



Public Health
Prevent. Promote. Protect.

**Rock Island County
Health Department**

SHIGELLOSIS

What is shigellosis?

Shigellosis is an infectious disease caused by a group of bacteria called *Shigella*. Most people who are infected with *Shigella* develop diarrhea, fever and stomach cramps a day or two after being exposed to the bacterium. The diarrhea is often bloody. Shigellosis usually resolves in five to seven days. In some persons, especially young children and the elderly, the diarrhea can be so severe the patient needs to be hospitalized. A severe infection with high fever also may be associated with seizures in children younger than 2 years of age. Some persons who are infected may have no symptoms at all, but may still pass the *Shigella* bacteria to others.

What sort of germ is *Shigella*?

The *Shigella* germ is actually a family of bacteria that can cause diarrhea in humans. These microscopic living creatures, which can pass from person to person, were discovered 100 years ago by a Japanese scientist named Shiga, for whom they are named. There are several kinds of *Shigella* bacteria but only two are common in the United States.

How are *Shigella* infections diagnosed?

Many different kinds of diseases can cause diarrhea and bloody diarrhea. Effective treatment depends on which germ is causing the diarrhea. Determining that *Shigella* is the cause of the illness depends on laboratory tests that identify the bacteria in the stools of infected persons. These tests are sometimes not performed unless the laboratory is instructed specifically to look for the organism. The laboratory also can do special tests to tell which type of *Shigella* the person has and which antibiotics, if any, would be best to treat it.

How common is shigellosis?

Every year, about 18,000 laboratory confirmed cases of shigellosis are reported in the United States; 1,300 in Illinois. Because many milder cases are not diagnosed or reported, the actual number of infections may be 20 times greater. Shigellosis is particularly common and causes recurrent problems in settings where hygiene is poor and can sometimes sweep through entire communities. Shigellosis is more common in summer than winter. Children, especially toddlers from 2 to 4 years of age, are the most likely to get shigellosis. Many cases are related to the spread of illness in childcare settings and many more are the result of the spread of the illness in families with small children. In the developing world, shigellosis is far more common and is present in most communities most of the time.

How are *Shigella* infections treated?

Shigellosis can usually be treated with antibiotics. The most commonly used antibiotics are ampicillin, trimethoprim/sulfamethoxazole, nalidixic acid or ciprofloxacin. Appropriate treatment kills the *Shigella* bacteria that might be present in a patient's stools and shortens the illness. Unfortunately, some *Shigella* bacteria have become resistant to antibiotics and using antibiotics to treat shigellosis can actually make the germs more resistant in the future. Persons with mild infections will usually recover quickly without antibiotic

treatment. Therefore, when many persons in a community are affected by shigellosis, antibiotics are sometimes used selectively to treat only the more severe cases. Antidiarrheal agents (e.g., loperamide or diphenoxylate with atropine) are likely to make the illness worse and should be avoided.

Does shigellosis have any long-term effects?

Persons with diarrhea usually recover completely, although it may be several months before their bowel habits are entirely normal. About 3 percent of persons who are infected with one type of *Shigella* (*Shigella flexneri*) will later develop pains in their joints, irritation of the eyes and painful urination. This is called Reiter's syndrome and it can last for months or years, sometimes leading to chronic arthritis, which is difficult to treat. Reiter's syndrome is caused by a reaction to *Shigella* infection that happens only in people who are genetically predisposed to it. Once someone has shigellosis, they are not likely to get infected with that specific type again for at least several years. However, they can still get infected with other types of *Shigella*.

How do people catch shigellosis?

The *Shigella* bacteria pass from one infected person to the next. The bacteria are present in the diarrheal stools of infected person while they are sick and for a week or two afterwards. Most infections occur when the germ passes from the stool or soiled fingers of one person to the mouth of another person. This happens when basic hygiene and handwashing habits are inadequate. It is particularly likely to occur among toddlers who are not fully toilet trained. Family members and playmates of such children are at high risk of becoming infected.

Shigella infections also may be acquired from eating contaminated food. Contaminated food may look and smell normal. Food may become contaminated by infected food handlers who forget to wash their hands with soap and water after using the bathroom. Vegetables can become contaminated if they are harvested from a field with sewage in it. Flies can breed in infected feces and then contaminate the food. *Shigella* infections also can be acquired by drinking or swimming in contaminated water. Water may become contaminated if sewage runs into it or if someone with shigellosis swims in it.

What can a person do to prevent this illness?

There is no vaccine to prevent shigellosis. However, the spread of *Shigella* from an infected person to other persons can be stopped by careful handwashing with soap and water. Frequent, supervised handwashing of all children should be followed in day care centers and in homes with young children (including children in diapers). When possible, young children with a *Shigella* infection who are still in diapers should not be in contact with uninfected children.

People who have shigellosis should not prepare food or pour water for others until they have been shown to no longer be carrying the *Shigella* bacterium.

If a child in diapers has shigellosis, everyone who changes the child's diapers should be sure the diapers are disposed of properly in a garbage can with a tightly fitted lid, and should wash his or her hands carefully with soap and warm water after changing and disposing of the diapers. After use, the diaper changing area should be wiped down with a disinfectant such as household bleach, or bactericidal sprays or wipes. Basic food safety precautions and regular drinking water treatment prevents shigellosis. At swimming beaches, having enough bathrooms near the swimming area helps to keep the water from becoming contaminated.

Simple precautions taken while traveling to the developing world can prevent *Shigella* infections. Drink only treated or boiled water and eat only cooked hot foods or fruits you peel yourself. The same precautions prevent traveler's diarrhea in general.