Dynamic Chiropractic

HEALTH & WELLNESS / LIFESTYLE

# Water: Interview with Greg Barsten, Part I

One of the best things we can do for our patients is to insure that they are drinking enough water. Chronic mild dehydration is, in my opinion, quite widespread. To see if it is a problem in your practice, I suggest that you take this test. Ask each patient that you see tomorrow if they drank 64 ounces of water (eight eight-ounce glasses or four 16-ouce glasses) yesterday: soda, tea, coffee, juice, an alcoholic beverages do not count.

Our bodies are at least 75 percent water. It is essential for the countless chemical reactions that happen every second of every day. In any condition - arthritis, hypertension, illness from flu to ulcers, and any injury healing will be retarded if the patient's intake of water is insufficient.

Greg Barsten, DC, CCSP, CCN, graduated from Palmer West in 1987. He has worked in several multidisciplinary clinics emphasizing wellness and nutrition. He lectures extensively on these topics to corporations, the public, and physicians. He also lectures on sports nutrition for CCSP and sports diplomate programs. He is the director of Nutritional Medicine for the Cancer Support and Education Center in Menlo Park, California, which is affiliated with Stanford University. He maintains a private practice in Mountain View, California. Recently, Greg has been researching our country's water supply and filtration systems.

Dr. G. Douglas Andersen: We know that water contamination is a problem in the Third World. But, is it a problem here in the United States?

Dr. Greg Barsten: In my opinion it is one of the biggest concerns that Americans face, not only from an environmental standpoint, but from a personal health standpoint, largely because it is so insidious. What you can't taste, what you can't feel, and what you can't smell goes undetected by 99 percent of us. Most of us don't have access to laboratory analysis and to high-tech state-of-the-art information that provides analysis of the deleterious effects of water that has not been purified.

Dr. Andersen: How many different chemicals do local municipalities test for in our tap water?

Dr. Barsten: That's a great question. There are over 70,000 chemicals currently used in our society, with over 1000 new chemicals introduced each year. According to the EPA, 100 different chemicals are regulated in our water supply. How many of the remaining 69,000 chemicals in our society get into our water supply is anyone's guess. It is very likely that there are hundreds, and maybe even thousands of contaminants in our water.

In 1993 the EPA had a first time report which they called their "Test at the Tap." It was designed to evaluate the lead contaminants in water supplies and insure that lead levels were safe. What that particular study showed was that there were 42 states that exceeded the legal limit for lead in the drinking water, and that the other remaining eight states failed to do the testing. Many of the states had levels that exceeded 450 parts per billion, which was 30 times the legal limit. The legal limit for lead is 15 parts per billion. Even the EPA has determined that the safe level for lead is zero parts per billion.

An independent study that was done and published in the July 1992 issue of the American Journal of Public Health was a 10-year study performed by Meta-Analysis. It showed that certain cancers

were increased in populations with chlorinated water systems. Research has shown that up to two thirds of all the harmful effects of chlorine were due to the inhalation and the skin absorption of showering in chlorinated water. Chlorine and other similar halogens have a low vapor point and come out of solution at a much faster rate than does water. Therefore, there is a very high concentration of it in steam which we inhale.

Dr. Andersen: Has there been any research showing that swimmers, divers, and water polo players contract chlorine-related cancers or other ailments? I would imagine if chlorine is as large a problem as you say it is, we would see problems in these groups.

Dr. Barsten: That is a good point. I am not aware of any studies on swimmers, but keep in mind that absorption of chlorine is higher in showers because the water temperature in a shower usually from 90 to over 100 degrees. The average pool temperature is in a 70-85 degree range. As I mentioned earlier, chlorine vaporizes and forms different compounds, one of which is called trihalomethane, which is classified by the EPA as a class A carcinogen. It has absolutely no smell. In a shower the heat of the water vaporizes the chlorine and this toxin is inhaled. In a pool the water temperature may not be hot enough to vaporize and convert chlorine to trihalomethane.

In the November 1994 issue of the *Northern California Cancer Center Journal*, published the "Greater Bay Area Cancer Registry Report." Their findings included correlations with the chlorine supply and many cancers, including colon, breast, bladder, and prostate. They used demographic measurements of populations around the world and found that in Northern California the rate of breast cancer was 129 out of every 100,000 women, which in their study was the highest rate in the world. Researchers looked at many factors and found a linear relationship with chlorine levels in the water supply and these cancers. This is not to say that chlorinated water is the only cause of these ailments, but one that should be closely looked at as soon as possible.

Dr. Andersen: It is my understanding that adding chlorine to water controls harmful bacteria which, as we mentioned earlier, is a huge problem in Third World countries.

Dr. Barsten: That's true. Chlorine does kill off cryptosporidium, cholera, and other pathogens. What needs to happen, however, is that after the chlorine has killed off the bacteria, we need to remove it before people consume it, and in municipal systems, this is just not happening.

Dr. Andersen: In addition to chlorine and lead, what else do our municipal water filtration systems miss?

Dr. Barsten: Mostly the industrial solvents, things like trichloroethylene (TCE), benzene, toluene, xylene. Municipal filtration also cannot handle some pesticides, which are the most harmful of all organic chemicals. Distillation or reverse osmosis alone will also miss many pesticides. These systems must be combined with a good carbon filter to effectively remove harmful organic compounds.

Dr. Andersen: Before we close this half of our interview, I would like to change the subject and ask a quick question on what constitutes spring water, which appears on so many labels of bottled water.

Dr. Barsten: The FDA has no legal requirement saying what spring water is. These types of water are mainly municipal water that are run through very coarse filtration systems to improve odor and taste.

Dr. Andersen: In other words, a company can run tap water through a crude carbon filter, call it spring water, and legally go to the bank.

Dr. Barsten: You got it.

In the July 15, 1996 issue of "DC," we will conclude our interview with Dr. Barsten and focus on various water filtration systems.

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