Is Toxic Drinking Water Making You Sick?

We wrote this book because... "900,000 — 1,000,000 Americans will get sick from drinking contaminated water this year." —The Center for Disease Control, Atlanta, GA

Research Compiled by Dale Maxwell and Bonnie O'Sullivan

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www.road-to-health.com/water

Contents

Drugs In The Water	6
That glass of tap water may contain a dozen different dru Appétit!	ugs. Bon 6
References	9
Drugs In Your Drinking Water – In the News	11
Are You Being Poisoned By Your Drinking Wat	ter?12
Pure Water From The Faucet Doesn't Exist	12
Pharmaceuticals	12
Toxic Chemicals	13
Viruses	13
Bacteria	13
Parasites	14
Heavy Metals	14
Calcium Carbonate	14
"Calcium Carbonate" Industrial Applications	15
An Overview of Different Types of Drinking Wa	ater:17
Rain Water	17
Boiled Rain or Tap Water	17
Chlorine Treated Water	17
Fluoride Treated Water	18
Bottled Water	19
Mineral Water	20
Reverse Osmosis (RO) Filtered Water	20
Ultraviolet (UV) Filtered Water	20
Carbon Filtered Water	20

Changes in Your Lifestyle May Be Needed	21
A Water Distiller Is An Excellent Investment	21
Restaurants Prepare Food With Tap Water	21
Prepare Meals At Home With Distilled Water	21
Prepare Meals In Waterless, Stainless Steel Cookware	21
Install Shower Filters To Remove Chlorine and Other Toxins	21
Do The Best You Can To Eliminate Toxins and Relax	21
The Only Sure Way to Get The Purest Drinking Wa Available!	ater 22
Here's how you can get 99.9% pure drinking water in your home!	22
Why Bonnie Began Drinking Distilled Water in 1982	23
Why Dale Has Been Drinking Distilled Water for 25 Years	23
Two Excellent Types of Water Distillers and One T	б
Avoid	24
Portable Water Distillers	24
Plumbed-In Water Distillers	24
A Water Distiller With Minerals Added Automatically	24
Bonus Report	24
Water Distiller Pictures, Experiences, and Cleanin Tips	ig 25
Portable Home Water Distillers	25
How To Clean The Portable Water Distiller's Boiling Chamber	⁻ 25
Plumbed-In Home Water Distillers	27
How To Clean the H2Only Pre-Chamber and Small Boiling Chamber	27

Ve Are Very Happy We Did Not Drink These	
Minerals	29
Here Is A Picture of The H2Only Distiller	31
Here is a Diagram of A Built-In H2Only	33
Filter Your Shower Water	34
What A Shower Filter Can Do	36
Resources	37
Current Distiller Information	37
Our Favorite Shower Filter	37
Disclaimer:	37
Why Water Fluoridation Must Be Ended	38

Drugs In The Water

That glass of tap water may contain a dozen different drugs. Bon Appétit!

by Peter Montague, October 1998

A new class of water pollutants has been discovered during the past six years.[1] Pharmaceutical drugs given to people and to domestic animals including antibiotics, hormones, strong pain killers, tranquilizers, and chemotherapy chemicals given to cancer patients are being measured in surface water, in groundwater and in drinking water at the tap. Large quantities of drugs are excreted by humans and domestic animals, and are distributed into the environment by flushing toilets and by spreading manure and sewage sludge onto and into soil.

German scientists report that anywhere from 30 to 60 drugs can be measured in a typical water sample, if anyone takes the time to do the proper analyses.[2] The concentrations of some drugs in water are comparable to the low parts-per-billion (ppb) levels at which pesticides are typically found.[1] To some people this is reassuring, but others are asking, "What is the long-term effect of drinking, day after day, a dilute cocktail of pesticides, antibiotics, pain killers, tranquilizers and chemotherapy agents?" Of course no one knows the answer to such a question – it is simply beyond the capabilities of science to sort out the many chemical interactions that could occur in such a complex chemical soup. The only solution to such a problem would be prevention.

The first study that detected drugs in sewage took place at the Big Blue River sewage treatment plant in Kansas City in 1976. The problem was duly recorded in scientific literature and then ignored for 15 years.[3] In 1992, researchers in Germany were looking for herbicides in water when they kept noticing a chemical they couldn't identify.[4] It turned out to be clofibric acid (CA), a drug used by many people in large quantities (1 to 2 grams per day) to reduce cholesterol levels in the blood.[1] Clofibric acid is 2-(4)-chlorophenoxy-2-methyl propionic acid, a close chemical cousin of the popular weed killer 2,4-D.[1] Based on that early discovery, the search for clofibric acid (CA) in the environment was stepped up.

Since 1992, researchers in Germany, Denmark and Sweden have been measuring CA and other drugs in rivers, lakes, and the North Sea. To

everyone's surprise, it turns out that the entire North Sea contains measurable quantities of clofibric acid. Based on the volume of the Sea, which is 12.7 quadrillion gallons (1.27 x1016 gallons), and the average concentration of CA, which is 1 to 2 parts per trillion (ppt), researchers estimate that the Sea contains 48 to 96 tons of clofibric acid with 50 to 100 tons entering the Sea anew each year.[1] The Danube River in Germany and the Po River in Italy also contain measurable quantities of clofibric acid.[5,6] Of more immediate concern to humans is the finding that tap water in all parts of the city of Berlin contains clofibric acid at concentrations between 10 and 165 ppt.[5] The water supplies of other major cities remain to be tested.

