

## ***Choosing a Home Water Filtration System***

*By Michael Torreiter, Naturopathic Doctor*

Our household's Brita water jug recently stopped working properly. Okay, actually I dropped it. Out of sheer laziness, after several weeks, I realized I still hadn't purchased a replacement. I wondered if the Brita filter was really the most appropriate water filtration system for our household. I'm a naturopath – maybe I should be installing a top of the line solid carbon block reverse osmosis filtration system under the sink? On the other hand, what if no filtration system is necessary? We do pay taxes that go to ensuring a "safe" drinking water supply. I began to do some research and to delve more deeply into the available options for drinking water in the City.

### OUR TAP WATER

Our municipal water must meet health-related guidelines set by the Ontario Ministry of the Environment. The City of Waterloo and the Region work together to provide safe drinking water for the residents. The results of their testing are reported in yearly Water Quality Reports. The three main health concerns in drinking water for any municipality are: harmful bacteria (such as *E. coli*), minerals (such as lead, copper), and chemicals (such as agricultural pesticides). A safe water supply must address these three potential hazards.

### HARMFUL BACTERIA

In Waterloo, the water is tested for harmful bacteria on a weekly basis. The Region uses chlorine (and chloramines) to kill the bacteria. The level of chlorine is periodically adjusted to ensure a steady supply. In fact, since the *E. coli* tragedy in Walkerton, requirements for chlorine levels in Ontario municipal water have risen.

### HARMFUL MINERALS

Minerals that are the most harmful to human health include lead, mercury, copper, and cadmium. Lead and copper can leach into our water supply from old pipes and faucets.

### CHEMICALS

Industrial and agricultural chemicals persist in nature, are leached into the soil and filter into our groundwater and surface water. Some agricultural pesticides can cause various cancers, hormone mimicry and disruption, and neurological problems. However these effects are dependent on length of exposure and exposure to other chemicals.

According to the Water Quality Reports, most of the minerals and chemicals are only tested every three years. Should we be concerned? Certainly none of the tests on the water quality reports exceeded safe limits according to the report. But is testing once

every three years sufficient?

I talked to Tim Wettlaufer, utilities organizational leader of the City of Waterloo. Does he think I should filter my drinking water? "We provide a potable product," says Wettlaufer. "Our bacteriological sample proves that every week. However things can happen in the system. We have full confidence in our water, but it's a comfort level for each person."

To help in my quest, I enlisted local smart person Julie Stauffer, author of "The Water You Drink: Safe or Suspect" (New Society Publishers, 2004). So is the water safe to drink? "Generally speaking, yes," says Stauffer. "Despite incidences such as the *E. coli* deaths in Walkerton, I think there are very low chances of contracting water borne illnesses in Ontario. There are much greater environmental concerns out there. More people die from poor air quality in Ontario than a contaminated water supply".

But what about the chemicals in the water? Stauffer: "That is a concern. We are exposed to many chemicals in the environment, including our drinking water – things like pesticides and industrial solvents. We don't know the long-term cumulative effects of exposure to so many chemicals in our water, air, and food – even at low levels."

Of all the water-related health issues, Stauffer is most concerned with lead – especially in children. "It's worth checking the water quality reports for municipal findings, and also worth checking the pipes in your home." Lead was found in piping in homes older than 30 years and used in solder after that.

So if our municipal water could contain low-level pesticides and harmful minerals like lead, what are the options?

## BOTTLED WATER

Because of concerns over water quality, many Waterloo residents buy bottled water by the case. But this option is an air quality nightmare. Plastic bottle factories create and release toxic wastes. The bottles need to be trucked into the community contributing to greenhouse gases. And, according to Alternatives Journal (volume 29.2, 2003), "there is little evidence that it is of higher quality than municipally treated water."

## HOME REVERSE OSMOSIS (RO) SYSTEM

A home RO system removes chemicals, bacteria and 98% of minerals. This system costs several hundred dollars, and unfortunately wastes a lot of water – around 2-3 parts to 1 part purified at best. The system also removes naturally occurring healthy minerals as well as the harmful ones, and could leave the consumer depleted of much needed minerals.

## HOME DISTILLATION SYSTEM

Also costly, a home-based distillation system does a great job of removing minerals and bacteria. However the distillation process uses a lot of electricity and strips the water of naturally occurring healthy trace minerals.

## LARGE REFILLABLE JUGS

Some residents are using refillable jugs and purchasing their water at places such as the Water Market (75 Bridgeport Road East). There you can purchase RO, distilled or spring water. This seems like a reasonable option, particularly for people who are already dealing with a toxic overload in their system and require the purest water they can find\*. There is minimal manufacturing of plastic, minimal transportation and the water is pure.

Although there are still some of the associated environmental impacts listed above (energy use, water wastage, shipping).

## ACTIVATED CHARCOAL FILTER

Activated charcoal filters are the cheapest and most widely used water filtration option (BRITA or PUR are common brand names). Filters are attached to your kitchen water tap or used in a jug. This filter will reduce or remove minerals such as chlorine and lead, and some chemicals. It does not remove micro-organisms. Stauffer approves of this method with a cautionary note: "Unfortunately by decreasing the chlorine in the water, you increase the risk of bacterial contamination if you leave the water out at room temperature or don't clean the jug regularly. And if you don't change the filter frequently enough, it may actually release all the contaminants it has collected." When choosing a filter, make sure its certified NSF 53 (health effects) and 42 (aesthetic effects)\*\*.

## THE VERDICT

So what did I decide? By weighing the financial, environmental and health concerns with all the different options, I went with a brand new activated charcoal filter. The filter reduces or removes many of the harmful minerals and chemicals that may not be tested regularly. It tastes better than tap water. And our municipal water system is taking care of the harmful bacteria.

I purchased a faucet mount this time. This way, the water doesn't sit in a plastic jug and we avoid any cancer-causing chemicals leaching from the plastic into the water. Plus now dropping it is out of the question!

*\*Talk to your naturopath about Hair Mineral Analysis to determine toxic exposure to minerals.*

*\*\*For more information on certification of water filters, go to [www.nsf.org](http://www.nsf.org), click on Consumer, then choose Water Treatment Devices.*

*Thanks to Julie Stauffer, staff at The Region of Waterloo, the City of Waterloo. Water Quality Reports are available online at the City of Waterloo's and Region's websites.*