Waterborne Diseases

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No matter how clean and clear water seems to be, there is always something lurking in the background. Sometimes it is safe to assume that bottled water is healthier and safer than tap water, but don't tell a scientist that. There are many things to consider when consuming water. The best type does not mean the water is the 100% clean. Just because the water comes out of the water hepa-filter attached to your faucet does not mean it's the healthiest for consumption. Waterborne pathogens can get inside water through distillation processes or even when catching it from the clearest and purest of springs.

Bottled water has six different types to choose from, depending on what is preferred. The first is mineral water, which is "typically from a spring, this contains dissolved solids like calcium, magnesium, sodium, potassium, silica and bicarbonates" ("The Bottled Water Purification Process," n.d.). The second type of water is seltzer water, which is "regulated by the Food and Drug Administration as a soft drink, which means rules are less strict than those for bottled water" ("The Bottled Water Purification Process," n.d.). With that being said, if seltzer water is consumed, then it has the same regulations as that of a Pepsi. Bottled water companies also have to disinfect their water supply to kill off pathogens that may have contaminated the water. "Disinfection is used to prevent the growth of pathogenic organisms and to protect public health" ("Water Borne Diseases," n.d.). That does not seem safe enough for the body to consume. The other four are naturally sparkling water, purified drinking water and spring water. Spring water is listed as, "coming from an underground formation and must flow naturally to the earth's surface or through a sanitary borehole" ("The Bottled Water Purification Process," n.d.). With all the different types of water, how can consumers know that the purest is being selected for consumption?

In just about every home improvement store, there are home hepa-filters that can be purchased. Brita and other brands make filters that can be mounted upon the faucet at home or even filters already built in the pitcher. The purposes of filters are to rid tap water of the funny taste chlorine leaves behind and all the pathogens that may be inside. "'Filtering can be very effective and healthy,' says Dr. Bill McCoy, chief technology officer for Phigenics, an Illinois-based water safety consulting firm with clients around the world. It can improve the water's quality" (qtd. in "Water Filters," 2010). There is not 100% guarantee that the water is free of pathogens and/or chlorine. Buying filters seems like a waste of hard-earned money when there is no way of being sure. "'They take out the basics-chlorine, color and so on. A lot of people don't like to shower in water that smells of chlorine,' says Jim Colman, environmental consultant at Water Purification Products in Margate" (qtd. in "Water Filters," 2010).

Waterborne pathogens can get inside water that is used for human consumption and may have deadly side effects. Sometimes these pathogens can get inside water after natural disasters, such as flooding, hurricanes, tornadoes or tsunamis. There is nothing that can be done to prevent contamination in cases like natural disasters because it is solely nature taking its course. For example, when Hurricane Katrina hit New Orleans in 2005, one of the main causes of death was the contamination of water. "Flooding is associated with an increased risk of infection; however, this risk is low unless there is significant population displacement and/or water sources are compromised" ("Flooding and Communicable Diseases Fact Sheet," n.d.). Once these waterborne pathogens have been contracted, then there is a risk for a potential epidemic: "Floods can potentially increase the transmission of communicable diseases" ("Flooding and Communicable Diseases Fact Sheet," n.d.).

Some waterborne pathogens include cholera, botulism, hepatitis A, dysentery, cryptosporidiosis, polio and giardia. "Cholera has a gastro-intestinal route of exposure and it causes diarrhea and dehydration, which can be life-threatening if untreated" ("Diseases and Their Pathogens," n.d.). Keep in mind that Brita hepa-filter that is attached to the faucet in the kitchen is supposed to take that out so that the water is safe to drink. Not always is the filter 100% effective, though. Dysentery also has a gastro-intestinal route of exposure. It causes "severe, often bloody diarrhea, vomiting, fever and life threatening if left untreated" ("Diseases and Their Pathogens," n.d.). Botulism is a pathogen that can be found in food and water. It causes paralysis ("Diseases and Their Pathogens," n.d.). People can sometimes take water for granted, not knowing that it can kill.

All over the world, water is being used, not only for drinking but cooking, cleaning and bathing, too. The best brand of bottled water, though, does not mean it is the best water for drinking. Natural disasters such as floods, hurricanes, tornados and tsunamis are all things that can ultimately contaminate our water sources. Buying filters can't provide a 100% guarantee either. Some companies only have the same water purification regulations that companies making soft drinks would. With all the different pathogens that get into our water source, knowing that water is clean and pathogen free is priceless.

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