

Health Alert:

Shiga toxin-producing Escherichia coli

October 28, 2011

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The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

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**FROM: MARGARET T. DONNELLY
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SUBJECT: Increase in reported Shiga toxin-producing Escherichia coli (STEC) illnesses in St. Louis Area

Health Alert
October 28, 2011

Situational Update 10/28/11

All stools submitted to clinical laboratories for testing from patients with suspected E coli infection should be cultured for O157 STEC on selective and differential agar. These stools should be simultaneously assayed for non-O157 STEC with a test that detects the Shiga toxins or the genes encoding these toxins. Specimens or enrichment broths in which Shiga toxin or STEC are detected but from which O157 STEC are not recovered should be forwarded as soon as possible to the Missouri State Public Health Laboratory.

Situational Update 10/26/11

The St. Louis County Health Department has reported a marked increase in cases of Shiga toxin-producing Escherichia coli (STEC). The cases are being investigated by the St. Louis County Health Department and the Missouri Department of Health and Senior Services (DHSS). At this time the cause of the illnesses is unknown.

CDC has recommended that any person who has signs or symptoms of STEC infection should seek medical care and let the medical provider know about the increase of STEC infections in St. Louis region and the importance of being tested for STEC infection.

Symptoms of STEC infection include severe stomach cramps, diarrhea (which is often bloody) and vomiting. If there is fever, it usually is not very high. Most people get better within 5–7 days, but some patients go on to develop HUS (hemolytic uremic syndrome), usually about a week after the diarrhea starts. The classic triad of findings in HUS is acute renal damage, microangiopathic hemolytic anemia (evidence of schistocytes and helmet cells on peripheral blood smear), and thrombocytopenia.

It is not recommended to give antibiotics to patients with suspected STEC infections until complete diagnostic testing can be performed and STEC infection is ruled out. Some studies have shown that administering antibiotics in patients with STEC infections might increase their risk of developing HUS. However, clinical decision making must be tailored to each individual patient. There may be indications for antibiotics in patients with severe intestinal inflammation if perforation is of concern.

Guidelines to ensure as complete as possible detection and characterization of STEC infections include the following:

- All stools submitted for testing from patients with acute community-acquired diarrhea should be cultured for STEC O157:H7. These stools should be simultaneously assayed for non-O157 STEC with a test that detects the Shiga toxins or the genes encoding these toxins.
- Clinical laboratories should report and send E. coli O157:H7 isolates and Shiga toxin-positive samples to the state public health laboratory as soon as possible for additional characterization.
- Specimens or enrichment broths in which Shiga toxin or STEC are detected, but from which O157:H7 STEC isolates are not recovered should be forwarded as soon as possible to the state public health laboratory so that non-O157:H7 STEC can be isolated.
- It is often difficult to isolate STEC in stool by the time a patient presents with HUS. Immunomagnetic separation (IMS) has been shown to increase recovery of STEC from HUS patients. For any patient with HUS without a culture-confirmed STEC infection, stool can be sent to the CDC (through the state public health laboratory). In addition, serum can be sent to CDC (through the state public health laboratory) for serologic testing of common STEC serogroups.

The benefits of adhering to the recommended testing strategy include early diagnosis, improved patient outcome, and detection of all STEC serotypes.

E. coli is a Category I reportable disease. All patients with Shiga toxin-positive diarrheal illness or HUS either known or suspected cases should be reported to your local public health agency, or to the Missouri Department of Health and Senior Services (DHSS) at 800/392-0272 (24/7).

Laboratory consultation is available from the Missouri State Public Health Laboratory (MSPHL) by calling 573/751-3334, or 800/392-0272 (24/7).