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What is Hemolytic Uremic Syndrome (HUS)?

HUS is a serious disease that affects the kidneys and blood clotting system. It usually occurs after a person has had a diarrheal illness caused by a toxin-producing bacterium. Most cases of HUS occur as a rare complication of infection with the bacterium *E. coli* O157:H7. *E. coli* infections occur after eating contaminated food, such as undercooked meat, some produce, drinking unpasteurized juices or dairy products, or being in contact with cattle and other farm animals or with a person who has the infection. *E. coli* bacteria release a toxin that can damage the kidneys and blood clotting system. This can cause the sudden development of kidney failure, and damage to other organs.

Who gets HUS?

Anyone can get HUS. HUS is a rare disease but is more common in children than adults, especially children less than five years of age. HUS is the leading cause of acute kidney failure in children. About 200-300 cases of HUS are reported in the United States each year.

How is HUS spread?

HUS is not spread from person to person. Please refer to the *E. coli* fact sheet for information about the spread of these bacteria.

What are the symptoms of HUS?

HUS can be mild or severe. Early symptoms of HUS include decreased urine output, diarrhea, and feeling slow and tired (lethargy). Low red blood cell count (anemia), low platelet count, and decreased kidney function are signs that might be detected by laboratory testing. Fever and neurologic changes (e.g., drowsiness, unconsciousness, and seizures) are also common among patients with HUS.

How soon after exposure do symptoms appear?

HUS usually develops one to two weeks after initial symptoms of *E. coli* infection (or infection with other bacteria that release similar toxins) appear. Please refer to the *E. coli* fact sheet for information about the time between exposure to these bacteria and symptom onset.

How is HUS diagnosed?

There is no single laboratory test for HUS. A person with HUS will usually have a history of diarrhea for a few days, and then develop bloody diarrhea, anemia and kidney failure. If a healthcare provider suspects HUS based on a patient's symptoms, laboratory tests will be ordered to evaluate kidney function, red blood cell count, and blood or protein in the urine. Stool cultures will also be obtained to determine whether *E. coli* or another toxin-producing bacterium is present. The combination of

clinical signs and symptoms and the laboratory results help a healthcare provider determine the diagnosis of HUS.

What is the treatment for HUS?

Treatment for HUS is mostly supportive care to relieve symptoms and return body functions to normal. Intravenous (IV) fluids and blood transfusions might be given. Dialysis might be required if the patient develops kidney failure. Antibiotics are usually not used because they can make the symptoms worse. Most patients with HUS recover completely and kidney function returns to normal if treated quickly and properly.

How can HUS be prevented?

Preventing infection by bacteria, especially *E. coli* O157:H7, is key to preventing HUS. The following measures can help prevent infection with *E. coli* O157:H7:

- Never eat rare or undercooked ground beef.
- Cook ground beef to an internal temperature of 160°F.
- Keep raw meat separate from ready-to-eat foods.
- Wash hands, counters, utensils, and plates after contact with raw meat.
- Always refrigerate meat products.
- Never leave raw meats at room temperature.
- Do not drink milk, milk products, fruit juices, or ciders that have not been pasteurized.
- Always wash raw fruits or vegetables before eating.
- Always carefully wash hands before and after preparing foods.
- Make sure children wash their hands carefully, especially after using the toilet or handling or touching animals, especially farm animals.
- Always carefully wash hands with soap and warm water after using the toilet or changing diapers.
- Do not use public swimming facilities while having diarrhea.
- Clean and disinfect diapering areas, toilets, potty chairs, toys, etc. at least daily and when soiled.

It is best to stay home when you have diarrhea. The health department will give advice on each situation in which a person with *E. coli* infection is a food handler, health care worker, or child care worker or attendee. Some people might not be allowed to go back to child care or work in a high risk setting until two stool specimens test negative for the bacteria.

What should I do if I think a family member or I might have an infection with *E. coli* or something similar?

The sick person should seek medical care as soon as possible. If *E. coli* is identified in stool, the healthcare provider should call and report the case to the local health department as soon as possible.

How can I get more information about HUS?

- If you have concerns about HUS, contact your healthcare provider.
- Call your local health department. A directory of local health departments is located at the [VDH Local Health Districts page](#).
- Visit the [Centers for Disease Control and Prevention website](#).

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