

The following article was taken directly from Wikipedia (original link is found here <http://en.wikipedia.org/wiki/Cholera>) but has been parsed for readability. Something to consider when planning for your water needs before, during and after a pandemic.

Cholera

Cholera, sometimes known as Asiatic cholera or epidemic cholera, is an infectious gastroenteritis caused by the bacterium *Vibrio cholerae*. Transmission to humans occurs through ingesting contaminated water or food. The major reservoir for cholera was long assumed to be humans themselves, but considerable evidence exists that aquatic environments can serve as reservoirs of the bacteria.

In its most severe forms, cholera is one of the most rapidly fatal illnesses known, and a healthy person may become hypotensive within an hour of the onset of symptoms; infected patients may die within three hours if treatment is not provided. In a common scenario, the disease progresses from the first liquid stool to shock in 4 to 12 hours, with death following in 18 hours to several days without oral rehydration therapy.

The diarrhea associated with cholera is acute and so severe that, unless oral rehydration therapy is started promptly, the diarrhea may within hours result in severe dehydration (a medical emergency), or even death.

According to novelist Susan Sontag, cholera was more feared than some other deadly diseases because it dehumanized the victim. Diarrhea and dehydration were so severe the victim could literally shrink into a wizened caricature of his or her former self before death. Other symptoms include rapid dehydration, rapid pulse, dry skin, tiredness, abdominal cramps, nausea, and vomiting.

Traditionally, cholera was widespread throughout third world countries, however more recently outbreaks have occurred in more rural parts of England and the United States' mid-west region. Water and electrolyte replacement are essential treatments for cholera, as dehydration and electrolyte depletion occur rapidly. Prompt use of oral rehydration therapy is highly effective, safe, uncomplicated, and inexpensive. The use of intravenous rehydration may be absolutely necessary in severe cases, under some conditions.

Persons infected with cholera have massive diarrhoea. This highly-liquid diarrhoea is loaded with bacteria that can spread to infect water used by other people. Cholera is transmitted from person to person through ingestion of water contaminated with the cholera bacterium, usually from feces or other effluent. The source of the contamination is typically other cholera patients when their untreated diarrhoea discharge is allowed to get into waterways or into groundwater or drinking water supply. Any infected water and any foods washed in the water, as well as shellfish living in the affected waterway, can cause an infection. Cholera is rarely spread directly from person to person.

Prevention

Although cholera can be life-threatening, prevention of the disease is straightforward if proper sanitation practices are followed. In the first world, due to advanced water treatment and sanitation systems, cholera is no longer a major health threat. The last major outbreak of cholera in the United States occurred in 1911. Travelers should be aware of how the disease is transmitted and what can be done to prevent it. Good sanitation practices, if instituted in time, are usually sufficient to stop an epidemic. There are several points along the transmission path at which the spread may be halted:

- * **Sterilization:** Proper disposal and treatment of the germ infected fecal waste (and all clothing and bedding that come in contact with it) produced by cholera victims is of primary importance. All materials (such as clothing and bedding) that come in contact with cholera patients should be sterilized in hot water using chlorine bleach if possible. Hands that touch cholera patients or their clothing and bedding should be thoroughly cleaned and sterilized.
- * **Sewage:** Treatment of general sewage before it enters the waterways or underground water supplies prevents undiagnosed patients from spreading the disease.
- * **Sources:** Warnings about cholera contamination posted around contaminated water sources with directions on how to decontaminate the water.
- * **Water purification:** All water used for drinking, washing, or cooking should be sterilized by boiling or chlorination in any area where cholera may be present. Boiling, filtering, and chlorination of water kill the bacteria produced by cholera patients and prevent infections from spreading. Water filtration, chlorination, and boiling are by far the most effective means of halting transmission. Cloth filters, though very basic, have significantly reduced the occurrence of cholera when used in poor villages in Bangladesh that rely on untreated surface water. Public health education and appropriate sanitation practices can help prevent transmission.

A vaccine is available in some countries (not the U.S.), but this prophylactic is not currently recommended for routine use by the CDC. The newer vaccine (brand name: Dukoral), an orally administered inactivated whole cell vaccine, appears to provide somewhat better immunity and have fewer adverse effects than the previously available vaccine.

