

Shiga toxin-producing *Escherichia coli*¹ (STEC)

2017 Case Definition

CSTE Position Statement Number: 17-ID-10

Clinical Criteria

An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness may be complicated by Hemolytic Uremic Syndrome (HUS)² (note that 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 extra-intestinal infections.

Laboratory Criteria

Supportive laboratory evidence

Isolation (i.e. culture) of *E. coli* O157 from a clinical specimen without confirmation of H antigen, detection of Shiga toxin, or detection of Shiga toxin genes,

OR

Identification of an elevated antibody titer (i.e. serology) against a known Shiga toxin-producing serogroup of *E. coli*,

OR

Detection of Shiga toxin (i.e. EIA) or Shiga toxin genes (i.e. PCR) in a clinical specimen using a culture-independent diagnostic testing³ (CIDT) and no known isolation (i.e. culture) of *Shigella* from a clinical specimen,

OR

Detection of *E. coli* O157 or STEC/EHEC in a clinical specimen using a CIDT.

Confirmatory laboratory evidence

Isolation (i.e. culture) of *E. coli* O157:H7 from a clinical specimen

OR

Isolation (i.e. culture) of *E. coli* from a clinical specimen with detection of Shiga toxin (i.e. EIA) or Shiga toxin genes (i.e. PCR).

Epidemiologic Linkage

A clinically compatible illness in a person that is epidemiologically linked to a confirmed or probable case with laboratory evidence

OR

A clinically compatible illness in a person that is a member of a risk group as defined by public health authorities during an outbreak.

Case Classification

Confirmed

A person who meets the confirmed laboratory criteria for diagnosis.

¹ Shiga toxin-producing *E. coli* (STEC) may also be referred to as Enterohemorrhagic *E. coli* (EHEC)

² If criteria for HUS are met, then also create and complete an HUS event in NCEDSS.

³ Culture-independent diagnostic testing includes PCR, EIA, ELISA and other antigen detection tests.

Probable

A person with isolation of *E. coli* O157 (i.e. culture) from a clinical specimen, without confirmation of H antigen, detection of Shiga toxin or detection of Shiga toxin genes

OR

A clinically compatible illness in a person with CIDT supportive laboratory criteria for diagnosis

OR

A clinically compatible illness in a person that has an epidemiologic linkage

Suspected

A person with a diagnosis of post-diarrheal HUS/TTP (see HUS case definition),

OR

A person that meets the CIDT supportive laboratory criteria for diagnosis with no known clinical compatibility

Criteria to distinguish a new case of this disease or condition from reports or notifications which should not be enumerated as a new case for surveillance:

A new case should be created when a positive laboratory result is received more than 180 days after the most recent positive laboratory result associated with a previously reported case in the same individual.

OR

When two or more different serogroups/serotypes are identified in one or more specimens from the same individual, each serogroup/serotype should be reported as a separate case.

Notes:

E. coli cultured from blood or urine without detection of Shiga toxin or a Shiga toxin gene does not meet the case definition and should not be reported.

Many PCR panels (GI Pathogen Panels) also detect types of *E. coli* that are not reportable. EPEC (enteropathogenic *E. coli*), ETEC (enterotoxigenic *E. coli*) and EAEC (enteroaggregative *E. coli*) are not currently reportable. EIEC/shigella (enteroinvasive *E. coli*) should be reported and investigated as a case of shigellosis.