

Chlorinated tap water linked to birth defects

By Jacqui Thornton Health Correspondent and Martyn Halle

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An independent study into the use of chlorine-treated drinking water has been ordered by the Government because of fears that it may cause spina bifida and stillbirths.

Scientists from Imperial College, London University, will carry out the research after doctors in Norway, Canada and the United States reported higher levels of birth defects in areas where chlorine is used, compared with drinking water treated by alternative methods. All of Britain's water companies chlorinate their supplies. The only people who have non-chlorinated water are those with their own bore holes or wells.

A Norwegian study of 141,000 births over three years found a 14 per cent increased risk of birth defects in areas with chlorinated water. Scientists have already found an association between chlorine and an increased risk of bowel, kidney and bladder cancer, but it is the first time that a link has been found with higher levels of spina bifida.

Last night the Spina Bifida and Hydrocephalus Association said it was "concerned" by the findings and would be discussing them with medical advisers before considering making representations to the Government. British water industry experts have not dismissed the findings but said that the safety benefits of purification outweigh the risks of birth defects.

Dr Per Magnus, who carried out the Norwegian research, said: "This is an important finding because we know there are chemicals released by the action of chlorine on organic particles at treatment works. We have observed mutations in these chemicals which seem to tie up with mutations that are found in babies. We were in a unique position in Norway to make these observations because in some areas our water comes from the mountains and doesn't require cleaning with chlorine."

The Norwegian government has ordered more research. Concerned families there have been filtering tap water. A popular method has been to place sachets of coral sand, dredged from fjords, into water before it is drunk, removing all traces of chlorine in tap water in 15 minutes. In Canada, at Dalhousie University, Nova Scotia, researchers found that high levels of trihalomethanes, a by-product of chlorine in drinking water, significantly increased the risk of stillbirth.

Dr John Marshall, of the Pure Water Association, a pressure group which has been campaigning for safer drinking water, said: "It shows we should be paying more attention to the chemicals we put in drinking water and be looking for other alternatives to chlorination. A number of safe, non-toxic options exist, such as treating water with the gas ozone or ultra violet."

Chlorine is in the same chemical group as fluoride, which has been linked with cancer and osteoporosis. There is also a connection between fluoride and increased blood pressure and an increase in problems with the thyroid gland.

John Fawell, a leading specialist on water quality, and an independent industry consultant, said the British Government and water companies were taking the danger of birth defects seriously. He said: "The people who have done this work in Norway and the United States are reputable researchers and the Government and water companies have commissioned their own research from London University.

"But at present the conclusion of the World Health Organisation and other concerned bodies is that the risk from contaminated water supplies outweighs the risk to health from chlorine. Levels of chlorine and its by-products have been falling in water and the amount coming out of the average tap is half a millilitre per litre."