As a result of this European work, a few U.S. researchers are now beginning to pay attention to drugs in the environment. Individual scientists within the U.S. Food and Drug Administration (FDA) have been concerned about this problem for a decade,[7] but so far FDA has taken the official position that excreted drugs are not a problem because the concentrations found in the environment are usually below one part per billion (ppb).[2]

Drugs are designed to have particular characteristics. For example, 30 percent of the drugs manufactured between 1992 and 1995 are lipophilic, meaning that they tend to dissolve in fat but not in water.[8] This gives them the ability to pass through cell membranes and act inside cells. Unfortunately, it also means that, once they are excreted into the environment, they enter food chains and concentrate as they move upward into larger predators. Many drugs are also designed to be persistent, so that they can retain their chemical structure long enough to do their therapeutic work. Unfortunately, after they are excreted, such drugs also tend to persist in the environment. A landfill used by the Jackson Naval Air Station in Florida contaminated groundwater with a plume of chemicals that has been moving slowly underground for more than 20 years. The drugs pentobarbital (a barbiturate), meprobamate (a tranquilizer sold as Equanil and Miltown) and phensuximide (an anticonvulsant) are still measurable in that groundwater plume.[8]

When a human or an animal is given a drug, anywhere from 50 percent to 90 percent of it is excreted unchanged. The remainder is excreted in the form of metabolites, chemicals produced as byproducts of the body's interaction with the drug. Researchers report that some of the metabolites are more lipophilic and more persistent than the original drugs from which

they were derived. Because of the complexity of the chemistry involved in drug metabolism, and the interactions of the metabolites with the natural environment, Danish researchers say it is "practically impossible to estimate predicted environmental concentrations (PEC) of any medical substances with available knowledge."[8]

Yet U.S. regulatory policy for new drugs depends entirely upon estimating concentrations that might result from excretion. When a new drug is proposed for market, FDA requires the manufacturer to conduct a risk assessment that estimates the concentrations that will be found in the environment. If the risk assessment concludes that the concentration will be less than one part per billion, the drug is assumed to pose acceptable risks.[2] FDA has never turned down a proposed new drug based on estimated environmental concentrations, and no actual testing is conducted after a drug is marketed to see if the environmental concentration was estimated correctly.

German chemists have found that many drugs can be measured at environmental concentrations that exceed one ppb. And of course several drugs measured together can exceed one ppb. Furthermore, there is ample evidence from research conducted during the past decade showing that some chemicals have potent effects on wildlife at concentrations far below one ppb. For example estradiol, the female sex hormone (and a common water pollutant), can alter the sex characteristics of certain fish at concentrations of 20 ppt, which is 1/50 of one ppb.[2]

Another problem resulting from drugs in the environment is bacteria developing resistance to antibiotics. The general problem of antibioticresistant bacteria has been recognized for more than a decade. Antibiotics are only useful to humans so long as bacteria do not become resistant to their effects. Hospital sewage systems discharge substantial quantities of antibiotics into the environment.[9] Bacteria exposed to antibiotics in sewage sludge or water have an opportunity to develop resistance. Janet Raloff of Science News quotes Stuart Levy, who directs the Center for Adaptation Genetics and Drug Resistance at Tufts University in Boston, saying, "These antibiotics may be present at levels of consequence to bacteria levels that could not only alter the ecology of the environment but also give rise to antibiotic resistance."[2]

What can we learn from the emergence of this new problem?

1. Hospitals and the health care industry are the major sources of these problems, especially antibiotics and chemotherapy chemicals.[10] The large national coalition of environmental and health groups, Health Care Without Harm,[11] might consider tackling this difficult but important problem.

2. Sewage sludge provides a major pathway by which drugs enter the environment. Until the drug problem is understood and controlled, it provides a solid scientific rationale for labeling sewage sludge a dangerous soil amendment, the use of which should be forbidden.

3. For a long time, people have worried that the world was going to run out of natural resources. It is now apparent that we have run out of places to throw things away. There is no place left where we can throw away exotic substances without affecting people or wildlife (upon whose well being we ultimately depend).

From the viewpoint of disposal, not many decades ago the world still looked pretty empty. Today there can be no doubt that the world is full of people armed with double-edged technologies. To survive in a full world will require quite different attitudes. We need to curb our numbers. We need to curb our technologies. We need to curb our appetites. And we need to operate from a position of humility. We should assume that anything we do will have negative consequences on the rest of the planet. We must limit our technological interventions into nature long before we have definitive scientific proof of harm. This is the principle of precautionary action, and if we don't adopt it, nature will get along just fine without us.

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For more information go to: toxics.usgs.gov/regional/emc.html

Drugs In Your Drinking Water – In the News



Go to Google News



Bottled water is seen in this Oct. 4,

2007 file photo in Concord, N.H. A reader-submitted a question about

bottled water is being answered as part of an Associated Press Q&A

column called "Ask AP." (AP

Photo/Larry Crowe)

Ask AP: Drugs in Drinking Water

By The Associated Press - 14 hours ago

Let's say an inspection turned up traces of medications in the water you drink — something that's happened in several U.S. cities, according to a recent series of stories by The Associated Press.

