

Metabolic Solutions Report

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CHLORINATED WATER CAN AFFECT CANCER RISK

Lifetime consumption of chlorinated tap water can more than double the risk of bladder and rectal cancers in certain individuals, two new studies conclude. Both studies examined the lifetime water-consumption patterns, diets and lifestyles of over 2,200 middle-aged and elderly Iowans suffering from either bladder, colon, or rectal cancers. Those profiles were then compared with those of a pool of nearly 2,000 healthy 'controls'.

Recent research has suggested that chlorine reacts with naturally-found organic compounds in water to form what the study authors call "chlorination byproducts." They say many of these byproducts are "mutagenic and/or carcinogenic." The first study found that smoking men who drank chlorinated tap water for more than 40 years faced double the risk of bladder cancer compared with smoking men who drank nonchlorinated water. Women who drank chlorinated water, on the other hand, had only slightly raised risks for bladder cancers, regardless of (their) smoking status.

The second study found that rates for rectal cancers for both sexes escalated with duration of consumption of chlorinated water. Individuals on low-fiber diets who also drank chlorinated water for over 40 years more than doubled their risk for rectal cancer, compared with lifetime drinkers of nonchlorinated water.

Similar differences were also found between the risk patterns of chlorinated-water drinkers who exercised at least once a week, and those who exercised just once a month, or less. Experts have long recommended regular exercise as one means of reducing one's risk of rectal and other cancers. The study found no link between the long-term consumption of chlorinated tap water and the incidence of colon cancer. This was not surprising, the researchers explain, since colon tumors have very different patterns of genesis and development compared with rectal tumors.

They speculate that the source of chlorinated tap water may help determine its potential to promote cancers. Since surface water (such as that found in lakes and reservoirs) usually contains higher concentrations of organic compounds, the study authors say it is also more likely to contain higher levels of (potentially carcinogenic) chlorination byproducts, compared with water sourced from deep underground.

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