

---

**Sent:** Monday, August 26, 2013 1:01 PM

**Subject:** FORUM Q&A: ARSENIC UPDATE #9 -- LOW TO MODERATE AMOUNT OF ARSENIC IN DRINKING WATER CAN IMPAIR LUNG FUNCTION

**Importance:** High

Dear Aquathin Dealer OnLine, Splash NewsBulletin Members;

This article on new information concerning arsenic was forwarded to us from Mike Krause, a long time friend and Aquathin Dealer at The Allergy Store. I've highlighted significant statements in **bold red**. Review with your Sales and Tech Team...and insert into your educational presentations.

**"About 13 million people in the United States get water from a private well that contains more arsenic than the legal limit."**

I LOVE MY AQUATHIN ! AND REMEMBER, THE NEXT BEST THING TO OWNING AN AQUATHIN IS RECOMMENDING ONE TO A FRIEND !!

Let me know what you AquathinK !

Warmest regards to all...as well, your comments are always welcome and very much appreciated.

FOR THE BEST TASTE IN LIFE &

33 Years Pure Excellence

...into another Quarter Century re-inventing the water industry !

Think Aquathin...AquathinK !

( visit the all new [www.aquathin.com](http://www.aquathin.com) )

\*\* AN ISO9001:2000, ISO9001:2008 QMS REGISTERED / CERTIFIED COMPANY - (IMS 0192, NOA 12635) \*\*

& 2008 PRESIDENT'S E STAR AWARD RECIPIENT ( visit [www.aquathin.com/estar2008.pps](http://www.aquathin.com/estar2008.pps) )

*Alfie*

Alfred J. Lipshultz  
President & CEO

P.S. "Splash NewsBulletins", "Forum Q & A" , Biz Bank, Tech Bank and Quote Bank... ARE ALL FREE services to all Authorized Aquathin Dealers and their clients to keep you abreast of technology updates and industry news.

\*\*\*



[« Return to article list](#) | [Print-friendly Layout](#)

#### Description

Exposure to low to moderate amounts of arsenic in drinking water can impair lung function. Doses of about 120 parts per billion of arsenic in well water produced lung damage comparable to decades of smoking tobacco.

#### Citations

*American Journal of Respiratory and Critical Care Medicine*



## Study Adds Lung Damage to Harmful Effects of Arsenic

Released: 8/22/2013 3:00 PM EDT

Source Newsroom: [University of Chicago Medical Center](#)

[more news from this source](#)

**Newswise — A new study confirms that exposure to low to moderate amounts of arsenic in drinking water can impair lung function. Doses of about 120 parts per billion of arsenic in well water—about 12 times the dose generally considered safe—produced lung damage comparable to decades of smoking tobacco. Smoking, especially by males, made arsenic-related damage even worse.**

This is the first population-based study to clearly demonstrate significant impairment of lung function, in some cases extensive lung damage, associated with low to moderate arsenic exposure.

“Restrictive lung defects, such as we saw in those exposed to well-water arsenic, are usually progressive and irreversible,” said the study’s senior author, Habibul Ahsan, MD, MMedSc, Director of the Center for Cancer Epidemiology and Prevention at the University of Chicago Medicine. “They can lead over time to serious lung disease.”

The study, conducted in Bangladesh and published early online in the *American Journal of Respiratory and Critical Care Medicine*, adds to a growing list of arsenic-related health problems that includes skin, bladder and lung cancers, cardiovascular disease, cognitive deficits and premature death. An estimated 77 million people—nearly half of the residents of Bangladesh, the world’s eighth most populous country—live in areas where groundwater wells contain harmful amounts of arsenic.

Less is known about exposure to elevated arsenic levels from well water or foods in other parts of the world, including regions in Mexico and the United States. Researchers have recently begun to re-examine foods, such as rice syrup and apple juice, that contain more arsenic than the 10 parts per billion that is allowed in U.S. drinking water.

“It is challenging to conduct rigorous biomedical research in a place like Bangladesh that lacks the infrastructure for such projects,” Ahsan said, “but over the last 12 to 15 years we have learned how to meet those challenges. We now have a large series of related findings that map out exposures and illustrate the severity of the problem.”

