Leamington Mennonite Home
Long Term Care

INFECTION CONTROL
POLICY AND PROCEDURE

CATEGORY: **Screening & Immunization**	**SUBJECT:** **ESBL Prevention & Control**	**SECTION:** **D** **POLICY:** **11**
DATE: **November 16, 2023**	**Administrator's Signature:** J. Lu!	
REVISION DATES:	**IPAC Lead's Signature:** L Coppola, RN.	

ESBL PREVENTION & CONTROL

PURPOSE:

To identify and prevent transmission of Extended Spectrum Beta-Lactamase (ESBL) producing bacteria.

POLICY:

The Leamington Mennonite Home will implement procedures to prevent and/or minimize the transmission of ESBL-producing bacteria between residents in the facility. This includes the use of Routine Practices at all times in the care of all residents, as well as Additional Precautions when indicated. LMH will manage cases of ESBL according to the most current best practice recommendations.

ESBL Acquisition and Transmission:

Risk factors for ESBL infection and colonization include:

- Prolonged and extensive treatment with third-generation cephalosporins or fluoroquinolones
- Prolonged hospital stay (particularly in ICU)
- Severity of illness (neutropenia, transplant recipients and those on TPN)
- Presence of indwelling catheters (especially urinary, arterial or central venous)
- Transplant recipients
- Renal replacement therapy

ESBL Transmission:

- ESBL is spread via direct and indirect contact with colonized/infected residents and contaminated environmental surfaces.
- ESBLs are not airborne. ESBLs are most commonly spread via unwashed hands of health care providers.

Screening for ESBL-Producing Bacteria:

- Local epidemiology should govern decision-making regarding routine screening of residents for ESBL-producing bacteria. If the local incidence of ESBL-producing bacteria is high, there is some value to routinely screening.

- An effective and consistent approach to surveillance is an important measure to prevent and control the spread of ESBLs. In an ESBL outbreak, protocols should be in place for screening residents in close proximity to colonized/infected residents (e.g. roommates) who may have been exposed or who have risk factors for ESBL acquisition.

- **Residents with known ESBL carriage should have their records flagged and should be placed on Contact Precautions.**

- **There is insufficient evidence to recommend routine screening (including epidemiologic risk screening and active surveillance culture screening) of resident for colonization with ESBL.**

- For residents with symptoms of infection, specimens should be sent for culture. There should be a high index of suspicion for the presence of ESBL in residents at risk for infection with these bacteria, particularly residents transferred from facilities known to have high ESBL prevalence rates; roommates of ESBL colonized/infected patients; and residents known to have been previously infected or colonized with and ESBL.

- If a resident is found to be colonized or infected with ESBL more than 48 hours after admission, consider clinical screening (i.e. assessing the presence of infection) with laboratory testing of clinically relevant specimens (e.g. urine in the setting of urinary tract infection or presence of an indwelling bladder catheter; wound in the setting of skin and soft tissue infection or open wound).

- There is no indication for surveillance culture testing of healthcare providers, family or visitors, or, in the absence of a major outbreak, for environmental sampling.

Specimens:

- A substantial percentage of residents who develop health care associated ESBL infections have preceding colonization of the gastrointestinal tract.

- **The preferred specimen for ESBL screening is a rectal swab or stool. A urine culture may also be sent in certain situations (e.g. catheterized patient/resident).**

The Nurse will:

1) Explain the procedure to the resident.
2) Obtain swab kit. Perform hand hygiene and put on clean gloves.
3) Proceed with ESBL Screening Procedure for Cultures/Molecular Detection:
    - Pre-moisten swab with sterile normal saline or with transport medium prior to taking a specimen.
    - Swab around the external rectal orifice. If visible stool is not obtained on the swab, insert it a few millimeters into the rectum until visible stool is obtained.
    - If the resident has a colostomy, take the specimen from the colostomy output.

4) Place swab into sterile receptacle and ensure it is labeled with the resident's name and date of birth, source, test type, and date of collection.
5) Remove gloves and perform hand hygiene.
6) Complete one lab requisition, including the site from which the specimen was taken, and place in specimen cooler for lab pick up by 1300h.
7) If the resident has a catheter, a urine specimen should be obtained. A sterile specimen is required from a catheter port.
8) Document procedure in resident's electronic health record.
9) Initiate contact-based precautions for any resident testing positive for ESBL.

Follow-Up Screening:

1. Repeat testing of an ESBL positive resident will be conducted every three months. Three negative specimens, collected at least one week apart, are required to consider the resident ESBL-free. If one specimen is positive, the other 2 are not required.
2. Precautions can be discontinued once 3 consecutive negative specimens have been obtained.
3. Previously positive residents who have had three complete sets of negative specimens, one week apart, should continue to be screened every month for six months after the precautions have been discontinued, to monitor ABO status.
4. The IPAC Lead will track residents that are positive for ESBL and document when re-screening specimens are required in the nursing daybook on each floor.