Surely you could avoid the drug residue by sticking to bottled water.

Or could you?

That's one of the four questions being answered in this installment of "Ask AP," a weekly Q&A column where AP journalists respond to readers' questions about the news.

If you have your own news-related question that you'd like to see answered by an AP reporter or editor, send it to newsquestions@ap.org, with "Ask AP" in the subject line. And please include your full name and hometown so they can be published with your question.

Search http://news.google.com for: drugs in drinking water

Are You Being Poisoned By Your Drinking Water?

Pure Water From The Faucet Doesn't Exist

Scientists do not refer to tap water in the United States as "pure" water anymore as they did in the past. Now, in their water reports, they refer to two levels of contamination; "Acceptable" and "Unacceptable!"

This is due to the toxic soup of pharmaceuticals, chemicals, viruses, bacteria, parasites, heavy metals and even embalming fluid that is coming out of every faucet in America.

This means with every sip you take, every pot of coffee you brew, every homemade popsicle you give your child, every container of frozen juice you reconstitute, every pot of macaroni you boil, every ice cube you put in your lemonade, you could be slowly poisoning your family!

Beware that canned soup, soda (known to gradually dissolve bones with its phosphoric acid content), beer and every conveniently cooked, frozen, and packaged product that you buy has been processed with tap water.

Finally, beware that eating in restaurants guarantees you will be consuming tap water as restaurants cook with and serve tap water.

Pharmaceuticals

The U.S. Geological Survey just conducted the first nationwide assessment of "emerging contaminants" found in selected streams, including the occurrence of human and veterinary pharmaceuticals, sex and steroidal hormones and other drugs such as antidepressants and antacids. Detected contaminants included caffeine, which was the highest-volume pollutant, codeine, cholesterol-lowering agents, anti-depressants, and Premarin, an estrogen replacement drug taken by about 9 million women. Also chemotherapy agents were found downstream from hospitals treating cancer patients. Many of these drugs have the potential of interfering with hormone production. Chemicals with this effect are called endocrine disrupters. Scientists generally agree that aquatic life is most at risk, its life cycle, from birth to death, occurring within potentially drug-contaminated waters. For example, anti-depressants have been blamed for altering sperm levels and spawning patterns in marine life. Most studies of pharmaceutical and pharmaceutically active chemicals in water have mostly focused on aquatic animals.

For example, recent British research suggest that estrogen, the female sex hormone, is primarily responsible for deforming reproductive systems of fish, noting that blood plasma from male trout living below sewage treatment plants had the female egg protein vitellogenin. This finding would seem to be consistent with what U.S. researchers suspect has occurred downstream from treatment plants in Las Vegas and Minneapolis. Carp in these areas show the same effects as the British fish.

Toxic Chemicals

Seven Billion pounds of chemicals are dumped into our watersheds every year. (This is just counting the 650 chemicals registered by the EPA as toxic to your health, no one knows how many additional "generally regarded as safe" chemicals are being dumped.) Included are: Nitrates: found in agricultural fertilizers (causes stomach and liver cancers and non-Hodgkin's lymphoma); and Pesticides: put you at greater risk of breast and stomach cancers, according to studies at the International Agency for Research on Cancer. *The American Journal of Public Health* published a study that estimated 35% of all gastrointestinal diseases in homes that drink tap water are caused by contaminated tap water.

Viruses

Waterborne viruses (rotaviruses) that infect your stomach and intestines are the main causes of severe diarrhea in children. The Center for Disease Control (CDC) reports that rotaviruses send 55,000 kids to the hospital every year! Most stomach flu is caused by a "norovirus." This group of waterborne viruses infects your intestines and causes nausea, vomiting, diarrhea, and fevers! Hepatitis A, a viral liver disease, can be gotten from drinking contaminated well water. It'll make you vomit, feverish and even jaundiced. Because viruses are so small, they slip right through the water treatment process and end up coming out your home faucet!

Bacteria

Americans die every year from the numerous bacteria found in drinking water. Some of these nasty critters are even resistant to chlorine, the chemical that's supposed to kill them! For instance, feces and sewage get into tap water every year causing 73,000 people to get infected with E. Coli!

Parasites

A study reported in the scientific journal *Applied and Environmental Microbiology* discovered 97% of America's surface water may be contaminated with cryptosporidium, a potentially lethal parasite! Another parasitic disease called "Giardia," commonly found in well water, can cause nausea and other stomach problems that last up to six weeks!

Heavy Metals

Lead: it gets into your water after it leaves the treatment plant from old lead pipes that are still in use throughout the U.S. or from pipes with solder – used to repair and join metal pipes – both of which deposit lead into your water. Lead has been proven to lower a child's I.Q. level, impair hearing or the ability to speak, and cause lifelong learning disabilities; Mercury: it could be in every sip of tap water you take. This is true if you are drinking municipal water or well water. Both lead and mercury can cause autism, arthritis, and cancer; Arsenic: causes skin, liver, and kidney cancers and the World Health Organization (WHO) says, "Drinking (tap) water poses the greatest threat to public health from arsenic"; Disinfection By-Products (DBPs): The Environmental Protection Agency (EPA) estimates that up to 9,300 Americans develop bladder cancer every year from their drinking water due to the disinfection by-products (DBPs) that form in tap water when it is treated with chlorine!

