

# Extended-Spectrum Beta-Lactamase (ESBL)-Producing Bacteria

## What is it?

- Extended-spectrum-beta-lactamase (ESBL)-producing bacteria are a group of bacteria that produce enzymes (beta-lactamases) that can break down many common antibiotics, making antibiotics ineffective.
- The significance of ESBL production in bacteria is that antibiotic treatment options may be limited for certain infections.

## How is it spread?

- Directly through touch if hands are unwashed after exposure to the bacteria. It spreads primarily via the hands of staff.
- May spread indirectly by contact with soiled equipment especially urine-care equipment such as catheters or urinals
- May spread by environmental surface contamination such as counters, sinks, doorknobs.

Risk factors for infection and colonization with ESBL include:

- prolonged and extensive treatments with certain antibiotics
- prolonged hospital or intensive care unit (ICU) stay
- severe illness especially neutropenia, organ transplants, those requiring total parenteral nutrition and neonates
- organ transplants
- presence of indwelling catheters especially urinary and arterial/central venous catheters
- mechanical ventilation
- renal replacement therapy
- household contact of a patient with ESBL
- Those previously colonized or infected with ESBL
- Those exposed to a facility with an ESBL outbreak

## What are the symptoms?

### ESBL colonization:

- For most people ESBL does not cause harm and does not cause any symptoms. These people are called carriers or are considered colonized.

### ESBL infection:

- For the few people who develop an infection, the symptoms are specific to what part of the body is infected. This can include symptoms of urinary tract, wound, pneumonia or blood infections.

## How is it treated?

- A rectal swab or stool sample can determine if you are colonized or infected. If indicated, a urine specimen can also be collected.
- Appropriate use of antibiotics is important to ensure effective treatments are available if the need should arise.
- People who are carriers of ESBL do not require antibiotic treatment since this could lead to increased antibiotic resistance. ESBL infections may require antibiotic treatment.

## How is it prevented?

Wash your hands thoroughly and often with warm soapy water for at least 15 seconds, especially:

- after going to the washroom
- before eating or preparing food
- before and after caring for someone who is sick
- If you are a staff or visitor and have contact with a patient or resident in a health care facility.

If you are a resident/patient in a healthcare facility:

- Ensure those providing care to you or visiting are washing their hands prior to contact with you.
- Do not take antibiotics unless it is required and ensure you take them exactly in the way they were prescribed.
- Routine cleaning and disinfection of common touch surfaces including faucets, door handles, bedrails, bathrooms, and other surfaces that people touch is important.

For further information, please contact the Communicable Disease Control

Program staff at 705-474-1400 or 1-800-563-2808, ext 5229.

References:

Provincial Infectious Diseases Advisory Committee. February 2013. *Annex to Routine Practices and Additional Precautions.*

*Annex A: Screening, Testing and Surveillance for Antibiotic-Resistant Organisms (AROs) in all Health Care Settings.*

Ontario Ministry of Health and Long-Term Care. Toronto: Canada.

Fact Sheet for WI-CDC-011 – 2018-08-10

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