

Hemolytic Uremic Syndrome (HUS)

Hemolytic uremic syndrome (HUS) is a life-threatening illness that affects the red blood cells and kidneys. It is a rare condition, but it is more common in children, especially those younger than five. HUS often occurs after a gastrointestinal infection with *Escherichia coli* O157:H7, a type of Shiga-Toxin Producing *E. coli* (STEC), but other pathogens, such as *Campylobacter jejuni* can cause HUS. About five to ten percent of people diagnosed with STEC develop HUS. The condition has also been linked to other bacterial pathogens known to cause gastrointestinal infections, including *Shigella* and *Salmonella*.

Transmission

HUS **cannot be spread from person to person**. However, STEC, *Shigella*, and other organisms that can cause HUS can be spread through eating or drinking contaminated food or water or contact with an ill person.

HUS may recur in a person if they are exposed to STEC, *Shigella*, or other organisms.

Symptoms

Post-diarrheal HUS usually occurs one to two weeks following the onset of diarrhea, when diarrhea is improving. Symptoms of HUS may include:

- **Fever**
- **Fatigue**
- **Irritability**
- **Blood in urine**
- **Decreased frequency of urination to no urination**
- **Anemia** (low red blood cell count that causes pale complexion and weakness)
- **Low platelet count** (cells in the bloodstream that help blood clot)
- **Decreased kidney function may occur**

Diagnosis

A health care provider can diagnose HUS based on clinical symptoms and several laboratory tests, including kidney function, blood clotting factors, and blood count.

Prevention

- HUS can be prevented by taking the following precautions against getting diseases such as STEC, Shigellosis, and other gastrointestinal infections
 - **Wash hands** thoroughly after
 - Using the bathroom
 - Changing diapers
 - Before preparing food
 - Contact with animals and their environments (e.g., farms, petting zoos, fairs, and your backyard)
 - **Cook meats thoroughly**, especially beef and meat that has been tenderized, such as hamburger
 - **Cook to an internal temperature** of at least **160°F**
 - **Color is not a reliable** indicator of the **meat being done**

Treatment

- Someone that is diagnosed with HUS will need to be hospitalized
- **Supportive care** including management of patient's fluids and electrolytes
- **Blood transfusion** may be necessary if the patient is **severely anemic**
- **Dialysis** may also be required if the **patient's kidneys fail**

For more information about the treatment of HUS visit [HUS | Medline](#). If you have further questions about the treatment of your HUS, contact your health care provider.

Exclusion Guidance

Individuals with HUS likely will not be able to attend work, school, or child care, [general exclusions apply](#).

For additional information about HUS, returning to work, child care, or school, etc. contact the North Dakota Department of Health and Human Services', Division of Family Health, at 800.472.2286.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health and Human Services.

Resources:

1. Kimberlin, D. W., Barnett, E. D., Lynfield, R., Sawyer, M. H. (2021) Red Book: 2021-2024 Report of the Committee on Infectious Diseases. 32nd ed. American Academy of Pediatrics. [Management and Prevention of Infectious Diseases] [322-328].
2. Kimberlin, D. W., Barnett, E. D., Lynfield, R., Sawyer, M. H. (2021) Red Book: 2021-2024 Report of the Committee on Infectious Diseases. 32nd ed. American Academy of Pediatrics. [Management and Prevention of Infectious Diseases] [1041-1047].
3. U.S National Library of Medicine. (2022, January 25). *NIH – Hemolytic-uremic syndrome*. Medline Plus. Retrieved May 24, 2023, from <https://medlineplus.gov/ency/article/000510.htm>
4. Centers for Disease Control and Prevention. (2014, December 1). *CDC – E. coli (Escherichia coli)*. Centers for Disease Control and Prevention. Retrieved May 24, 2023, from <https://www.cdc.gov/ecoli/ecoli-symptoms.html>

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