CCU DISEASE HUNTERS

SHIGELLA

The following information was taken from the CDC website:

What it is

Shigella bacteria cause an infection called shigellosis. *Shigella* cause an estimated 450,000 infections in the United States each year, and antimicrobial resistant infections result in an estimated $93 million in direct medical costs.

The four species of *Shigella* are:

- *Shigella sonnei* (the most common species in the United States)
- *Shigella flexneri*
- *Shigella boydii*
- *Shigella dysenteriae*

S. dysenteriae and *S. boydii* are rare in the United States, though they continue to be important causes of disease in areas with less access to resources. *Shigella dysenteriae* type 1 can be deadly.

Symptoms

Symptoms usually start 1–2 days after infection and last 7 days. Most people with shigellosis experience:

- Diarrhea that can be bloody or prolonged (lasting more than 3 days)
- Fever
- Stomach pain
- Feeling the need to pass stool (poop) even when the bowels are empty

Keep Reading: Signs and Symptoms of Shigella Infection

Who is at risk

Some groups of people are more likely to get sick with shigellosis than others.

- Children younger than 5 years old are the most likely to get shigellosis, but people of all ages can get the disease. Many outbreaks occur in early care and education settings and schools.

- Travelers to places where water and food may be unsafe and sanitation is poor are more likely to get a *Shigella* infection. They are also more likely to become sick with types of *Shigella* that are more difficult to treat.

- Gay, bisexual, and other men who have sex with men* (GBMSM) have factors that put them at increased risk for *Shigella* infection. Although rates are higher among GBMSM, the risk is present for any sexual activity involving stool exposure.

- People who are experiencing homelessness are at high risk for *Shigella* infection when there is shigellosis spread in the community. They may face challenges in their living situations that increase the risk for disease transmission, which can result in outbreaks.

How it spreads

Shigella spreads easily; swallowing just a small amount of *Shigella* germs can make you sick.

Shigella germs are in poop, so anything that gets contaminated by poop can potentially spread the germs. *Shigella* can spread from one person to another or through contaminated water, food, surfaces, or objects.

Keep Reading: How Shigella Spreads

Prevention

You can take steps to avoid getting or spreading *Shigella.*

- Wash your hands with soap and water at key times.
- Take care when changing diapers.
- Avoid swallowing water while swimming.
- When traveling internationally, follow safe food and water habits and clean your hands often.
- If you or your partner has been diagnosed with shigellosis, do not have sex for at least two weeks after the diarrhea ends.

Keep Reading: Preventing Shigella Infection

Treatment and recovery

People who have shigellosis usually get better without antibiotic treatment in 5 to 7 days. People with mild shigellosis may need only fluids and rest.

Your healthcare provider may prescribe medicine to treat illness caused by *Shigella*.

If you have diarrhea, drink a lot of water or other fluids to avoid dehydration (loss of fluids).

Keep Reading: Treatment of Shigella Infection

CCU Disease Hunter Screen information

Undergraduate students at Coastal Carolina University working with Dr Paul E. Richardson have developed a genomic based test to detect the bacteria *Shigella* using primer specific for two genes in *Shigella*; virA and 16s rRNA. Primers were identified from literature that were specific for *Shigella*. In the lab the students refined the method using polymerase chain reaction to amplify small genetic sequences to identify the bacteria based on specific size DNA fragments. Water samples were collected, and DNA was isolated from the samples and screened for *Shigella*. If a band of the expected size was present, that was called a positive result.

Please Note: This test only detects the presence of the disease in water. At this time, we are studying the factors that are responsible for its presence and what level of bacteria is needed to cause disease. This is a research project and not a clinical test. **This test CANNOT determine if there is a threat to the community**, it only determines the presence of the disease in a community. More work must be done before we can make those statements.

If you have any questions, please contact: **Dr Paul E. Richardson** prichar@coastal.edu
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