

September 17, 2023

Dear physicians and medical partners,

Please see below for messaging and background information regarding the Escherichia coli (STEC) outbreak in Calgary Zone.

Key Messages

- A multi-site outbreak of Shiga toxin producing Escherichia coli (STEC) was declared in 11 daycare facilities across Calgary Zone as of September 4, 2023.
- Management of symptomatic cases is centred around adequate hydration and monitoring for early identification and treatment of hemolytic anemic syndrome (HUS) with referral to ED/UC when clinically indicated. If you can't access timely bloodwork for your patient (q24-48 hours for STEC follow-up), please direct your patient to SCH or ACH ED.
 - Additional clinical guidance:
<https://www.albertahealthservices.ca/assets/info/hp/diseases/if-hp-dis-ecoli-stec.pdf>
- Symptomatic patients linked to the outbreak need stool testing. Please indicate **EI 2023-918** on any stool samples ordered for this outbreak.
- Antibiotics should NOT be routinely provided to patients with STEC diarrhea. Nephrotoxic medications (e.g., NSAIDs) and medications that reduce gut motility should be avoided.
- We recommend educating patient on proper hand hygiene and staying at home if a patient is either symptomatic or an asymptomatic confirmed case.
- Any child 7 years or age or under, that you are seeing with diarrhea or bloody diarrhea please order a stool specimen – no EI required.

Background

A multi-site outbreak of Shiga toxin producing Escherichia coli (STEC) was declared by Alberta Health Services in Calgary Zone as of September 4, 2023. The following sites, all located in Calgary and associated with a central kitchen, were issued closure orders.

Closure orders have been rescinded for 10 sites.

- Fueling Brains Braeside
- Fueling Brains West 85th
- Fueling Brains New Brighton
- Fueling Brains Centennial
- Fueling Brains Bridgeland
- Fueling Brains McKnight
- Braineer Academy
- Kidz Space
- Little Oak Early Education (formerly Mangrove)
- Almond Branch School

The closure order for the central kitchen remains in place.

Additional daycare sites have since been issued closure orders as single cases, most with links to the outbreak, have been identified at the following facilities. Closure orders were issued for areas of these sites out of an abundance of caution:

- Active Start Country Hills – Dolphin and Starfish preschool classes
- CanCare Childcare - Scenic Acres location- Busy bees, Bumble bees and Butterflies classrooms
- CEFA Early Learning Calgary South – Junior K 3-1 classroom
- Renert Junior Kindergarten – all 4 junior K classrooms
- JCC Child care - infant & toddler room
- Vik Academy in Okotoks – this site was part of the original closures, and classrooms 3 and 4 are again closed as a precaution pending testing results
- 1st Class Childcare Shawnessy, “Main daycare” area is being closed.

Additionally:

- While MTC Daycare site is not being closed, affected children and staff in Promenade and McKenzie classrooms are being notified that they are excluded from attending all childcare facilities until they test negative for E.coli and remain symptom free.
- Calgary JCC Child Care was issued a closure order for its infant and toddler rooms on September 15.

Parents of children attending these sites have been notified of this outbreak and provided health information, including symptoms to monitor. At this time, parents have been advised to call Health Link with any questions, and for children with severe symptoms (e.g., bloody diarrhea), to be assessed by a physician at an urgent care centre or emergency department.

As of September 16, there were 342 lab confirmed cases and 12 cases admitted to hospital in Calgary Zone. A total of 25 patients have been discharged from hospital since the beginning of the outbreak to September 16. This outbreak is associated with E. coli that has the Stx1 and Stx2 genes (STEC), which increase risk of complications such as hemolytic uremic syndrome (HUS). As of September 16, of the 12 total hospitalizations, 10 were HUS cases. Of note, the total HUS case number on September 16 represented a decrease of 9 from the 19 cases in hospital on September 13.

Symptoms usually start one to 10 days after eating food contaminated with the E. coli bacteria. The majority of individuals who get sick from E. coli generally improve on their own and without specific treatment within 10 days, but some may develop more severe complications. HUS, if it occurs, typically evolves 5-10 days after the onset of diarrhea. Children, the elderly and the immunocompromised are at greater risk of complications from this strain of E. coli.

Assessment and Testing

Please see this link for additional clinical background and guidance:

<https://www.albertahealthservices.ca/assets/info/hp/diseases/if-hp-dis-ecoli-stec.pdf>

Any laboratory confirmed children, regardless of symptoms, and symptomatic patients linked to this OB (including parents and siblings of daycare attendees) need to be clinically assessed at a pediatric emergency (ACH or SHC ED), and laboratory investigations including a stool sample need to be done. Please indicate EI 2023-918 on the stool sample so tracking and public health follow-up can occur.

Symptomatic children (diarrhea or bloody diarrhea) under the age of 7 who have NOT attended any of the above daycares, please collect stool specimens for the enteric panel. No EI# is required.

Symptomatic individuals or those who have tested positive should be instructed to avoid attendance at daycare or school, and adults who work handling food or caring for others should stay home from work. Individuals who test positive will receive follow-up from AHS Public Health to provide further instructions on the duration of exclusion from these settings.

Community physicians should undertake clinical assessment of all potential STEC cases in the Calgary zone that present to care. It is important to regularly follow these patients to determine need for further evaluation and investigations in emergency departments or urgent care centres (ED/UCC). Please refer to the link above for further information. Affected individuals need daily laboratory testing (blood and urine) to monitor for evidence of evolving microangiopathy every 24 hours until they are out of the HUS risk window which occurs when all of the following criteria are met:

- 1) >5 days since diarrhea onset
- 2) Diarrhea has resolved
- 3) Platelet count has increased >5% since preceding test

Please note that clinical follow-up for STEC includes q24-48h bloodwork (see link). If you can't access timely bloodwork for your patient, please direct your patient to SCH or ACH ED or call Peds ID on call.

Treatment

Management of symptomatic cases are centred around ensuring adequate hydration and referral to ED/UCC to ensure early identification and treatment of HUS.

Antibiotics should not be routinely provided to patients with STEC diarrhea, however they should also not be withheld when clinically indicated for other reasons.

Nephrotoxic medications such as NSAIDs, as well as medications that reduce gut motility, should be avoided.

Prevention

Education around the importance of proper hand hygiene, remaining home if the patient is either ill or an asymptomatic confirmed case, and encouraging oral fluid replacement are ways of preventing both transmission and progression to potential complications.

For detailed information on this outbreak, please share information posted on the Alberta Health Services website:

E. coli outbreak
www.ahs.ca/ecoli

Guidance for parents, and daycare staff
[Ecoli Outbreak STEC Algorithm One Pager Final \(albertahealthservices.ca\)](http://albertahealthservices.ca)

STEC Algorithms for Health Practitioners, Parents and Caregivers
[E. coli Outbreak \(albertahealthservices.ca\)](http://albertahealthservices.ca)