

The Fact Sheet (series no.4) – Tetrachloroethylene

Tetrachloroethylene contaminated drinking water in Massachusetts.

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Abstract: We conducted a population-based case-control study to evaluate the relationship between cancer of the colon-rectum (n = 326), lung (n = 252), brain (n = 37), and pancreas (n = 37), and exposure to tetrachloroethylene (PCE) from public drinking water.

Subjects were exposed to PCE when it leached from the vinyl lining of drinking-water distribution pipes. Relative delivered dose of PCE was estimated using a model that took into account residential location, years of residence, water flow and pipe characteristics.

Adjusted odds ratios (ORs) for lung cancer were moderately elevated among subjects whose exposure level was above the 90th percentile whether or not a latent period was assumed [ORs and 95% confidence intervals (CIs), 3.7 (1.0-11.7), 3.3 (0.6-13.4), 6.2 (1.1-31.6), and 19.3 (2.5-141.7) for 0, 5, 7, and 9 years of latency, respectively]. The adjusted ORs for colon-rectum cancer were modestly elevated among ever-exposed subjects as more years of latency were assumed [OR and CI, 1.7 (0.8-3.8) and 2.0 (0.6-5.8) for 11 and 13 years of latency, respectively]. These elevated ORs stemmed mainly from associations with rectal cancer. Adjusted ORs for rectal cancer among ever-exposed subjects were more elevated [OR and CI, 2.6 (0.8-6.7) and 3.1 (0.7-10.9) for 11 and 13 years of latency, respectively] than were corresponding estimates for colon cancer [OR and CI, 1.3 (0.5-3.5) and 1.5 (0.3-5.8) for 11 and 13 years of latency, respectively].

These results provide evidence for an association between PCE-contaminated public drinking water and cancer of the lung and, possibly, cancer of the colon-rectum.

If you wish to protect yourself and your family from a wide range of undesirable substances commonly found in tap water, you should select point-of-use ceramic water filtration.

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