

CRE Prevention in Healthcare Facilities

CRE prevention in hospitals:

Hospitals place patients with CRE in “contact precautions” to help prevent the spread of CRE to other patients. Staff should follow contact precautions, which include:

- Placing patients in private rooms.
- Limiting movement of the patient outside of the room.
- Wearing gowns and gloves each time staff enter the patient’s room
- Cleaning and disinfecting medical equipment and patient care items before removing from patient’s room, or discarding immediately after use.
- Designating equipment for use on CRE patients only.
- Limiting staff caring for CRE patients.

Additional information for hospitals regarding when contact precautions for colonized or infected patients can be discontinued:

Currently there are no recommendations available on when isolation can be discontinued for those colonized or infected with CRE. Patients with histories of CRE colonization or infection should be placed in contact precautions with each hospital admission.

For more information please see: <http://www.dhs.wisconsin.gov/publications/P4/P42513.pdf>

CRE prevention in long-term care:

Residents of long-term care facilities need social interaction and cannot be placed in contact precautions indefinitely. Staff should use contact precautions when residents with histories of CRE have signs and symptoms of infection. Otherwise staff should care for patients by using “standard precautions,” which include:

- Practicing good hand hygiene.
- Using personal protective equipment, such as gloves, when in contact with body fluids, mucous membranes, or non-intact skin.
- Cleaning and disinfecting medical equipment and patient care items before use on the next resident.



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Carbapenem- Resistant *Enterobacteriaceae* (CRE)

Staff Education & Prevention Tips



What are Enterobacteriaceae?

Enterobacteriaceae are a family of bacteria commonly found in the human gut. There are several types of bacteria within the *Enterobacteriaceae* family, which include, but are not limited to *Escherichia*, *Klebsiella*, *Enterobacter*, *Salmonella*, *Shigella*, *Citrobacter*, and *Yersinia*. Many types of *Enterobacteriaceae* are needed for digestion and are usually harmless if they stay in the gut.

CRE stands for carbapenem-resistant *Enterobacteriaceae*. Specifically, three types of bacteria in the *Enterobacteriaceae* family — *Klebsiella*, *Enterobacter*, and *Escherichia* — have built up resistance to a group of antibiotics called “carbapenems.” This group of antibiotic is often used as the last line of treatment when other antibiotics are not able to treat infections caused by *Enterobacteriaceae*.

How do individuals get CRE infections?

CRE are spread from person to person by direct contact with an infected person or by contact with infected body fluids, such as wound drainage or stool. Hands can become contaminated after contact with infected persons or materials. If hands are not washed after contact, they can spread CRE.

Who is at risk for developing a CRE infection?

Healthy individuals do not usually get CRE infections. Patients who are hospitalized and who are treated with devices such as catheters and ventilators, or who are taking antibiotics, are at highest risk of becoming infected with CRE. Additional risk factors for developing CRE infections include organ or stem cell transplantation and long hospital stays. Residents of nursing homes are also at risk of acquiring CRE infections.

What is the difference between colonized patients and infected patients?

Colonized Patient - An individual who has CRE on or in their body but **does not** have any signs or symptoms of disease.

Infected Patient - An individual who has CRE on or in their body, who **does** have signs or symptoms of disease.



Why is CRE prevention in healthcare important?

Compared to infections with non-drug-resistant organisms, infections with CRE are more difficult to treat and cause increased deaths, healthcare costs and length of stay in the hospital. Additionally, carbapenem resistance can spread among various types of bacteria in the *Enterobacteriaceae* family. This can cause increased resistance if effective prevention measures are not used.

What steps should healthcare providers take to reduce transmission of CRE?

- Strictly adhere to facility hand hygiene policies. Use of alcohol hand sanitizers effectively inactivates CRE and is the preferred method for decontamination of hands when caring for CRE-infected patients. If hands are visibly soiled, wash with soap and water before using the alcohol gel.
- Promptly place patients with current or past histories of CRE infection into contact precautions. Place patients in private rooms and wear gown and gloves upon each entry to patient rooms. Movement of patients outside their rooms should be limited to medical purposes only.
- Immediately discard disposable patient care items and equipment after use or clean and disinfect re-usable items and equipment before removing from the patient room.



- Always notify receiving facilities or other healthcare services (e.g., home health) about a patient's history of CRE infection.