Calcium Carbonate

Avoid Calcium Carbonate. Our body is not designed to digest and/or use this inorganic form of calcium (limestone/marble).

Because the calcium in calcium carbonate is not 100% bioavailable and your digestion will not be able to completely break it down, some of the calcium will end up in your soft tissue and gradually cause inflammatory conditions, harding of the arteries, kidney stones, gallstones, and joints that are stiff, painful, swollen, and disfigured (disfigurement usually begins in the joints – knuckles – of the fingers). The more inorganic minerals, such as calcium carbonate, you consume the sooner you will feel their effects. Calcium carbonate is in our tap water because it is used in the treatment of water and waste. It is widely used medicinally as an inexpensive dietary calcium supplement or antacid. It may be used as a phosphate binder for the treatment of hyperphosphatemia (primarily in patients with chronic renal

failure) when lanthanum carbonate is not prescribed. It is also used in the pharmaceutical industry as an inert filler for tablets and other pharmaceuticals. As a food additive, it is found on many grocery store shelves in products such as orange juice, baking powder, toothpaste, drymix dessert mixes, dough, and wine. Calcium carbonate is the active ingredient in agricultural lime, and is used in animal feed. It is also used in some soy milk products as a source of dietary calcium; one study concludes that calcium carbonate is as bioavailable as the calcium in ordinary cow's milk. Taken in part from:

http://en.wikipedia.org/wiki/Calcium_carbonate

Comment by Dale:

About "Studies:" Studies are often commissioned by organizations that have a well known agenda and expectations, the results of these "Studies", amazingly enough are rarely, if ever, bad news for the people who commission the "Study."

Read the following excerpt from Wikipedia:

"Calcium Carbonate" Industrial Applications

The main use of calcium carbonate is in the construction industry, either as a building material in its own right (e.g. marble) or limestone aggregate for road building or as an ingredient of cement or as the starting material for the preparation of builder's lime by burning in a kiln.

Calcium carbonate is also used in the purification of iron from iron ore in a blast furnace. Calcium carbonate is calcined in situ to give calcium oxide, which forms a slag with various impurities present, and separates from the purified iron.

Calcium carbonate is widely used as an extender in paints, in particular matte emulsion paint where typically 30% by weight of the paint is either chalk or marble.

Calcium carbonate is also widely used as a filler in plastics. Some typical examples include around 15 to 20% loading of chalk in uPVC drain pipe, 5 to 15% loading of stearate coated chalk or marble in uPVC window profile. Fine ground calcium carbonate is an essential ingredient in the microporous film used in babies' diapers and some building films as the pores are nucleated around the calcium carbonate particles during the manufacture of the film by biaxial stretching. It has also been mixed with

ABS, and other ingredients, to form some types of compression molded "clay" Poker chips.

Calcium carbonate is also used in a wide range of trade and DIY adhesives, sealants, and decorating fillers. Ceramic tile adhesives typically contain 70 to 80% limestone. Decorating crack fillers contain similar levels of marble or dolomite. It is also mixed with putty in setting stained glass windows, and as a resist to prevent glass from sticking to kiln shelves when firing glazes and paints at high temperature.

Calcium carbonate is known as whiting in ceramics/glazing applications, where it is used as a common ingredient for many glazes in its white powdered form. When a glaze containing this material is fired in a kiln, the whiting acts as a flux material in the glaze.

In North America, calcium carbonate has begun to replace kaolin in the production of glossy paper. Europe has been practicing this as alkaline paper-making or acid-free paper-making for some decades. Carbonates are available in forms: ground calcium carbonate (GCC) or precipitated calcium carbonate (PCC). The latter has a very fine and controlled particle size, on the order of 2 micrometers in diameter, useful in coatings for paper. Used in swimming pools as a pH corrector for maintaining alkalinity "buffer" to offset the acidic properties of the disinfectant agent.

It is commonly called chalk as it has been a major component of blackboard chalk. Chalk may consist of either calcium carbonate or gypsum, hydrated calcium sulfate CaSO4·2H2O.

An Overview of Different Types of Drinking Water:

The amount of water on the earth is the same today as in the days of the dinosaurs.

Everything we do to our water affects its quality and our health from washing clothes with chlorine bleach to filtering tap water with an over-used carbon filter that is clogged with rotting organic material and is breeding bacteria.

Rain Water

Rain contains more than just water – it also includes pollutants picked up from the air (such as rocket fuel, flame retardant, and mercury from coal fired power plants whether the power plant is near or far because mercury travels virtually around the globe). Some of these pollutants form acids and cause acid rain, which can stunt tree growth and kill fish and other aquatic organisms. Never drink rain water!

Boiled Rain or Tap Water

Boiling rain or tap water does not take out the heavy metals. All it does is kill anything that might be living in it! Thus, if you have mercury or lead in your water, boiling it does not remove it and you can still get poisoned. If there were bacteria in the water, that would be killed.

Chlorine Treated Water

Chlorine is added during the municipal processing of tap water:

Chlorine does not normally occur in the environment except as a yellow gas on rare occasions. It's a manufactured substance produced through an industrial process. An electrical current is passed through salt water producing chlorine and caustic soda.