“Our findings reinforce the growing interest in looking more carefully at arsenic-exposure issues in the United States,” he added.

The study, coordinated by Ahsan and co-author Faruque Parvez, DrPH, of Columbia University, was the next step in the Health Effects of Arsenic Longitudinal Study (HEALS), a long-term Bangladesh-based project, begun in 2000 and expanded in 2006.

A nation of major rivers and low-lying plains, Bangladesh is prone to frequent floods, which, along with sanitation shortcomings, have historically contaminated the nation’s drinking water. This led to high rates of infectious disease and child mortality. In the 1960s, more than 250,000 Bangladeshi children died each year from waterborne diseases.

To protect those children, international charity organizations launched a massive humanitarian effort to provide clean drinking water. They installed roughly 10 million hand-pumped wells to bring up water from deep underground.

Nearly 20 years later, by the early 1990s, scientists realized that this well-intentioned plan had gone astray. Though the underground water was free from the bacterial contamination of surface sources, it was tainted with inorganic arsenic, a toxic element. This was “the largest mass poisoning of a population in history,” according to the World Health Organization.

The HEALS team follows about 20,000 people in Araihaazar, a region of central Bangladesh, about 20 miles east of the capital, Dhaka, with a wide range of arsenic levels in drinking-water wells. Between 2005 and 2010, the researchers evaluated 950 individuals who reported respiratory symptoms such as cough and shortness of breath to HEALS clinic doctors. The researchers tested each patient’s lung function and documented his or her arsenic levels.

They divided the patients into three groups according to arsenic exposure, using two related measures: how much arsenic was in their drinking water and how much was in their urine.

Then, local physicians trained by pulmonologist Christopher Olopade, MD, of the University of Chicago, rigorously measured each patient’s lung function using a spirometer with a focus on two standard lung-function tests: forced expiratory flow (FEV1, the amount of air a person can expel in one second) and forced vital capacity (FVC, the total volume of air exhaled after fully filling the lungs).

Both measures showed that arsenic’s effects were dose-dependent. After they corrected for possible confounders, the researchers found that:

- One-third of the participants had been exposed to the lowest arsenic levels, less than 19 parts per billion in water. They had no detectable arsenic-related loss of lung function.
- One-third had been exposed to drinking water with a relatively low arsenic dose, 19 to 97 parts per billion. Their lung function, as measured by FEV1 and FVC, decreased slightly but was not significantly different from the group with the lowest arsenic level in water.
- One-third were exposed to a moderate dose, more than 97 parts per billion. For this group, both spirometric variables were significantly decreased. Their FEV1 decreased by about three times as much as those exposed to 19 to 97 parts per billion and their FVC fell by about six times as much.
- Smoking amplified the damage. About 90 percent of the men tested smoked.

"These results clearly demonstrate significant impairment of lung function associated with lower concentrations than previously reported," Ahsan said. "Those most affected were older, thinner, less educated and more likely to use tobacco. Many of these people have limited excess lung capacity. It made a significant difference in their lives."

"This suggests that a large proportion of the country's population are at increased risk of developing serious respiratory disease, including COPD, bronchitis and interstitial lung disease in the future," the authors conclude.

"This is not just a problem for South Asia," Ahsan said. "About 13 million people in the United States get water from a private well that contains more arsenic than the legal limit. And we are becoming more and more aware that exposure through certain foods might be a bigger issue than drinking water. No comparable, large, prospective study has been done in this country."

The National Institutes of Health funded this study. Additional authors include Maria Argos from the University of Chicago; Mahbub Yunus, Rabiul Hasan, Alauddin Ahmed and Tariqul Islam from the University of Chicago and the Columbia University Arsenic Project Office in Dhaka; Vesna Slavkovich and Joseph H. Graziano from Columbia University; Yu Chen and Stephanie Segers from New York University; and Mahmud Akter from the National Asthma Center, Dhaka.

<http://www.newswise.com/articles/study-adds-lung-damage-to-harmful-effects-of-arsenic>  
[Permalink to this article](#)

• ©2013 Newswise, Inc.



