Shiga Toxin-Producing Escherichia coli (STEC) Infection

Merlin reporting code = 00800
Case report form (CRF); STEC Case Report
MERLIN EXTENDED DATA REQUIRED

Clinical description
An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness may be complicated by HUS (note, some clinicians still use the term thrombotic thrombocytopenic purpura [TTP] for adults with post-diarrheal HUS). Asymptomatic infections also may occur, and the organism may rarely cause extraintestinal infections.

Clinical criteria for case classification
At least one of the following:
- Diarrhea
- HUS (TTP)

Laboratory criteria for case classification
Confirmatory:
- Isolation of Shiga toxin-producing Escherichia coli (STEC) from a clinical specimen
- Both of the following:
  - Detection of Shiga toxin or Shiga toxin genes in a clinical specimen and
  - Isolation of E. coli from a clinical specimen.

Presumptive:
(1) Isolation of E. coli O157 from a clinical specimen, without confirmation of H antigen or Shiga toxin production.
(2) Identification of an elevated antibody titer to a known STEC serotype.

Supportive:
- Identification of Shiga toxin in a specimen without isolation of STEC
- Identification of E. coli O157, O157:H7, or unspecified enterohemorrhagic E. coli (EHEC)/STEC in a specimen without the isolation of the STEC.

Epidemiological criteria for case classification
A person who is epidemiologically linked to a confirmed STEC case or a probable STEC case with laboratory evidence.

Case classification
Confirmed:
A person with confirmatory laboratory evidence. When available, O and H antigen serotype characterization should be reported.

Probable:
- A person with presumptive laboratory evidence (1),
- A clinically compatible illness in a person with presumptive laboratory evidence (2),
- A clinically compatible illness in a person with epidemiological criteria.

**Suspect:**
- A clinically compatible illness in a person with supportive laboratory evidence
  OR
- A case of postdiarrheal HUS (TTP).

**Note that people waiting for confirmatory laboratory results or people who are epidemiologically linked to STEC cases that are waiting for additional laboratory results should be reported as suspect cases. Once final results are received, the case classification should be reevaluated.**

**Comments**
Asymptomatic infections and infections at sites other than the gastrointestinal tract in people with confirmatory laboratory evidence or presumptive laboratory evidence (1) are considered cases and should be reported.

Patients with STEC infections who develop HUS should be reported in Merlin with BOTH disease codes (as if they were two separate cases). A laboratory result that reports only “E. coli” does not indicate STEC.

- **Isolates from all cases of STEC must be sent to the Bureau of Public Health Laboratories (BPHL) for confirmation and PFGE typing. All Shiga toxin-positive specimens must be sent to BPHL for confirmation and additional testing.** There is a strong possibility that Shiga toxin may degrade in transit. A person with any positive Shiga toxin result should be reported as a suspect case in Merlin, regardless of whether Shiga toxin is confirmed by BPHL.

**STEC laboratory results can be difficult to interpret. For paper laboratory results, please create a Merlin lab result and attach a scanned copy of the paper laboratory result.**

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