It is said that chlorine is basically safe-because it breaks down into harmless salt and water. That's true – in a laboratory test tube under very controlled conditions. The real issue is not just how toxic chlorine itself is but how the unintended byproducts of chlorine (organochlorines and dioxins) remain in the environment. They are persistent in the environment; they do not break down readily and therefore bio-accumulate.

One of the largest uses of chlorine is in the paper industry. Chlorine is first used to break down the lignan that holds the wood fibers together. Then

chlorine is used to bleach the paper to make it white. The effluent or wastewater containing dioxins and other organochlorines are then dumped into streams and waterways. These ingredients are highly toxic and carcinogenic. Once in the waste stream, they come into contact with other organic materials and surfactants and combine to form a host of extremely toxic organic chemicals. A chain of events occurs: The water becomes polluted; the fish become contaminated; animals eat the fish and people eat the contaminated animals and fish. This can create a very serious health problem; the dioxins and other toxic chemicals, when consumed, accumulate in the fatty tissues. These contaminants are also hormone disrupters because they mimic estrogen. The U.S. Environmental Protection Agency (EPA) has observed and documented hormonal imbalance, suppressed immune systems, reproductive infertility and alterations in fetal development of animals. In viewing the big picture, these factors are perhaps the most frightening results from the widespread use of chlorine.

When used in municipal water processing plants chlorine removes some dangerous bacteria and parasites from our water, but some deadly parasites like Cryptosporidium are now RESISTANT to chlorine. And when chlorine reacts with organic materials naturally abundant in tap water, chlorine produces harmful by-products like organochlorines and dioxin. These substances have been shown to cause cancer, genetic mutation, cholesterol oxidation (which leads to clogged arteries) and accelerated aging.

The EPA has found dioxin (a toxic byproduct of chlorine) to be 300,000 times more potent as a carcinogen than DDT.

Stop using chlorine for any purpose – wearing bleached clothes and sleeping on bleached sheets will allow chlorine to be absorbed into the body. And avoid breathing the fumes of hot tap water!

Fluoride Treated Water

Fluoride is added during the municipal processing of tap water:

Fluoride was one of the most common pollutants to emerge from America's industrial revolution, and its deadly toxicity was immediately recognized. In that era, both air and water-borne fluoride poisoned plants, animals, and people by the thousand. A by-product of copper, iron and aluminum manufacturing, fluoride could only be legally disposed of by selling it for use

as an insecticide and a rat poison. The problem was that there weren't enough rats and bugs in the whole country to exhaust even a fraction of the supply of fluoride. This presented serious problems for public health – problems the government would be forced to contend with at the expense of a roaring industrial economy. So when a connection was made in the 1930s between fluoridated water and the prevention of tooth decay, both government and big business were euphoric... It didn't seem to matter to anyone that the findings were from a study funded by one of the nation's biggest aluminum manufacturers!

In the mid-80s, the largest study ever conducted on fluoridation and tooth decay was performed, using data from 39,000 school children in 84 areas around the country. The results showed no statistically significant difference in rates of tooth decay between fluoridated and non-fluoridated cities.

One decade-long study showed significantly more cancer deaths in the 10 largest fluoridated cities compared to the country's ten largest non-fluoridated cities. Other research showed a significantly higher incidence of bone cancer among men exposed to fluoridated water compared to those who were not. (See "Why Water Fluoridation Must Be Ended" on page 38.)

Bottled Water

Bottled water is less regulated for safety than tap water. This is because the Food and Drug Administration (FDA) – not the Environmental Protection Agency (EPA) – regulates the processing of bottled water. And the FDA imposes far fewer regulation on water bottlers than the EPA does on tap water!

The Natural Resources Defense Council (NRDC) performed a test of 103 brands of bottled water and found illegal levels of bacterial and chemical contamination in 18 different brands.

The Physicians for Social Responsibility warns most bottled water comes from states without regulatory programs!

Bottlers try to mislead us with their advertising. It may look like Mt. Everest on "Everest Water," but what's inside is really just Texas tap water! "Glacier Clear Water" doesn't come from a glacier... but from Tennessee tap water! And other bottled water giants don't disclose the source of their water – because it comes from a faucet tap!

Mineral Water

Mineral Water is loaded with inorganic minerals that will end up in the soft tissues of the body causing inflammation, hardening of the arteries, kidney stones, gallstones, pain, and disfigurement (this usually starts in the knuckles of the hands).

Reverse Osmosis (RO) Filtered Water

RO filters force water through a cloth-like filter. It's like forcing water through a fancy cheesecloth to get the dirt out.

RO filters quickly turn into a breeding ground for bacteria! Every day you use an RO filter is another day your water quality drops!

Your home's water pressure, temperature level, and even the chemical makeup of your tap water can drastically reduce the effectiveness of a Reverse Osmosis filter.

Bottom line: Reverse Osmosis filters can't deliver the safe drinking water your family needs!

Ultraviolet (UV) Filtered Water

UV water filters address only half of the problem with tap water. They do kill the majority of bacteria and viruses... but they do absolutely nothing to protect you from all the toxic chemicals and heavy metals in tap water!

Two thousand one hundred of the dangerous chemicals named in the Toxic Substances Control Act inventory have been found in our drinking water! UV filters don't protect us from any of them.

UV filters are worthless at protecting your family from heavy metals like lead and arsenic!

