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## Extended Spectrum Beta-Lactamase (ESBL) Producer

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### What is ESBL?

ESBL (Extended Spectrum Beta Lactamase) producers are gram negative bacteria that produce a spectrum of enzymes called beta-lactamases that can break down many antibiotics.

These bacteria are commonly found in Europe and increasingly found in the USA. The prevalence in Canada to date has been low.

### What bacteria can produce ESBL?

ESBL resistance has been found in many gram negative organisms but has most commonly been identified in Klebsiella species and E. coli (Escherichia coli) bacteria.

### What is the concern with ESBL bacteria?

ESBL bacteria do NOT cause more illness or infections than their non-resistant cousins. ESBL bacteria often have resistance to a wide variety of antibiotics including all penicillins and cephalosporins.

This significantly reduces the number of antibiotics available to treat those who are ill with ESBL infections. ESBL bacteria are often difficult for laboratories to detect and recognize.

### How do you test for ESBL?

Generally, ESBL bacteria are identified in clinical specimens such as urine and sputum cultures. Rectal swabs are used to screen for ESBL in patients who are growing ESBL bacteria in other sites. As well, close contacts with these patients (i.e. roommates) should also be screened.

### How can ESBL organisms spread?

ESBL organisms can be spread directly by person to person contact and indirectly from contaminated surfaces to a person.

### What can I expect in the hospital if I have an ESBL producer?

- You will be put in a private room on Contact Precautions
- There will be signage placed on your door advising your visitors and staff of the protective equipment they need to wear when entering your room, in order to stop the spread of the illness. No one will know your admitting diagnosis or the reason you are on precautions.
- Visitors and individuals providing the patient with care will wear gowns /gloves to prevent the spread to others
- If you need to leave your room to go to another department for a test, you will be required to perform hand hygiene and put on a clean patient gown.
- Visitors will be reminded they must thoroughly perform hand hygiene with the hand sanitizers upon leaving the room and will be asked not to visit other patients during their visit.

### Do I need antibiotics for the treatment of the ESBL bacteria?

To clear ESBL bacteria antibiotics should only be used in the treatment of infections. In the elderly, the presence of ESBL bacteria in the urine, without signs of infection (i.e. asymptomatic) does not require antibiotics.

Reserving antibiotic use for the treatment of infections with ESBL bacteria helps to prevent

further resistance and allows for more treatment options should the need arise. All persons, especially those with ESBL bacteria, should therefore be given antibiotics carefully. This includes antibiotics given for other bacterial infections.

#### **What do I need to do at home?**

If you have ESBL at the time of discharge from hospital, the chance of spreading the illness to healthy people is small. But, we do recommend you practice the following:

- Everyone who might help you should perform hand hygiene after contact with you
- If you haven't completed your treatment, finish your treatment. Follow-up with your doctor may be required and may include collection of cultures and you will be told when you no longer have the bacteria
- It is important to inform your doctors, paramedics and personnel caring for you at home that you have or have a history of ESBL so they can take the necessary precautions when caring for you
- No special handling of trash/garbage is required
- No special precautions are required for visitors to your home

#### **Good hand hygiene is the most important infection control practice. When washing hands:**

- Use warm running water and soap.
- Lather and rub hands together, paying attention to fingertips, cuticles, around rings and under nails.
- Spend at least 15 seconds lathering and washing hands.
- Rinse hands thoroughly and pat dry.
- Turn off the taps with paper towel.
- Apply lotion several times throughout the day to help prevent dry, cracked skin (which can be an opening for infection).

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