



water is life!

WATER-BORNE DISEASES

Recognize some of the common illnesses caused by contaminated water.

Water is essential for life. It is a vital resource not only for our bodies, but for numerous activities we engage in everyday. Unfortunately, many of our water sources are dwindling and polluted, causing diseases and problems worldwide. Poor sanitation, improper hygiene and lack of education, especially in developing countries, cause casualties everyday.

According to the World Health Organization, 3.4 million people die every year from water-related illnesses, making it the leading cause of disease and death around the world. Most victims are children, many of whom die of illnesses brought about by organisms that thrive in water sources contaminated by raw sewage.

Water-borne diseases are caused by pathogenic microorganisms which are directly transmitted when we drink contaminated water. They can be caused by protozoa, viruses or bacteria, many of which are intestinal parasites.

Disease	Pathogenic Agent	Sources of Agent in Water Supply	General Symptoms
Amoebiasis	Protozoan (<i>Entamoeba histolytica</i>)	Sewage, non-treated drinking water, flies in water supply	Abdominal pain and discomfort, fatigue, weight loss, diarrhea, bloating, fever
Botulism	Bacterial (<i>Clostridium botulinum</i>)	Bacteria can enter a wound from contaminated water; can enter the gastro-intestinal tract by consuming contaminated drinking water or food	Dry mouth, blurred and/or double vision, difficulty swallowing, difficulty breathing, slurred speech, vomiting, diarrhea. Death is usually caused by respiratory failure.
Cholera	Bacterial (<i>Vibrio cholerae</i>)	Drinking contaminated water	Watery diarrhea, nausea, cramps, nosebleed, rapid pulse, vomiting. In severe forms, can be rapidly fatal.
E. coli Infection	Bacterial (<i>Escherichia coli</i>)	Contaminated water	Diarrhea. Dehydration from prolonged illness can cause death, especially in immuno-compromised individuals such as the very young and elderly.



water is life!

WATER-BORNE DISEASES

Recognize some of the common illnesses caused by contaminated water.

Disease	Pathogenic Agent	Sources of Agent in Water Supply	General Symptoms
Dysentery	Bacterial (Shigella and Salmonella, Shigella dysenteriae)	Contaminated water	Frequent passage of feces with blood and/or mucus and in some cases, vomiting of blood
Leptospirosis	Bacterial (Leptospira)	Contaminated water containing animal urine carrying the bacteria	Begins with flu-like symptoms then resolves. Second phase then occurs involving meningitis, liver damage, renal failure.
Otitis Externa (Swimmer's Ear)	Caused by a number of bacterial and fungal species	Swimming in contaminated water	Ear canal swells causing pain and tenderness to the touch
Typhoid fever	Bacterial (Salmonella typhi)	Ingestion of water contaminated with feces of an infected person	Sustained fever of up to 40 °C or 104 °F, profuse sweating, diarrhea, in some cases a rash may occur. If untreated, symptoms will progress to delirium, enlargement of the spleen and liver.
Gastroenteritis	Viral (Astrovirus, Calicivirus, Enteric Adenovirus, Parvovirus)	Manifests itself in improperly treated water	Diarrhea, nausea, vomiting, fever, malaise, abdominal pain
Hepatitis A	Viral (Hepatitis A virus or HAV)	Manifests itself in water or food	Fatigue, fever, abdominal pain, nausea, diarrhea, weight loss, itching, jaundice, depression

Sources:

Murky Waters by Donnel Lu, *Health Today*, August 2009

WHO: *Waterborne Disease is World's Leading Killer* by Jessica Berman, www.voanews.comhttp://en.wikipedia.org/wiki/waterborne_diseases

