

EXTENDED SPECTRUM BETA-LACTAMASE PRODUCING BACTERIA (ESBL)

Staff Fact Sheet

WHAT ARE ESBLs?

ESBLs are Gram-negative bacteria that produce an enzyme, beta-lactamase, that has the ability to break down commonly used antibiotics, such as penicillins and cephalosporins (including third generation) and render them ineffective for treatment. If ESBL-producing bacteria cause an infection, a different antibiotic may need to be used to treat the infection. People who carry ESBL-producing bacteria without any signs or symptoms of infection are said to be colonized. The commonest ESBL-producing bacteria are some strains of *Escherichia coli* and *Klebsiella pneumoniae*.

HOW ARE ESBLs SPREAD?

ESBLs are spread via direct and indirect contact with colonized/infected patients and contaminated environmental surfaces. ESBLs are not airborne. ESBLs are most commonly spread via unwashed hands of health care providers. ESBLs may also be spread within households.

RISK FACTORS FOR ESBL:

Risk factors for ESBL-producing bacterial acquisition include:

- Direct transfer from another hospital, nursing home, retirement home or other health care facility, including between facilities in the same health care corporation
- Any hospital, nursing home, retirement home or other health care facility admission in the past 1 year
- Patient receiving home health care services or hemodialysis
- Patient living in a communal living setting (e.g., shelter, halfway house)
- Patient who previously had an antibiotic-resistant organism (e.g., MRSA, VRE)

ESBL-producing bacteria are becoming more common in the community.

GOOD HAND HYGIENE PRACTICES:

Remind all staff and visitors to practice good hand hygiene before and after client/patient/resident contact/care. Health care staff should review the correct method of hand hygiene, as well as demonstrate the proper donning/removal of personal protective equipment (PPE) to clients/patients/residents, families and visitors.

Good hand hygiene practices means using alcohol-based hand rub or soap and running water for at least 15 seconds.

Hand hygiene should occur:

- Before client/patient/resident or environment contact
- Before performing aseptic procedures
- After care involving body fluids

- After client/patient/resident or environment contact

PREVENTION & CONTROL OF ESBLs:

1. Consistent use of Routine Practices with all patients/residents.
2. Admission screening:
 - Check for previous history of antibiotic-resistant organism. (ARO)
 - Complete the ARO screening tool for patients/residents
3. Initiate **Contact Precautions** for patients/residents with ESBL-producing bacteria:
 - Appropriate client/patient/resident placement
 - Gloves for all activities in the patient's room or bed space in acute care, or for direct care of clients/residents in long-term care and ambulatory/clinic settings
 - Long-sleeved gown for activities where skin or clothing will come in contact with the patient or their environment in acute care, or for direct care of clients/residents in long-term care and ambulatory/clinic settings
 - Dedicated equipment or adequate cleaning and disinfecting of shared equipment, with particular attention to management of urinary catheters and associated equipment
4. Notify the Infection Prevention & Control Professional or delegate to discuss the infection control management of client/patient/resident activities.
5. Precautions are **not** to be discontinued until reviewed by Infection Prevention and Control.
6. Additional surveillance specimens for colonization of client/patient/resident contact(s) may be required, as directed by Infection Prevention and Control.

FAMILY & VISITORS:

1. All families/visitors must practice good hand hygiene before and after leaving the client/patient/resident's room.
2. Families/visitors who provide direct care are to wear the same PPE as staff. "Direct care" is defined as providing hands-on care, such as bathing, washing, turning the client/patient/resident, changing clothes/incontinent pads, dressing changes, care of open wounds/lesions and toileting. Feeding and pushing a wheelchair are not classified as direct care.
3. Families/visitors should **not** help other patients/residents with their personal care. This may cause ESBL to spread.
4. Provide written information for clients/patients/residents that explains the precautions required.