Original text

[Contribute a better translation](#)

---

**From:** AQUATHIN TECH SUPPORT [<mailto:techsupport@aquathin.com>]

**Sent:** Friday, November 05, 2010 1:40 PM

**To:** [Info@Aquathin.Com](mailto:Info@Aquathin.Com) ([info@aquathin.com](mailto:info@aquathin.com))

**Subject:** FORUM Q&A: ARSENIC UPDATE #8 -- ARSENIC TIED TO STROKE RISK

Dear Aquathin Dealer OnLine;



### ***Study ties arsenic in drinking water to increased risk of stroke***

11/5/2010 11:53:43 AM

*ANN ARBOR, MICH. — A recent study of Michigan residents suggests people living in areas with moderately elevated levels of arsenic in drinking water may have an increased risk of stroke, [Reuters](#) reported.*

*The study, conducted by University of Michigan researchers, does not provide a definite link between arsenic and elevated risk of stroke, but it did indicate links between arsenic and high blood pressure, diabetes and the acceleration of atherosclerosis, which can lead to heart attacks and stroke, according to the report.*

*The researchers focused on Michigan because an estimated 230,000 in the southeastern part of the state are exposed to drinking water that exceeds the U.S. Environmental Protection Agency's (EPA) standard for arsenic, the article stated. According to lead researcher Dr. Lynda D. Lisabeth, the findings suggest an association between arsenic in drinking water and stroke risk, but do not prove cause-and-effect. "These results do not provide any evidence that the [EPA] guideline is inadequate, so I would not be concerned about the safety of public water supplies," Lisabeth said. To read the entire article, [click here](#). For related information, [click here](#).*

I LOVE MY AQUATHIN ! AND REMEMBER, THE NEXT BEST THING TO OWNING AN AQUATHIN IS RECOMMENDING ONE TO A FRIEND !!

Let me know what you AquathinK !

Warmest regards to all...as well, your comments are always welcome and very much appreciated.

FOR THE BEST TASTE IN LIFE &  
30 Years Pure Excellence  
...into another Quarter Century re-inventing the water industry !  
Think Aquathin...AquathinK !  
( visit the all new [www.aquathin.com](http://www.aquathin.com) )

\*\* AN ISO9001:2000, ISO9001:2008 QMS REGISTERED / CERTIFIED COMPANY - (IMS 0192, NQA 12635) \*\*  
& 2008 PRESIDENT'S E STAR AWARD RECIPIENT ( visit [www.aquathin.com/estar2008.pps](http://www.aquathin.com/estar2008.pps) )

*Alfie*

Alfred J. Lipshultz  
President & CEO

P.S. "Splash NewsBulletins", "Forum Q & A" , Biz Bank, Tech Bank and Quote Bank... ARE ALL FREE services to all Authorized Aquathin Dealers and their clients to keep you abreast of technology updates and industry news.

---

**From: AQUATHIN TECH SUPPORT [<mailto:techsupport@aquathin.com>]**  
**Sent: Friday, March 16, 2007 12:39 PM**  
**To: [Info@Aquathin.Com](mailto:Info@Aquathin.Com) ([info@aquathin.com](mailto:info@aquathin.com))**  
**Subject: FORUM Q & A: ARSENIC UPDATE #7 -- LINKED TO MISCARRIAGES AND SUDDEN INFANT DEATH SYNDROME**

Dear Aquathin Dealer OnLine;

For 25 years, Aquathin Dealers have provided their knowledge to local health officials as an added resource. I am pleased to continue to receive great Dealer feedback regarding a growing number of Aquathin Dealers adding their local physicians and health officials to the Forum Q & A emails to help them respectively educate their patients and citizens.

Below you will read the Arsenic Update linking arsenic to miscarriages and SIDS. The article unintentionally slants its focus on poor nations because arsenic is prevalent including many first world nations. For example, Oregon is loaded with it.

Please share the article with you fine Sales & Tech Teams so that they may continue to remain at the top of their game!

I LOVE MY AQUATHIN ! AND REMEMBER, THE NEXT BEST THING TO OWNING AN AQUATHIN IS RECOMMENDING ONE TO A FRIEND !!