Origin and spread

Cholera was originally endemic to the Indian subcontinent, with the Ganges River likely serving as a contamination reservoir. The disease spread by trade routes (land and sea) to Russia, then to Western Europe, and from Europe to North America. Cholera is now no longer considered a pressing health threat in Europe and North America due to filtering and chlorination of water supplies, but affects heavily populations in developing countries.

* 1816-1826 - First cholera pandemic: Previously restricted, the pandemic began in Bengal, and then spread across India by 1820. The cholera outbreak extended as far as China and the Caspian Sea before receding.

* 1829-1851 - Second cholera pandemic reached Europe, London and Paris in 1832. In London, the disease claimed 6,536 victims; in Paris, 20,000 succumbed (out of a population of 650,000) with about 100,000 deaths in all of France. The epidemic reached Russia, Quebec, Ontario and New York in the same year and the Pacific coast of North America by 1834.

* 1849 - Second major outbreak in Paris. In London, it was the worst outbreak in the city's history, claiming 14,137 lives, over twice as many as the 1832 outbreak. In 1849 cholera claimed 5,308 lives in the port city of Liverpool, England, and 1,834 in Hull, England. An outbreak in North America took the life of former U.S. President James K. Polk. Cholera spread throughout the Mississippi river system killing over 4,500 in St. Louis and over 3,000 in New Orleans as well as thousands in New York. In 1849 cholera was spread along the California and Oregon trail as hundreds died on their way to the California Gold Rush, Utah and Oregon.

* 1852-1860 - Third cholera pandemic mainly affected Russia, with over a million deaths. In 1853-4, London's epidemic claimed 10,738 lives.

* 1854 - Outbreak of cholera in Chicago took the lives of 5.5% of the population (about 3,500 people). The Soho outbreak in London ended after removal of the handle of the Broad Street pump by a committee instigated to action by John Snow.

* 1863-1875 - Fourth cholera pandemic spread mostly in Europe and Africa.

* 1866 - Outbreak in North America. In London, a localized epidemic in the East End claimed 5,596 lives just as London was completing its major sewage and water treatment systems--the East End was not quite complete. William Farr, using the work of John Snow et al. as to contaminated drinking water being the likely source of the disease, was able to relatively quickly identify the East London Water Company as the source of the contaminated water. Quick action prevented further deaths. Also a minor outbreak at Ystalyfera in South Wales. Caused by the local water works using contaminated canal water, it was mainly its workers and their families who suffered. Only 119 died.

* 1881-1896 - Fifth cholera pandemic ; The 1892 outbreak in Hamburg, Germany was the only major European outbreak; about 8,600 people died in Hamburg. Although generally held responsible for the virulence of the epidemic, the city government went largely unchanged. This was the last serious European cholera outbreak.

* 1899-1923 - Sixth cholera pandemic had little effect in Europe because of advances in public health, but major Russian cities were particularly hard hit by cholera deaths.

* 1961-1970s - Seventh cholera pandemic began in Indonesia, called El Tor after the strain, and reached Bangladesh in 1963, India in 1964, and the USSR in 1966. From North Africa it spread into Italy by 1973. In the late 1970s, there were small outbreaks in Japan and in the South Pacific. There were also many reports of a cholera outbreak near Baku in 1972, but information about it was suppressed in the USSR.

* January 1991 to September 1994 - Outbreak in South America, apparently initiated when a ship discharged ballast water. Beginning in Peru there were 1.04 million identified cases and almost 10,000 deaths. The causative agent was an O1, El Tor strain, with small differences from the seventh pandemic strain. In 1992 a new strain appeared in Asia, a non-O1, nonagglutinable vibrio (NAG) named O139 Bengal. It was first identified in Tamil Nadu, India and for a while displaced El Tor in southern Asia before decreasing in prevalence from 1995 to around 10% of all cases. It is considered to be an intermediate between El Tor and the classic strain and occurs in a new serogroup. There is evidence of the emergence of wide-spectrum resistance to drugs such as trimethoprim, sulfamethoxazole and streptomycin.