Carbon Filtered Water

Carbon water filters remove the bad taste from water (when they are new) . Carbon water filters are useless in removing chlorine, fluoride, lead, mercury, copper, arsenic, and parasites from water.

Carbon water filters get clogged with rotting organic materials and breed bacteria! This puts even more contaminants in your water.

These filters stop protecting you long before you can taste the "bad" or "funny" taste that many manufacturers tell you is the way to know when to replace them.

Changes in Your Lifestyle May Be Needed

A Water Distiller Is An Excellent Investment

Invest in a quality water distiller (covered in next chapter).

Restaurants Prepare Food With Tap Water

Eat out less often – all restaurants prepare food with tap water.

Prepare Meals At Home With Distilled Water

Begin to explore the joy of preparing quality meals at home (prepared with great tasting fresh, locally grown and organically grown food and distilled water).

Prepare Meals In Waterless, Stainless Steel Cookware

Invest in quality, heavy, lifetime, waterless, stainless steel cookware.

Install Shower Filters To Remove Chlorine and Other Toxins

Install shower filters in each of your bathrooms (see page 34 for more about the danger of breathing chlorine fumes and shower filters).

Do The Best You Can To Eliminate Toxins and Relax

Above all, do the best you can and relax, you will be able to eliminate most of the toxins and that will be enough.

The Only Sure Way to Get The Purest Drinking Water Available!

There's a simple way to get water that's...

- ★ Up to 99.9% Pure
- ★ Up to 99.9% Toxin-FREE
- ★ Up to 99.9% Germ... Virus... and Bacteria-FREE

And actually good for your health! How? Drink distilled water!

No other water purification technology can guarantee you consistently pure water in every drink! Here's how distillation works:

Step #1: Tap water is boiled. This kills all bacteria... viruses... germs... and other microbial contaminants in your water!

Step #2: The boiled water turns into steam. This leaves dead microbes... toxic chemicals... lead... mercury... dissolved solids... and other poisons behind.

Step #3: The steam cools and condenses into droplets of purified water.

Step #4: Finally, the water percolates through an activated carbon filter to make sure no pesticides or dangerous organic compounds are left in your water.

This is nature's REAL water purification process—the way water evaporates and falls back as rain! Distilling effectively eliminates the dangerous pollution and contamination and restores water to its purest state! In other words...

...With distilled water you get the purest, freshest water available anywhere!

Here's how you can get 99.9% pure drinking water in your home!

To get pure, fresh distilled water in your home you basically have two choices: Buy it by the bottle, or distill it yourself. But buying it in bottles can cause you some serious problems. Here's why...

- 1. **It's expensive!** The average family uses up to 10 gallons of water a week for drinking and cooking. At \$1.39 for a gallon that equals \$13.90 a week... \$55.60 a month... and \$722. each year!
- 2. **It's a Hassle**. Lugging bottles from the store... to your car... and into your house week-in and week-out can be a pain. Plus, one gallon weighs

more than eight pounds. At 10 gallons a week you're lugging 80 pounds of water every week!

Tastes like plastic. Water stored in plastic bottles often starts to taste like plastic. The longer it sits there, the stronger it tastes. And it's nearly impossible to know how long your water has been sitting in plastic containers! Because bottled water can sit on warehouse and grocery store shelves for months on end! (Also, plastic toxins into water. To learn more go to: www.bisphenol-a.org/ and www.ourstolenfuture.org/ to .) So the smart and economical choice is to purchase a water distiller for your home. That way pure, distilled water is always at your fingertips.

Why Bonnie Began Drinking Distilled Water in 1982

Cancer patients recover their health at the Gerson Cancer Clinic in Mexico drinking only fresh, organically grown fruit and vegetable juices and distilled water (they use distilled water in their coffee enemas, too). Everything at the clinic is prepared with distilled water and in stainless steel cookware (Gerson cancer patients eat vegetarian meals for the first month – adding protein after that – and do not consume salt or mineral supplements). Since spending 30 days in November 1982 at the Gerson Clinic as a cancer patient's helper and attending several lectures given by cancer survivors who were patients there five years or more previously and who volunteered to come back and give their testimonials without being compensated (they even paid their own way to and from Mexico to tell their stories), Bonnie became a believer in distilled water and has owned a home water distiller and has been drinking distilled water ever since.

Why Dale Has Been Drinking Distilled Water for 25 Years

Dale has been drinking distilled water and making it at home using a series of distillers for over 25 years. He decided to stop drinking tap water and drink nothing but distilled water because of research he did on distilled water after reading about the health benefits of it in Prevention Magazine (he says it is much easier to do research on things now than it was then!). (Note from Bonnie: When I met Dale in March 1989 I knew he was a keeper when he told me about researching distilled water and deciding to buy a home water distiller and drink nothing but distilled water – all on his own – it took meeting recovered cancer patients in person and listening to their fervent praise of distilled water at the Gerson Clinic to convince me!)

Two Excellent Types of Water Distillers and One To Avoid

The only sure way to eliminate everything from your drinking water is to invest in a home water distiller.

You will find two varieties of home water distillers on the market and another type to avoid at all costs.

Portable Water Distillers

These water distillers are small countertop water distillers that you manually pour your tap water into and after fastening the top securely into place, turn on and in about four hours you have one gallon of distilled water that has been collected in a separate container. The distiller turns itself off automatically, so you can start it and go to work or sleep and when you come home or wake up you will have a gallon of distilled water. You should invest in one of these to take with you when you travel.

