



NOBLE COUNTY

HEALTH DEPARTMENT

44069 Marietta Road Caldwell, OH 43724 ~ Phone: 740-732-4958 ~ Fax: 740-732-5043 ~ Toll Free: 888-70-NOBLE ~ www.noblecohd.org

Waterborne Diseases Fact Sheet

What are Waterborne Diseases?

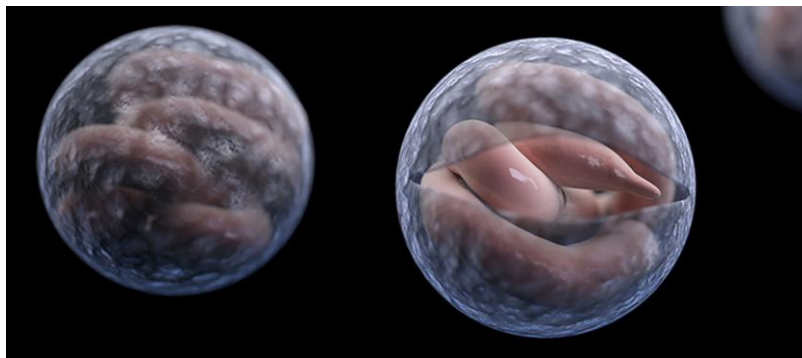
Waterborne diseases are caused by pathogenic microscopic organisms transmitted via water.¹ Water is part of every aspect of our lives, thus these diseases can spread while washing, drinking water, bathing, and eating food that has been subjected to contaminated water.²

Waterborne Disease in Ohio³

Waterborne illness in the United States causes disease in the intestines, skin, and respiratory tract. In Ohio, there is a designated team at the Ohio Department of Health that tracks these diseases, among other diseases, called the Outbreak Response and Bioterrorism Investigation Team (ORBIT).

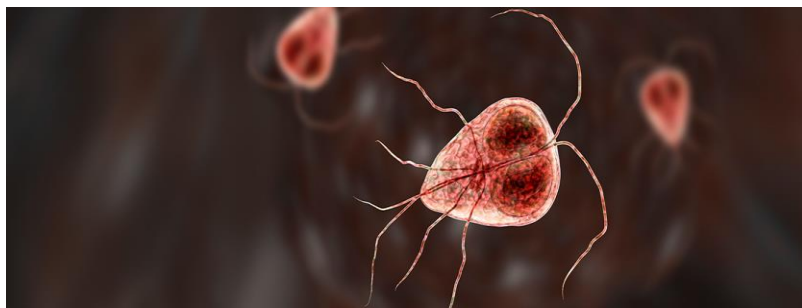
Intestinal (Enteric) Diseases

Waterborne intestinal infections usually include the symptoms of nausea, vomiting, and diarrhea. These waterborne pathogens can come in three forms: parasites, bacteria, and viruses.³ Cyclosporiasis is an intestinal illness caused by the parasite *Cyclospora cayentanensis*. People become infected by consuming food or water that contains the parasite.⁴ Diagnosis for this is done via a stool sample⁵ with treatment via antibiotics.⁶



Cryptosporidium parasite – CDC

Giardia is another intestinal parasite that causes giardiasis, which can spread easily from person to person. *Giardia* is found in soil, water, or food that has been contaminated by the stools from either humans or animals.⁷ Diagnosis is via a stool examination and treatment ranges from antiprotozoal drugs to amebicides and antibacterial drugs.⁸



Giardia parasite - CDC

Skin Infections

A bacteria known as *Pseudomonas aeruginosa* can cause a skin rash known as “Hot Tub Rash”. This rash appears in areas usually covered by a swimsuit that appear as a red, bumpy rash that itches. The bacteria can also cause “swimmer’s ear”, painful and itchiness in the ear when tugged on.⁹

