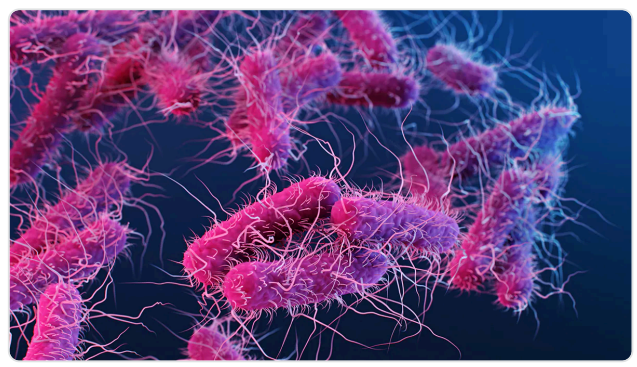
APRIL 11, 2024

About ESBL-producing Enterobacterales

KEY POINTS

- Extended-spectrum beta-lactamase (ESBL)-producing Enterobacterales are resistant to common antibiotics and may require complex treatments.
- Infections caused by ESBL-producing Enterobacterales can occur both in and outside of healthcare settings.
- Good hand hygiene and infection prevention practices can help reduce infection risk.



Overview

Enterobacterales are a group of bacteria that cause infections in healthcare settings and communities.

- Some species are also a normal part of the human gut.
- Some Enterobacterales produce enzymes called extended-spectrum beta-lactamases (ESBLs).
- Extended-spectrum beta-lactamases (ESBLs) break down certain antibiotics, making some infections caused by ESBL-producing Enterobacterales difficult to treat.

Types

ESBL-producing Enterobacterales include germs like *Escherichia coli (E. coli)* and *Klebsiella pneumoniae* (*K. pneumoniae*).

In 2017, there were an estimated 197,400 cases of ESBL-producing Enterobacterales among hospitalized patients and 9,100 estimated deaths in the United States.

Signs and symptoms

ESBL-producing Enterobacterales can cause several different infections, including urinary tract and bloodstream infections. These bacteria can also live in a patient without causing infection or symptoms, known as colonization.

Who is at risk

ESBL-producing Enterobacterales infections occur in healthcare settings like hospitals and nursing homes. These infections may also occur in healthy people.

After traveling abroad to places where these germs originate, people returning to the United States are at increased risk.

How it spreads

ESBL-producing Enterobacterales can spread from person to person through dirty hands and surfaces.

Outside the United States, they can spread through contaminated food or water. The role of food and water in the spread of these germs in the United States is not clear.

Reducing risk

Patients and caregivers should:

- Wash their hands often with soap and water or using alcohol-based hand sanitizer.
- Wash their hands after using the bathroom and before eating or preparing food.
- Remind people (including healthcare staff) to clean their hands before touching the patient or handling medical devices.
- Follow recommended practices for food and water safety when traveling abroad.

Healthcare providers should always follow core infection control practices to reduce the risk of spreading these germs to patients.

Treatment and recovery

ESBL-producing Enterobacterales infections are resistant to many prescribed antibiotics, such as penicillins and cephalosporins. These infections might require hospitalization and intravenous (IV) antibiotics.

Carbapenems are often used to treat serious ESBL-producing Enterobacterales infections, but resistance is on the rise for them, too. The more we rely on this important class of antibiotics, the greater the risk of Carbapenem-resistant Enterobacterales (CRE).

What CDC is doing

- Tracking ESBL-producing Enterobacterales 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 ESBL-producing Enterobacterales 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)

SOURCES

- https://www.cdc.gov/drugresistance/biggest-threats.html#extend