Plumbed-In Water Distillers

The second type of home water distiller is generally plumbed in and located in the kitchen. It can be located in your garage or any place that is convenient. A typical small home distiller will produce around 5 gallons a day and the water is stored in a 5 gallon holding container. The water is dispensed through the spigot of the holding container and, optionally, a plumbed-in distiller can deliver distilled water to a small additional spigot on your kitchen sink. With this option you can also plumb in your automatic ice maker to use distilled water.

A Water Distiller With Minerals Added Automatically

Watch out for this one: A major manufacturer has taken to making TV infomercials about a home water distiller. But the kicker is they add minerals after distillation to improve the flavor. This defeats the mineral removal benefit.

Bonus Report

Be sure to read the short report "Alkaline Water Machines" that came as a bonus with your purchase of this report.

Water Distiller Pictures, Experiences, and Cleaning Tips

Portable Home Water Distillers

The portable distiller has an open-top boiling chamber (similar to a stovetop cooking pot) with a heating element built into the bottom. Distilled water is made from the steam from the boiling water in the top part of the distiller. It does this by recovering water back from the steam and cooling it with a central fan and, through the use of stainless steel coils, dispensing the distilled water out through a spigot into a container. The only thing left in the boiling chamber after all the water has been boiled and made into distilled water are the impurities that were in the water that was poured into the boiling chamber before turning the machine on. (Note: portable distillers automatically turn themselves off when they have made one gallon of distilled water.)

About five years ago Bonnie and I took a road trip to St. George, Canada to take a week-long Neuro-Linguistic Programming (NLP) class. We stayed in a local chain hotel where the event took place. We took our portable water distiller and when we ran it there was a yellow, stinky, nasty residue covering the bottom of the distiller. I poured the yellow stuff into a hotel glass and made another gallon of distilled water and poured more yellow stuff into the glass. After making 4 gallons of distilled water I had about an inch of the yellow goop in the hotel glass. I took it to class and not one of our fellow students could tell us what it was. When Steve, the instructor (who lives in St. George), smelled it he exclaimed, "It's from the lumber industry!" Is every glass of tap water in St. George contaminated with residue from the local lumber mills? — What's in your tap water? Fortunately, we brought our distiller.

How To Clean The Portable Water Distiller's Boiling Chamber

While you cannot submerge or run the boiling chamber through the dishwasher, portable water distillers are easy to maintain. After each use allow the distiller to cool then wipe the mineral residue off the inside, bottom of the boiling chamber with a paper towel.

After 2-15 cycles (gallons), and depending on the level of minerals in your water and whether or not you pre-filtered the water to take out some of the

minerals, you will see and feel a layer of sandpaper-like material (called "mineral build-up") that has coated the inside, bottom of the boiling chamber.

To clean off this mineral build-up it is necessary to boil an acid compound dissolved in water in the boiling chamber for about 30 to 45 minutes. I suggest you take the boiling chamber or "bottom" of the distiller outside onto your porch or patio to do this as boiling acid water indoors is not a good idea.

The method that is recommended by the manufacturer is to place a spoonful of mild acid (it comes in powder form and a supply is included with the purchase of the distiller) into the boiling chamber and fill the chamber two thirds full with tap water. Then, leaving the distilling mechanism or "top" off, turn the distiller on and allow the acid water to boil for 30 to 45 minutes. The exact time will vary with the amount of minerals in the tap water you are distilling and how much mineral scum has built up. (Note: If you wipe the boiling chamber out each time you use the distiller, you can make many gallons of distilled water before the sandpaper-like mineral build-up becomes a problem.) (Warning: To avoid burns wait until the boiling chamber is cold before wiping it out – the scum comes off hot or cold.)

caution, you can unplug the machine so the water stops boiling (I like to use a power strip so I can switch the machine off without pulling the plug). This will allow you to see clearly what you are looking for; a clean, scum-free bottom, which means the minerals have dissolved into the water and you can dump it out. If you forget to stop the machine and it runs dry (and turns itself off) the minerals will become stuck to the bottom again.



Photo of a Portable Water Distiller

Plumbed-In Home Water Distillers

The advantage of a plumbed-in home water distiller is it can produce quality, safe, distilled water for weeks, even months without maintenance. The disadvantage is they are more work to clean than a portable distiller when they do need cleaning. There are many models on the market and I will describe the one we have been using for 10 years, the H2Only Distiller. The H2Only Distiller has no fan to cool the steam back to water. Instead, it uses a pre-chamber "heat-exchange" method: water comes in at the top of the pre-chamber and the cool water settles to the bottom while the heat from the recovery process moves into the pre-chamber. This is accomplished with a stainless steel pipe that swirls around the outer edge of the inside of the pre-chamber transferring the heat from the steam and condensing it to distilled water.

The pre-chamber does two things: first it cools the steam into water and second, it evaporates the volatile gases. No water is wasted down the drain (some models use a wasteful water method to cool the distilled water). Some models use a radiator with a fan blowing to cool the water (the portable uses this method).

