

***Klebsiella pneumoniae* Carbapenemase (KPC)-Producing Organisms**

What is KPC?

- Carbapenemase is an enzyme first found in *Klebsiella pneumoniae* isolates (hence, the name). However, it can be produced by other organisms including, *Serratia* spp., *Enterobacter* spp., *E. coli*, and *Salmonella enterica*.
- The production of these enzymes results in resistance to all penicillins, cephalosporins (i.e., cefepime, ceftriaxone), carbapenems (i.e., meropenem, ertapenem), and aztreonam.
- Treating infections caused by KPC-producing organisms is very difficult and very few antibiotics are effective. Often, these organisms are only susceptible to tigecycline and colistin. These antibiotics have significant side effects, are potentially inferior to more conventional therapies and can be costly.

Who is at risk of infections due to KPC-producing organisms?

- Further studies are needed to confirm risk factors. Available data describe patients with infections caused by KPC-producing organisms as:
 - Patients receiving long courses of broad spectrum antibiotics.
 - Patients with prolonged ICU stays.

What is being done to identify patients with infections caused by KPC-producing organisms?

- The Microbiology Lab has an algorithm in place for suspected KPC-producing organisms. If an organism is suspected to be a KPC producer, susceptibility testing for tigecycline and colistin is conducted.
- If an organism is a confirmed KPC producer, the patient's physician is notified as well as Infection Control.
- Infection Control Practitioners will contact the nurse(s) taking care of the patient as well as the Charge Nurse on the unit.
- Patients identified as having infections caused by KPC-producing organisms are placed on Contact Precautions.

What can I do for my patient with a KPC-producing organism?

- Strict infection control is absolutely necessary. These organisms are easy to transfer from patient to patient and are very difficult to treat.
- **Hand hygiene is key to prevent the spread of this KPC-producing organism and any other MDRO.**
- Practice proper Contact Precaution techniques.
 - Before entering the patient's room.
 - Perform hand hygiene.
 - Don gown and gloves.
 - Upon exiting patient's room.
 - Take off gloves then gown and dispose of properly.
 - Perform hand hygiene.

Am I at risk in taking care of patients with KPC-producing organisms?

- This type of infection generally occurs in more sick patients following long courses of broad spectrum antibiotics.
- As a healthy individual you are **not** at risk of “catching” this type of infection.
- However, without taking proper Contact Precautions, you are at risk of spreading KPC-producing organisms to other patients.