Let me know what you AquathinK !

Warmest regards to all...as well, your comments are always welcome and very much appreciated.

FOR THE BEST TASTE IN LIFE &

27 Years Pure Excellence

...and another Quarter Century re-inventing the water industry !

Think Aquathin...AquathinK !

( visit the allnew [www.aquathin.com](http://www.aquathin.com) )

\*\* AN ISO9001:2000 QMS REGISTERED / CERTIFIED COMPANY - (IMS 0192) \*\*

"Alfie"

Alfred J. Lipshultz, President

P.S. "Splash NewsBulletins", "Forum Q & A" , "Allergic Reaction" , Biz Bank, Tech Bank and Quote Bank... ARE ALL FREE services to all Authorized Aquathin Dealers and their clients to keep you abreast of technology updates and industry news.

~~~~~

*Environment - 3/15/2007 3:20:38 PM*

---

## *Arsenic in water linked to miscarriages, SIDs*

*BALTIMORE — New research shows that arsenic-tainted drinking water increases the risk of fetal loss among pregnant women and contributes to infant death during the first year, according to a study published in the Advanced Access online version of the [American Journal of Epidemiology](#).*

*The authors of the study gathered data from more than 29,000 pregnancies; results for the first time demonstrate a significant correspondence between arsenic and ill effects on fetus and infant health, according to the study, which has been accepted for publication in American Journal of Epidemiology but has not yet been paginated for publication.*

*The study notes that a number of poor countries have arsenic in their well water, and Bangladesh, the country from which statistical data was drawn, is one of them.*

*To read the full article abstract, click [here](#).*

---

**From: AQUATHIN TECH SUPPORT [<mailto:techsupport@aquathin.com>]**  
**Sent: Thursday, August 11, 2005 5:56 PM**  
**To: 'info@aquathin.com'**  
**Subject: FORUM Q & A: ARSENIC UPDATE #6 -- NEW RESEARCH TIES ARSENIC TO TUMOR GROWTH**

Dear Aquathin Dealer OnLine, Splash NewsBulletin and Allergic Reaction NewsBulletin Members;

More and more is being learned about the effects from ingestion of arsenic which naturally occurs in various regional well waters both domestically and around the world. This quick read study below discusses that even the smallest concentrations will cause tumors to expand (by the way...the Bush Administration is seeking to elevate the arsenic MCL so municipalities can comply more easily...read more about the cost savings if achieved). This new study is in line with Update #5 (pasted at bottom for convenience).

What also is noteworthy are the accepted technologies to treat arsenic. Arsenic comes in a variety of forms. It would be up to the Customer to test to see which form of arsenic they have and then match the appropriate water treatment. What can occur is that a well can have forms change...come and go...which means that the water treatment chosen today may not be appropriate in just a few months.

But one thing that doesn't change is the Patented Aquathin RODI Process removes all forms of arsenic...and of course, everything else ! I LOVE MY AQUATHIN !!

Warmest regards to all...as well, your comments are always welcome and very much appreciated.

FOR THE BEST TASTE IN LIFE &  
[25 Years Pure Excellence](#)  
Think Aquathin...AquathinK !!  
( visit the allnew [www.aquathin.com](http://www.aquathin.com) )

"Alfie"  
Alfred J. Lipshultz, President

P.S. "Splash NewsBulletins", "Forum Q & A" , "Allergic Reaction" , Biz Bank, Tech Bank and Quote Bank... ARE ALL FREE services to all Authorized Aquathin Dealers and their clients to keep you abreast of technology updates and industry news.

---

*The Water Quality Association : Members Only Section : **Study: arsenic in water accelerates tumor growth***

---

### **New research ties arsenic to tumor growth**

*Posted 08/09/05*

*A recent study on the effects of environmental arsenic at the University of Oklahoma Health Sciences Center indicates that arsenic in drinking water can both stimulate the growth of cancerous tumors and cause them to spread faster.*

*While researchers still do not know whether arsenic in drinking water increases the overall incidence of tumors, the study shows that arsenic levels as low as four parts per billion can stimulate blood vessel growth, and levels as low as 10 ppb cause tumors to expand. Many previous studies have linked arsenic ingestion and cancer — especially skin and bladder cancers.*

