Enterobacterales (carbapenem-resistant)

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About Carbapenem-resistant Enterobacterales

KEY POINTS

- People and animals can get carbapenem-resistant Enterobacterales (CRE) infections.
- CRE infections can be prevented.

MORE INFORMATION

For Everyone | Health Care Providers

Overview

Enterobacterales are a group of bacteria (germs) that are a normal part of the human and animal gut but can also cause infections. Carbapenem-resistant Enterobacterales (CRE) are germs resistant to one or several antibiotics called carbapenems.

In 2017, CRE caused about 13,100 infections in hospital patients and about 1,100 deaths in the United States. [1]

Types

CRE can include germs like *Escherichia coli (E. coli)* and *Klebsiella pneumoniae* (*K. pneumoniae*) if they develop resistance to carbapenems.

Signs and symptoms

- Pneumonia
- Bloodstream infections
- Urinary tract infections
- Wound infections
- Meningitis

Who is at risk

Patients in healthcare settings are at most risk for CRE, especially those who:

- Require devices like ventilators (breathing machines), urinary (bladder) catheters, or intravenous (vein) catheters.
- Are taking long courses of certain antibiotics.
- Have weakened immune systems.

Healthy people usually do not get CRE infections.

How it spreads

- Person-to-person contact from dirty hands, wounds, or stool (poop).
- Contaminated medical equipment and devices.

A few reports described spread between animals and humans and animal-to-animal spread.

In some cases, people or animals can carry the germs on or in their body without being infected, known as colonization.

Reducing risk

- Take antibiotics exactly as your healthcare provider recommends.
- Follow patient safety tips in healthcare settings.
- Keep your hands clean.

Treatment and recovery

CRE infections are difficult to treat. They are resistant to most antibiotics, including carbapenems, drugs often used to treat multidrug-resistant bacterial infections. Healthcare providers make treatment decisions for CRE infections on a case-by-case basis. If your provider prescribes antibiotics, take them exactly as instructed and finish the full course, even if you feel better.

Colonized patients often do not require treatment.

Animal impact

- Animals can get CRE from many sources, including colonized people or animals. The risk of pet owners getting CRE from their pet is low.
- Scientists are still working to understand how long animals carry CRE, but they may carry it longer if they are exposed or if they receive antibiotics. [1]
- Talk to your veterinarian about CRE and if your pet has a history of CRE.

Keep Reading:
Carbapenem-resistant Enterobacterales and Animals Basics

What CDC is doing

- Providing testing to identify antimicrobial resistance cases, measure resistance and track transmission in a healthcare setting through the Antimicrobial Resistance Laboratory Network.
- Tracking CRE infections through the Emerging Infections Program and National Healthcare Safety Network.
  - Data is also available on the AR & Patient Safety Portal.
- Working closely with health departments, other federal agencies, healthcare providers and patients to prevent infections caused by CRE and slow the spread of resistant germs.

Resources

- Reference Antimicrobial Susceptibility Testing (AST) Data

SOURCES

CONTENT SOURCE:
National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)

REFERENCES

1. CDC. Antibiotic Resistance Threats in the United States, 2019. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 2019.

SOURCES

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