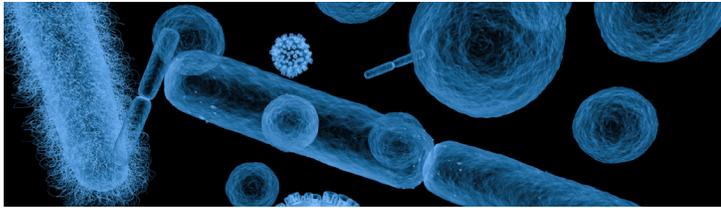


CRE Patient Fact Sheet



What are CRE?

Carbapenem-resistant Enterobacteriaceae (also called CRE) are a family of bacteria (a kind of germ) that is resistant to important antibiotic drugs that are used to treat infections. When bacteria are resistant to an antibiotic, it means that the drug will not work to treat infections caused by those bacteria.

Patients can carry CRE in their intestines (gut) without making them sick, this is called colonization. When people in hospitals and nursing homes are colonized, CRE can spread from their bodies and can get on other people or nearby objects, allowing the germs to spread to people around them.

What are carbapenem antibiotics?

Carbapenems are a group of antibiotics that are usually reserved to treat serious infections, particularly when these infections are caused by germs that are highly resistant to antibiotics. Sometimes carbapenems are considered antibiotics of last resort for some infections. Germs that become resistant to carbapenem antibiotics are called CRE.

How do CRE become resistant to carbapenems?

Some Enterobacteriaceae can no longer be treated with carbapenems because they have developed resistance to these antibiotics and are referred to as CRE. Resistance makes the antibiotics ineffective in killing the resistant germs. Resistance to carbapenems can be due to a few different mechanisms. One of the more common ways that Enterobacteriaceae become resistant to carbapenems is due to production of *Klebsiella pneumoniae* carbapenemase (KPC). KPC is an enzyme that is produced by some CRE that was first identified in the United States around 2001. KPC breaks down carbapenem antibiotics making them ineffective. Other enzymes, in addition to KPC, can breakdown carbapenems and lead to the development of CRE, but they are uncommon in the United States.

How are CRE spread?

To get a CRE infection, a person must be exposed to CRE germs. CRE germs are usually spread person to person through contact with infected or colonized (non-symptomatic) people, particularly with wounds or stool. CRE can cause infections when they enter the body, often through medical devices like ventilators, intravenous catheters, urinary catheters, or wounds caused by injury or surgery.

Who is most likely to get an infection with CRE?

Healthy people usually don't get CRE infections. CRE primarily affect patients in healthcare settings like hospitals and long-term care facilities, such as skilled nursing facilities, who are being treated for another condition/illness. CRE are more likely to affect those patients who have compromised immune systems or patients whose care requires devices like ventilators (breathing machines), urinary (bladder) catheters, or intravenous (vein) catheters. Use of certain types of antibiotics might also make it more likely for patients to get CRE.

Can CRE be treated?

Many people with CRE will have the germ in or on their body without it producing an infection. These people are said to be colonized with CRE, and they do not need antibiotics for the CRE. If the CRE are causing an infection, the antibiotics that will work against it are limited but some options are often available. In addition, some infections might be able to be treated with other therapies, like draining the infection. Strains that have been resistant to all antibiotics are very rare but have been reported.

What if I have CRE?

Follow your healthcare provider's instructions. If your provider prescribes you antibiotics, take them exactly as instructed and finish the full course, even if you feel better. Wash your hands with soap and water, especially after you have contact with the infected area and after using the bathroom. Follow any other hygiene advice your provider gives you.

I am caring for someone with CRE at home. Do I need to take special precautions?

CRE have primarily been a problem among people with underlying medical problems, especially those with medical devices like urinary (bladder) catheters or those with chronic wounds. Otherwise healthy people are probably at relatively low risk for problems with CRE. People providing care at home for patients with CRE should be careful about washing their hands, especially after contact with wounds or helping the CRE patient to use the bathroom or after cleaning up stool. Caregivers should also make sure to wash their hands before and after handling the patient's medical device, such as urinary catheters. This is particularly important if the caregiver is caring for more than one ill person at home. In addition, gloves should be used when anticipating contact with body fluids or blood.

Where can I get more information about CRE?

Contact your doctor or visit CDC's website at:
www.cdc.gov/hai/organisms/cre/cre-patients.html