

ABOUT ARSENIC POISONING

We have discovered arsenic above EPA Maximum Contamination Limits in approximately 1 out of each 25 wells we have tested in White County, North Georgia.

Have you tested your well water? Has the Health Department or Ag extension agent told you about this risk? The good news is that we have done some research that indicates a very simple solution may be available to remove most if not all the arsenic in certain water supplies.

Let us test your water and if it needs purification, tell you how.

Did you know that even if you are on a municipal water system (county or city public system) you may still have arsenic, bacteria, cadmium, lead, nitrate, ammonia, or other toxic contaminants in your water? As long as the system meets EPA maximum contaminant levels they can even allow pesticides, herbicides, E. coli, Giardia, Cryptosporidium, enteric viruses, and lead to be sent to consumer households. Want to know why? Or do you just want to make sure you're not drinking any of those? Call us at 706-219-3349.

Arsenic in Groundwater

Table 2: Lifetime Risks of Dying of Cancer from Arsenic in Tap Water

*Based upon the National Academy of Sciences' 1999 Risk Estimates**

Arsenic Level in Tap Water (in parts per billion, or ppb)	Approximate Total Cancer Risk (assuming 2 liters consumed/day)
0.5 ppb	1 in 10,000 (highest cancer risk EPA usually allows in tap water)
1 ppb	1 in 5,000
3 ppb	1 in 1,667
4 ppb	1 in 1,250

5 ppb	1 in 1,000
10 ppb	1 in 500
20 ppb	1 in 250
25 ppb	1 in 200
50 ppb	1 in 100

Source: <http://www.wholly-water.com/Arsenic.Tap.Water.htm>

Excerpts From Science, one of our most prestigious scientific publications

TOXICOLOGY:

Arsenic Victims to Take British Science Body to Court

Daniel Bachtold

CAMBRIDGE, U.K.--The British Geological Survey (BGS) is girding for a court battle over claims that it could have averted a wave of **arsenic** poisoning in Bangladesh over the past decade. A High Court judge in London last week gave the go-ahead for a trial pitting two Bangladeshi residents against BGS's parent body, the Natural Environment Research Council (NERC). The plaintiffs, both of whom are said to suffer from **arsenic** poisoning, are claiming unspecified damages.

The **arsenic** poisonings are a tragic and unforeseen consequence of good intentions. In the late 1970s, UNICEF and other relief organizations began drilling drinking water wells to bypass sewage-tainted surface waters blamed for deadly outbreaks of cholera and other bacterial diseases. They were not aware that the groundwater in some parts of Bangladesh contains high levels of **arsenic**. Over the past few years, researchers have linked escalating rates of particular cancers --including bladder and lung--and skin lesions in Bangladesh to high levels of **arsenic** in drinking water, prompting the government in 1998 to alert communities to the hazard and to take emergency steps to provide alternate water supplies to the worst-hit regions.

The court case hinges on whether BGS should have tested for **arsenic** when it was commissioned by the British Overseas Development Administration in 1991 to help improve wells used mainly for irrigation and fish farming in Bangladesh's floodplains. As part of that study, BGS sampled for trace elements in 150 wells to find out "how the groundwater was flowing, particularly around the boreholes," says hydrogeologist David Holmes, director of environment and hazards at BGS. "It wasn't aimed at testing the [water] supply for drinking quality." In its 1992 report, BGS listed levels of 36 elements and compounds, including aluminum, iron, manganese, phosphorus, and silica. **Arsenic** was not tested, Holmes says, because at the time it was not known to be abundant in floodplains. ... the article continues

AWSA Comments: Various locales in Georgia are KNOWN to have arsenic in the groundwater. Many areas have not been tested. Our tests indicate that at least one site in White County, after testing only 30 wells, has arsenic in its well water. So we offer an arsenic test as part of our EPA Rapid Screen.

Chronic adverse effects http://phys4.harvard.edu/~wilson/arsenic_project_effects.html

Chronic effects of prolonged low level exposure have recently showed up. Among various summaries we link to an information site run by [ASTDR](#). Skin pigmentation, [keratoses](#) and skin cancers were found by Tseng in Taiwan in 1966 among people who drank from arsenic contaminated wells (but no effect was seen below about 150 parts per billion (ppb), which might therefore be a biological threshold) and a very high incidence of lung, bladder and other cancers was found in Taiwan by Dr Chien-Jen Chen in 1986 and by [Dr Allan Smith](#) and collaborators in Chile in 1993. These convinced WHO to recommend lowering the regulatory level from 50 ppb to 10 ppb for arsenic in water. It appears that there are no data on humans to contest the idea that prolonged exposure to low doses is dangerous. Although arsenic was used medicinally in "Fowler's Solution" (1% arsenite), prolonged use had led to these chronic skin effects. This was observed as early as 1888 by [Hutchinson](#). A follow up of a number of English patients treated with Fowler's Solution has been reported by Dr Susan Evans in [published literature](#), in a report at the February 1998 conference in Dhaka and in a [presidential address](#) by Susan Evans to the Liverpool Medical Institute, which is available for download in PDF format. This shows that the use of "Fowler's solution" (which is primarily medicinal arsenic) in the UK is probably responsible for 5 bladder cancer cases among the patients among whom only 1.6 were expected from natural causes. The arsenic dose was equivalent to an average lifetime dose that would come from drinking water with about 25 ppb of arsenic therein.

After several years of low level arsenic exposure, various skin lesions appear. These are manifested by hyperpigmentation (dark spots), hypopigmentation (white spots) and keratoses of the hands and feet. After a dozen or so years skin cancers are expected. Twenty or thirty years after exposure to 500 ppb of arsenic, internal cancers (lung, kidney, liver and bladder) appear among 10% of all exposed. Moreover, the dose-response relationship for these internal cancers is consistent with being linear with no threshold.