

10-3-08 Products and Pharmaceuticals in Our Drinking Water

When I am trying to help people figure out why their septic system failed or the importance of the filter in the tank's outlet pipe, they sometimes give me weird looks that seem to say, "You've got to be kidding me!" Then they counter with, "You think a leaky toilet or too much bleach or use of antibacterial soaps killed my system? These are just ordinary things that we should be able to use at the sink. After all, they were meant to go down the drain."

Oh, brother! If I can't make any headway with why we should not use antibacterial soaps on our living, biological septic system, how am going to convince them that even hair conditioner can clog the works? And that would probably be just a mechanical clog, coating parts with wax-like substances. Or was there more to these commonly used products?

For many years now I was certainly amazed at the ever-growing complexity of choices in most every aisle at the supermarket, department store and pharmacy. These products are now referred to as PPCP, pharmaceuticals and personal care products.

Since my discovery of how quickly a "simple", "ordinary", "everyday" product such as hair conditioner could effect my septic system, I have been following with great interest the topic of personal care products and pharmaceuticals and the impact they have on our drinking water supplies. That is, after all, where all our plumbing leads to: back to the groundwater. Whether we have our own little septic system or our plumbing leads to a municipal wastewater treatment plant, all the wastewater needs to be treated. Whether it was treated sufficiently or not, it winds up back in the ground, joining our supply of drinking water. When it joins our water supply, it brings with it a lot more than just water.

Some of the most commonly found substances in our surface waters of streams and ponds include NSAIDS (such as Ibuprofen), hormones from such obvious sources as birth control pills and, surprisingly, many estrogen-like substances are found in numerous common household cleaning products and such personal care products such as sunscreens. Then there is the caffeine, as found in many medications as well as beverages, BPA from plastics and tin cans, pesticides and Triclosan from antibiotic soaps. Disturbingly, the most frequently detected PPCP in public water supplies is tetrachloethylene, as used in dry cleaning and degreasing. Tetrachloroethylene has been found in at least 771 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

A study by US Geological Surveys in 2002 of 139 targeted streams across the US, found prescription and non-prescription drugs, hormones and other contaminants. The fifth highest was triclosan, an antimicrobial disinfectant found in many soaps.

Medications can go undetected by labs and public water supplies because we are not looking for them. MCL's (maximum contaminant levels) have not been developed for these substances and so we don't know if the levels are acceptable or not or if they are causing harm or undesirable effects.

Undesirable effects? We are plagued by antibiotic resistance, with higher doses of antibiotics applied when necessary, still leaving the resistant ones. The estrogen in our waters is actually feminizing our fish! Really. I'm not kidding. And there is more. I'll save some for another time.

For now, who is paying attention? I know that at least one group is. The Silent Spring Institute sees a 15% higher incidence of breast cancer on the Cape Cod. While they may not have proof that it is from groundwater contaminants, they have concluded that private septic systems are the cause. I am so glad that Rachel Carson is not forgotten.

Lead researcher for the Silent Spring study, Laurel Standley said, "It is worrisome that we are finding these contaminants in groundwater-fed ponds. Septic systems are not getting rid of pharmaceuticals and hormones, and these contaminants are getting into the groundwater that is used extensively for drinking water. For an area relying so heavily on commercial and residential septic systems, this is of great concern."

What can we do? We can stop using antimicrobial soaps. It is the friction-action while using ordinary soap and warm water that cleans hands. If you need to disinfect, disinfect surfaces such as door knobs, faucets and phones with antibacterial wipes that can be thrown away. At least these go to properly designed and protected landfills.

Dispose of unused and out of date medications in the same way for the same reason. Do not dump them down the toilet.

These are examples of Best Management Practices that we all need to develop.

When you test your well water, ask if they look for PPCP's. Can they? How would they? What would it cost? Ditto for municipal water departments. They may not be required to and there may not exist MCL's but do they even look for these?

While we are so fortunate in New England to have an abundance of water, do we want to waste it or take it for granted? Can we afford to risk the use and reuse of our water by such large entities as a casino?

Do you know what is in your water? What do you want your children to drink? Let's find out and let's see what we can do to save our water supplies.

Cathleen Drinan is the health agent for the Town of Halifax. She says you don't need to switch to bottled water because that is from public water supplies, also. She welcomes your comments. She can be reached at 781 293 6768 or cdrinan@town.halifax.ma.us