*This report comes at a time when water systems across the US are struggling to conform to a new current federal arsenic standard of 10 parts per billion (ppb) by January 23, 2006. The previous standard had been 50 ppb. In the state of Oklahoma alone, it will cost between \$55 billion and \$163 billion to replace or upgrade the 25 systems to address the lower arsenic standard.*

*When water containing arsenic is ingested, the arsenic reacts with oxygen to create "free radicals" — highly reactive molecules — that stimulate the growth of blood vessels. More blood vessels result in an increase in blood supply to any tumors, which then grow faster and larger.*

*Some scientists have suggested that even the new standard of [10 ppb](#) is too high, and California considered setting the cap at [4 ppb](#).*

*Existing, proven POU/POE home products (point of use/point of entry) can reduce arsenic levels in water to below 4 ppb.*

*For Arsenic (+3) WQA recommends treatment with:*

- Chemical Oxidation/Disinfection followed by Arsenic (+5) treatment technologies

*For Arsenic (+5) you can treat water with:*

- Iron-based or iron doped arsenic treatment media
- Anion Exchange
- Activated Alumina
- Reverse Osmosis
- Distillation
- Electrodialysis
- Other speciality media for arsenic treatment

*For Arsenic (organic complexed) treat water with:*

- Carbon Filtration.



Not all parts of the country have naturally occurring arsenic in the water. Consumers should check with a [water treatment specialist](#) and/or their municipal water system operators or county extension office. WQA urges those on private wells to have their water tested for arsenic and other possible contaminants.

---

---

**From: AQUATHIN TECH SUPPORT**  
**[<mailto:techsupport@aquathin.com>]**  
**Sent: Wednesday, December 22, 2004 1:08 PM**  
**To: [info@Aquathin.Com](mailto:info@Aquathin.Com)**  
**Subject: FORUM Q & A: ARSENIC UPDATE #5 -- ARSENIC INCREASES RISK OF LUNG CANCER**

Dear Aquathin Dealer OnLine;

*This is the first article of its time that I can recall, discussing how a known carcinogen acts as a catalyst or supercharger if you will, for another carcinogen. What is incredibly important here is because we are so exposed to environmental pollutants in our atmosphere, the chances for increased lethal effect can possibly come from other pollutants in our drinking water.*

*If ever there was a more serious reason for removal of water pollution, this Pandora's Box has to reign as king.*

*I LOVE MY AQUATHIN !!*

*Warmest regards to all...as well, your comments are always welcome and very much appreciated.*

FOR THE BEST TASTE IN LIFE &  
**25 Years Pure Excellence**  
Think Aquathin...AquathinK !!  
( visit the allnew [www.aquathin.com](http://www.aquathin.com) )

"Alfie"  
Alfred J. Lipshultz, President

P.S. "Splash NewsBulletins", "Forum Q & A", "Allergic Reaction", Biz Bank, Tech Bank and Quote Bank... ARE ALL FREE services to all Authorized Aquathin Dealers and their clients to keep you abreast of technology updates and industry news.

---

*Industry Outlook - 12/22/2004 11:41:30 AM*

---

*Study: Arsenic-laden water increases lung*

## *cancer risk*

*CHICAGO — In a study published in this week's [Journal of the American Medical Association](#) (JAMA), researchers in Taiwan reported that high levels of arsenic-laden water increased the risk of lung cancer in combination with cigarette smoking, [Reuters](#) reported.*

*The study said people living on the Southwestern and Northeastern coasts of Taiwan had been exposed to arsenic in high concentrations in well water before a public tap water system was established, Reuters said.*

*Between 32 percent and 55 percent of lung cancer cases were estimated to be caused by the combined effect of cigarette smoking and ingested arsenic, depending on the levels of both exposures, the study said.*

*The study came from the College of Public Health, National Taiwan University, Taipei. It covered more than 10,000 people who were tracked for eight years, the article said.*

*To read the full story, click [here](#).*