

Monochloramine Use in the Champlain Water District

To: Vermont Health Care Providers

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Following is information that may be useful in addressing questions and concerns of your patients regarding monochloramine used to disinfect drinking water. Information in greater detail is available on the Department of Health website at healthvermont.gov.

Background

The Environmental Protection Agency (EPA) requires water suppliers to treat the water with a disinfectant at the water treatment plant. All Vermont water systems are using chlorine as their primary disinfectant. In addition to primary disinfection, EPA requires a secondary or residual disinfectant to be used in the pipes after the water leaves the treatment plant and before it reaches the consumer's tap.

While most systems use chlorine for secondary disinfection, monochloramine has been in use for this purpose for nearly 90 years. It is currently used by systems serving many more than the 68 million people identified in a 1998 survey. The principal advantage of using monochloramine over chlorine is that its use reduces the levels of harmful disinfection byproducts that are associated with chlorine.

In April 2006, the Champlain Water District (CWD) became the first water system in Vermont to switch from chlorine to monochloramine for secondary disinfection. CWD supplies water to: Shelburne, South Burlington, Williston, Essex Junction, Essex, Jericho Village, Milton, Winooski, Mallets Bay Water Company, Colchester Town, and Colchester Fire Districts #1 and #3.

Burlington has its own system and does not use monochloramine.

Health Questions about Monochloramine

Since April 2006, the Vermont Department of Health has heard from a number of individuals and anti-chloramine groups about medical and health concerns they believe are a result of monochloramine.

Our toxicology and medical epidemiology experts have searched for and reviewed all available research on the subject to date – including consulting with the CDC and the EPA regarding emerging studies that might provide relevant information. To date, we have found no credible evidence to show that the use of monochloramine to disinfect public drinking water is a threat to public health or has been associated with adverse side effects.

However, we know that there are individuals who have symptoms that have not been diagnosed or treated, and it is possible that these are related to monochloramine.

In any case, we are concerned that these individuals receive appropriate medical care.

Reported Symptoms

The Vermont Department of Health is aware – through reports from individuals and from anti-chloramine groups – that a variety of symptoms are being attributed to monochloramine exposure. Most reports involve skin, respiratory and constitutional symptoms.

Rashes have been described as itchy, flakey, red, weepy, bumpy, and swollen – and occurring on the face, arms, legs or feet, body-wide or a combination of areas. Respiratory symptoms reported include stuffiness, runny nose, cough, wheeze, shortness of breath and phlegm production. General constitutional symptoms have also been reported, including tiredness, loss of energy, feeling unwell, eye irritation, joint aches, skin pain and numbness, headache, and diarrhea.

Management Considerations

Because there is no reliable data that allows identification of a syndrome related to monochloramine exposure, and because of the variable nature of the symptoms attributed to exposure, it is appropriate to address the patient's symptoms with the usual clinical diagnostic and management tools. Treatment may appropriately be symptom-based while the diagnostic process is proceeding.

Before considering monochloramine as an etiologic factor, it is useful to confirm that the patient is being served by CWD, the only Vermont system that currently uses monochloramine. In that event, and in the absence of other diagnoses, a monitored trial of avoidance of the monochloraminated water may be informative.

The Health Department would appreciate receiving reports of your contact with patients presenting with symptoms that they attribute to monochloramine. These reports do not need to include personal identifiers unless the patient authorizes your release of the identifying information to the Health Department.

We are interested in your findings, whether you conclude that the symptoms are the result of monochloramine exposure or due to some other cause. Reports can be made in whatever form is convenient for you, and can be phoned to (802) 863-7281, faxed to (802) 951-1275 or emailed to dswartz@vdh.state.vt.us.