Column: Test Upper Valley Well Water for Arsenic

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While thousands of Lebanon residents recently scrambled to boil water in response to fears about e-coli bacteria in the municipal water supply, some of their rural neighbors may have appreciated their private well water, perhaps even offering to top off their less fortunate friends' bottles. What Upper Valley residents may not have realized is that well water, unless regularly tested, may also pose potential dangers to public health.

The Environmental Protection Agency's Safe Drinking Water Act does not regulate private wells as it does public water systems. Surrounded by bucolic landscapes, with few sources of industrial contamination in sight, most of us don't recognize that the very bedrock that gives our region its natural beauty also brings a significant potential health threat.

Northern New England has the largest proportion of residents with private wells in the U.S., and some of the highest levels of natural arsenic. Some 30 percent to 50 percent of regional residents rely on private well water; so do nearly half in the Upper Valley. The U.S. Geological Survey estimates that one out of every five wells in New Hampshire exceeds the maximum acceptable levels for arsenic. Vermont, particularly the north-central region, and Maine are also impacted. This poses a significant public health issue for hundreds of thousands of residents, most of whom are unaware of this risk.

Arsenic is a tasteless and odorless chemical naturally present in granite and other rock that seeps into groundwater. Lethal at high doses, arsenic also brings long-term threats at lower levels of exposure. Scientists have long recognized arsenic as a carcinogen, often associated with bladder and skin cancer, but newer research reveals associations with diabetes and hypertension. Even more alarming, evidence suggests that pregnant women and young children may be particularly sensitive to arsenic's adverse health effects. Exposure to lower levels of arsenic during critical developmental periods has been associated with lower birth weight, impaired immune function and neurodevelopmental effects. Such
research led the EPA in 2002 to decrease the maximum contaminant level for arsenic in drinking water by a factor of 5, from 50 parts per billion (PPB) to 10 PPB. The EPA is currently examining whether even this is low enough.

The EPA and individual state environmental agencies recommend that well owners test their water every year for some contaminants such as bacteria, and at least every three to five years for others, including arsenic. But ask well owners the last time they tested their well, and you’re likely to get a confused look and a faint recollection of long-ago testing back when they purchased their property. They’ll likely be even more baffled if you ask what contaminants were involved in these water tests. This is a shame, because testing is straightforward, and instructions and advice are available. New Hampshire and Vermont provide resources for private well testing. New Hampshire information is at http://des.nh.gov/organization/divisions/water/dwgb/well_testing/documents/well_testing.pdf. Vermont at http://healthvermont.gov/enviro/water/safe_water.aspx.

With the lifting of the boil water advisory, Lebanon city residents have resumed drinking their water, with assurance that it meets all safety and health standards. This is not the case for 500,000 or more people in New Hampshire and approximately 250,000 Vermont residents who rely on private wells for their drinking water. If you are a well owner, and especially if you have children, it is time to shake off complacency and ensure that your well water is safe for you and your family. If you have not tested the water, you just don’t know.

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