Treatment for these skins infections is done with antibiotics.¹⁰



Pseudomonas aeruginosa - CDC

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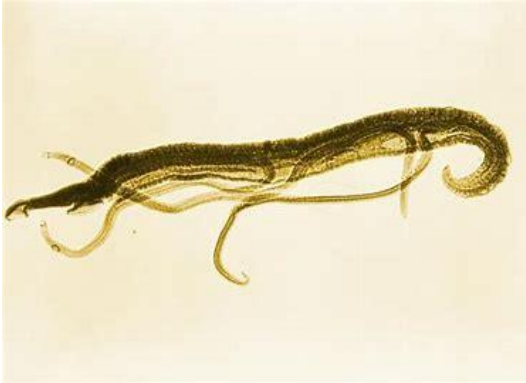
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Skin Infections (continued)

Another culprit in waterborne skin infections is a parasite flatworm known as *Schistosoma* that live in freshwater. If an infected individual urinates or defecates in the water, eggs will contaminate the water. These eggs can then hatch, and if a certain type of snail lives in this water, the worms will infect, develop and multiply inside this snail. The parasite will leave the snail, in a larval state, with the ability to infect humans by penetrating the skin and developing into adult worms in the blood vessels of the body. Symptoms include itchy skin that develops a few days after infection, progressing to fever, chills, cough, and muscle aches one to two months after infection.¹

Treatment for schistosomiasis is done with Praziquantel, which is an anthelmintic (drugs that treat parasitic worms).²



Schistosoma – CDC

Respiratory Infections

A bacteria named *Legionella* is found in freshwater such as lakes and streams. The bacteria becomes dangerous when it enters man-made water systems that include: building cooling towers, showerheads/sink faucets, decorative water fountains, and large plumbing systems. The *Legionella* bacteria grows and spreads in very small water drops in the systems mentioned above. People then breathe in these small water droplets and become infected with Legionnaires' Disease, also called Pontiac fever. Symptoms include fever, chills, cough, and muscle aches.³

Since a type of pneumonia is caused by the *Legionella* bacteria, diagnosis is done via an x-ray and a sputum test. In some cases, this disease can lead to lung failure or even death. Treatment is done with a course of antibiotics.⁴



Legionella CDC

Preventing Waterborne Diseases⁵

Waterborne germs can be composed of bacterias, fungi, and micro-organisms, and can live in bio-films occurring where water sources do not move. These films are “slimey” and glue-like, acting as a barrier to chemicals like chlorine that help keep water supplies clean.

Waterborne germs can also live in the pipes of homes and devices that require water, thriving in environments where the water is stagnant (not flowing) or is not treated with appropriate disinfectants.

Tap water is not sterile and can contain some germs. It is the public water utility providers responsibility to ensure your water meets all safety standards. These germs can creep into your water pipes and multiply, if conditions are not right (i.e. if the tap is not turned on for a long period of time, allowing the water to sit still in the pipes). Steps you can take to protect yourself from waterborne diseases are:

1. Flushing your showerheads and faucets if they have not been used in a long time.
2. Communicate with your water utility provider. Be sure to sign up for water advisories.
3. Be sure to use sterile water when utilizing items such as a neti pot.
4. Be sure to empty the water daily from humidifiers. Allow them to air dry after cleaning them.
5. Keep water heater temperature set between 130°-140°F. This will be hot enough to kill any germs.

Lakes and ponds are also sources of concern as they can be contaminated with germs that come from animal or human feces. Do not swim in water if it appears cloudier than normal, smells bad, or is discolored. These germs can also make you sick if you swallow the water.⁶

Some types of birds are attracted to water and leave their droppings (poop) behind in the water. These droppings can contain harmful germs. Do not touch bird dropping unless you are wearing disposable gloves.⁷

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2. Centers for Disease Control and Prevention, parasites, schistosomiasis, treatment. (April 2018). Retrieved from: [CDC - Schistosomiasis - Treatment](https://www.cdc.gov/schistosomiasis/treatment)
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