, and have poorer patient outcomes.
- If you are caring for someone with a CRE, make sure to clean your hands and practice good hygiene.
- Protect your patients by wearing a gown and gloves for patient care according to the guidelines for your setting (i.e., Contact Precautions in acute care, Enhanced Barrier Precautions in long-term care).
- Thoroughly clean and disinfect any shared or reusable equipment with an EPA-registered disinfectant that kills CRE using the correct contact time.
- CRE cause different symptoms depending on infection site. Some symptoms could include: fever, chills, shortness of breath, cough, abdominal (belly) pain, pain when you pee, redness, swelling or itching at a surgical or injury site.

Carbapenem-Resistant Enterobacterales (CRE)

Micro-Learn Discussion Guide

Statistics

Carbapenems are last-line antibiotics used to treat serious multidrug-resistant infections.

In the United States, about 2 - 3% of Enterobacterales associated with healthcare-associated infections are resistant to carbapenems.

How Does it Spread?

Directly and indirectly through contaminated surfaces, objects, and/or medical equipment in healthcare facilities:

- Doorknobs, bedrails
- Blood pressure cuffs
- Glucometers
- Nursing carts / crash carts
- Missed hand hygiene moments
- Inappropriate use or not wearing PPE when indicated



Patient Risk Factors

Hospital patients and long-term care facility residents that are at risk:

- Received complex medical care
- Have invasive devices.
- Have severe or chronic wounds.
- Have exposures to contaminated sinks, drains, or toilets.
- Have taken certain antibiotics.
- Was admitted to a hospital outside the United States in the past 6 months.



Colonization

CRE primarily colonizes the digestive tract, but can also colonize other body sites. Patients may remain colonized with CRE for months to years without symptoms of illness. Since CRE colonization can go undetected, it contributes to the silent spread of resistant bacteria.

Colonization screening for carbapenemase-producing CRE is performed via rectal swab

Infection Control Practices for Reducing CRE in Healthcare Settings



**Healthcare workers
should always
practice proper
hand hygiene**



**Patient care
environment
should be properly
cleaned using EPA-
registered one-step
hospital-grade
disinfectants**



**Use
transmission-
based
precautions for
suspected and
confirmed
infections**



**Clean all mobile
and reusable
equipment after
patient use**



**Ensure timely
identification of
patients infected or
colonized with CRE**



**Family members
and patients
should be
encouraged to
perform hand
hygiene often**



**Patients should be
cohorted
according to
facility policy and
procedure**



**Provide ongoing
education and
observation-based
audits**