

Environmental Health

FAST FACTS

Water Filtration

While water from a lake, river or stream may appear to be crystal clear, this does not mean it is safe for drinking.

These surface water supplies can be contaminated by microbes such as viruses, bacteria, and parasites which are invisible to the naked eye. Some of these microbes can cause illness in people and animals.

This is why the Haliburton, Kawartha Pine Ridge District Health Unit recommends that all surface water be treated before it is consumed. This can be done either by boiling the water, or by installing treatment equipment within the water distribution system. Examples of such equipment include hypochlorinators, ultraviolet lights, distillation units and reverse osmosis units.

Unfortunately, water treatment equipment such as hypochlorinators and ultraviolet lights are **not** effective in destroying all types of disease causing microbes. This is because some types of parasites form a thick protective coat around themselves when they pass out of the body of an infected person or animal and into the environment. While in this protective state, they are relatively inactive and are called cysts.

When individuals or animals swallow the cyst, the acid in the stomach eats into the coating of the cyst allowing the active feeding form of the parasite to emerge and invade the intestinal tract. Once in the intestine, the parasite can cause

illness with symptoms such as cramping, bloating and diarrhea.

Two examples of these types of parasites are **Giardia lamblia**, which causes Giardiasis (known as Beaver Fever) and **Cryptosporidium**. The cyst forms of these organisms can survive chlorination and ultraviolet light radiation, but will not survive filtration if the proper size filters are used. The risk of these diseases is eliminated through the use of filters with a pore size of three microns or less. Since filters of this size are extremely fine and can clog easily, it is advisable to first use a coarser filter, or series of filters. This will help remove larger organic material which could easily clog filters with small pore sizes.

For more information about filtration, call the Environmental Health department of the Haliburton, Kawartha, Pine Ridge District Health Unit.

Adapted from information provided by the Muskoka-Parry Sound Health Unit

