

Waterborne Illnesses

Most waterborne illnesses are the result of exposure to human and/or animal fecal waste. A small drop of fecal matter can contain millions of microorganisms of many types, some of which are harmless and some of which are disease-causing pathogens.¹

Information from the CDC

According to the Centers for Disease Control and Prevention, “Recreational waterborne illnesses include a wide variety of infections, such as gastrointestinal, skin, ear, respiratory, eye, neurologic, and wound infections. The most commonly reported RWI is diarrhea.

“With recreational waterborne illnesses outbreaks on the rise, swimmers need to take an active role in helping to protect themselves and prevent the spread of germs. It is important for swimmers to learn the basic facts about RWIs so they can keep themselves and their family healthy every time they swim.”

The U.S. Environmental Protection Agency estimates that between 1.8 and 3.5 million people are sickened each year when they are exposed to sewage from sanitary sewer overflows while swimming, boating, or enjoying other water-based activities. Most people recover from these diseases with no long-term effects. However, they can be very dangerous to children, the elderly, and other patients with weakened immune systems.

For more information, please visit <http://www.cdc.gov/healthywater/swimming/rwi/>.

Common Waterborne Illnesses:

Source: Center for Disease Control

| TYPE | PATHOGEN | ACUTE EFFECTS | POTENTIAL CHRONIC OR ULTIMATE EFFECTS |
|----------|--|---|---|
| BACTERIA | | | |
| | <i>E. coli</i> O157:H7 | Diarrhea | Adults: death (thrombocytopenia) |
| | <i>Legionella pneumoniae</i> | Fever, pneumonia | Elderly: death |
| | <i>Helicobacter pylori</i> | Gastritis | Ulcers and stomach cancer |
| | <i>Vibrio cholerae</i> | Diarrhea | Death |
| | <i>Vibrio vulnificus</i> | Skin & tissue infection | Death in those with liver disorders or problems |
| | <i>Campylobacter</i> | Diarrhea | Death: Guillain-Barré syndrome |
| | <i>Salmonella</i> | Diarrhea | Reactive arthritis |
| | <i>Yersinia</i> | Diarrhea | Reactive arthritis |
| | <i>Shigella</i> | Diarrhea | Reactive arthritis |
| | <i>Cyanobacteria</i> (blue-green algae) and their toxins | Diarrhea | Potential cancer |
| | <i>Leptospirosis</i> | Fever, headache, chills, muscle aches, vomiting | Weil’s Disease, death (not common) |
| | <i>Aeromonas hydrophila</i> | Diarrhea | |

| PARASITES | | | |
|--|---|---|---|
| | <i>Giardia lamblia</i> | Diarrhea | Failure to thrive, Severe hypothyroidism, Lactose intolerance, Chronic joint pain |
| | <i>Cryptosporidium</i> | Diarrhea | Death in immune-compromised host |
| | <i>Toxoplasma gondii</i> | Newborn syndrome, Hearing and visual loss, Mental retardation, Diarrhea | Dementia and/or seizures |
| | <i>Acanthamoeba</i> | Eye infections | |
| | <i>Microsporidia, (Enterocytozoon & Septata)</i> | Diarrhea | |
| VIRUSES | | | |
| | <i>Hepatitis viruses</i> | Liver infection | Liver failure |
| | <i>Adenoviruses</i> | Eye infections, diarrhea | |
| | <i>Caliciviruses, small round structured viruses, Norwalk virus</i> | Diarrhea | |
| | <i>Coxsackie viruses</i> | Encephalitis, Aseptic meningitis, Diarrhea, Respiratory disease | Heart disease (Myocarditis), reactive insulin-dependent diabetes |
| | <i>Echoviruses</i> | Aseptic meningitis | |
| Adapted from chart by Centers for Disease Control and Prevention. Emerging Infectious Diseases, vol. 3, no. 4, Oct-Dec 1997. | | | |

ⁱ Rose, J.B., et al., Microbial Pollutants in Our Nation's Waters: Environmental and Public Health Issues, American Society for Microbiology, Washington, D.C., 1999, p. 8.