Positive ESBL Specimen:

1. Initiate Contact Precautions, post signage on door and use personal protective equipment according to contact precautions.
2. Gloves and gown must be worn when providing <u>direct care</u> to any resident who has ESBL. Direct care means providing hands on care, such as bathing, washing, turning resident, changing clothes/incontinent products, dressing changes, care of open wounds/lesions or toileting (feeding and pushing a wheelchair are not classified as direct care).
3. A long-sleeved gown must be removed and discarded immediately on leaving the room or bed space of a resident with ESBL. Hand hygiene should be performed immediately after the personal protective equipment (PPE) has been removed.
4. Complete swabs of residents who share bathroom facilities with a resident with a positive specimen.
5. Discuss whether it is possible to move the resident to a private room. Complete risk assessment if not, based on roommate suitability. If a single room is not available residents colonized or infected with ESBL may be cohorted with other residents after consultation with the DNPC.
    - The following order of preference for cohorting must be used:
    1. Residents with ESBL should be cohorted with other residents with ESBL.
    2. If cohorting is not possible, the affected resident may be placed with low-risk roommates. Staff should tend to the non-infected resident first if cohorting is not possible.
    3. ESBL residents should not share a room with residents who have open wounds or decubitus ulcers, residents with urinary catheters, feeding tubes or other invasive

devices, residents whose hygiene is compromised or residents who have debilitative or bed-bound conditions that required extensive hands-on care.
    4. If residents with ESBL are cohorted with residents who do not have ESBL there should be increased attention to environmental cleaning throughout the duration of the cohort.
6. Dedicated equipment and supplies are required for the ESBL positive resident.
7. Hand Hygiene should always be performed according to the hand hygiene policy. Alcohol based hand rubs are effective against ESBL bacteria.
8. All resident care equipment (e.g. thermometers, blood pressure cuff etc.) should be dedicated to the use of resident and cleaned and disinfected before reuse with another resident.
9. There is no need to restrict the resident's participation in facility activities. Contain any feces, urine or purulent discharge; cover open wounds/tracheostomy sites well.
10. Assist resident with performing hand hygiene before leaving room. If the resident cannot follow basic hygienic measures, be sure resident is supervised during personal care.

Environmental:

1. Housekeeping staff will wear gloves and a gown and follow precautions as listed above.
2. Clean room daily.
3. Clean all surfaces from clean to dry and high to low areas of the room; give extra attention to door handles, light switches, call cords, bedrails and hand rails by toilet.
4. Notify housekeeping with discontinuation of precautions once three negative specimens are obtained. Additional precautions can be discontinued as per protocol to complete terminal clean.
5. No special handling of trays, linens, or waste is required for residents with ESBL, routine practices are sufficient.

ESBL Decolonization:

- ESBL decolonization is not effective and not recommended.

Visitors:

1. Visitors need not be restricted from visiting the resident with ESBL. They should be instructed on correct hand hygiene procedures with an emphasis on the importance of hand hygiene after physical contact with the resident and on exit from room.
2. If a visitor is providing direct care, the visitor should be instructed to wear the same PPE as staff.

Notification/Transfers:

Notify all receiving facilities of resident's ESBL status ahead of the transfer.

If a resident is identified with ESBL and has been transferred to another health care setting, that health care setting should be notified so that the necessary precautions can be arranged. A negative status is not required prior to transferring a resident with ESBL. Staff shall wear appropriate PPE (gloves and long-sleeved gloves) if they will have physical contact (i.e., lifting during transport of a resident who is colonized or infected with ESBL). All transport equipment must be disinfected immediately after use using a hospital grade disinfectant.

Staff considerations:

The risk of staff acquisition of ESBL is low and significantly reduced if staff follow routine practices, perform hand hygiene and wear PPE appropriately.

Outbreak Management:

An outbreak occurs when there is an increase in the rate of new cases (infected and colonized) over the baseline for the home or a clustering of new cases. Clustering is the occurrence of two or more cases closely related by time, location, or other epidemiologic linkages.

- Place each resident on additional precautions once tested positive for ESBL.
- Contact Public Health for discussion and review of positive ESBL resident cases.
- The Outbreak Management team will review the situation and provide guidance and support.
- Review environmental and equipment cleaning practices.
- Collect specimens from residents that are contacts from the source (i.e., roommates) as well as others who were in close geographic proximity to the source.
- Consider screening staff contacts if the outbreak is due to the same strain of ESBL and new cases are identified despite precautions.
    (i) Cohorting of residents and staff.
    (ii) Ensure that the laboratory is saving isolates of ESBL in case further tests are required (molecular typing).
    (iii) The outbreak may be declared over by the team when there is evidence that no additional cases are occurring and that all additional precautions are being followed.
        i. At least 2 prevalence screens should be conducted on the affected unit, taken one week apart to verify that there are no new cases.