How To Clean the H2Only Pre-Chamber and Small Boiling Chamber

The purpose of the pre-chamber is to discharge volatile contaminates that are in tap water into the air. Some distillers use a "weep valve" which, in the stills I have examined, is a small hole after the boiling chamber. My preference is a distiller with a pre-chamber (as in the H2Only Distiller) to remove the volatile contaminates. (Note: portable distillers do not have a pre-chamber to discharge volatile contaminants into the air.) Cleaning the H2Only distiller is similar to cleaning the portable distiller: take the distiller outside to work on it, place a spoonful of mild acid powder into the pre-chamber and fill the chamber two thirds full with tap water and heat until the mineral build-up dissolves into the water and then dispose of it. However, cleaning the plumbed-in H2Only distiller takes extra work. The extra work is due to: 1) Having two areas that must be decalcified (the prechamber and the boiling chamber) and, 2) Because the boiling chamber of

the H2Only holds only about 1 to 1½ cups of water and will boil dry fast, you must supervise the process, shutting it off and restarting it often.

You don't have to watch the pre-chamber as closely because it holds about two gallons of water, but because it does not have a built-in heating element you must use a separate heating element.

To heat the acid water in the pre-chamber I use a one-cup beverage heater (see picture below) to heat the acid water. It takes awhile, but the one-cup heater heats the whole two gallons eventually and the acid water doesn't need to reach the boiling point to remove the mineral build-up.

This is a picture of a One-Cup Beverage Heater:



We Are Very Happy We Did Not Drink These Minerals



This is a picture of the H2Only pre-chamber in need of cleaning after six months of continuous use (the white and brown stuff is mineral build-up).

The little hose hanging down on the right is not standard. We inject Ozone into the water and this is the hose that delivers the ozone.

The white thing in the middle (covered with mineral build-up) is the float that controls maintaining the water level in the pre-chamber. Cleaning the float is relatively easy because the float is plastic and the mineral build-up doesn't adhere to plastic as tightly as it does to stainless steel.

Because our tap water is so full of heavy minerals I installed a pre-filter to remove some of them before the water enters the distiller. This has reduced the frequency of "descaling" (removing the built-up minerals) to once every six months instead of every four months. The pre-filter is a "Refrigerator Filter" for use in Refrigerator Ice Makers and is sold by Sears and others for removing some (but definitely not all) of the minerals and "bad taste" found in tap water. After running our H2Only continuously for six months, with the pre-filter helping to remove some of the minerals, we still get a tremendous amount of mineral build-up in both the pre-chamber and the boiling chamber (picture of pre-chamber is above and picture of boiling chamber is on next page).

We are so thankful these minerals are being removed from our drinking and cooking water by our H2Only distiller.



This is a picture of the boiling chamber in need of cleaning:

The cleaning process is called "descaling."

The white build-up on the edge is mineral build-up (the same calcium used to build concrete freeways).

(See page 27 for how to clean this H2Only boiling chamber.)

Here Is A Picture of The H2Only Distiller

Two Chamber Distillation The open chamber boils off volatile gases and chemicals. The second boiling chamber kills bacteria and viruses, leaving behind minerals. These features are normally found only on industrial units costing thousands.

Self-Efficient No excess heat. No fan noise. No wasted water. Unit is cooled by it's own incoming water with no drain water.

Compact Size The model 600 is only 13 inches high, 12 inches long and 8 inches wide.

Delicious Taste The distilled water goes through a final polishing of carbon, thus assuring a delicious tasting water (warm or cold).

See-Through Boiling Chamber ig process through it's glass top.



Produces 6 Gallons of Water per Day The Model 600 uses only 600 watts of electricity to produce 6 gallons of water in a 24-hour period. Compare that to others.

Automatic System Produces distilled water continuously until the desired amount is obtained.

Inexpensive to Own The lowest cost distiller of its kind and produces ultra pure water inexpensively.

Easy to Clean Ready access to the boiling chamber, allows for more simple cleaning.

American Made Manufactured in the U.S. from high quality American stainless steel.

2 Year Warranty Parts and labor are guaranteed for 2 years.

Take Charge of Your Drinking Water The Versatility of the H2Only Model 600

The Model 600 automatic direct line hookup can by utilized in multiple ways...



1 Gallon



3 Gallon (Without automatic Shutoff system)



3 Gallon (With automatic Shutoff system)



6 Gallons



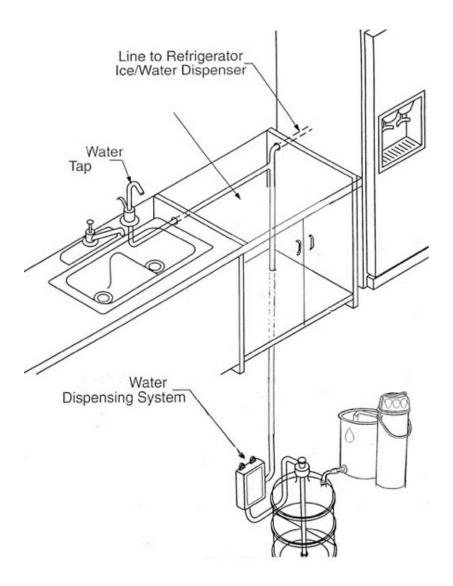
6 Gallon



15 Gallon

Use anything from 1 gallon container to a 55 gallon drum, and produce approximately 1 gallon every 4 hours.

Here is a Diagram of A Built-In H2Only



Filter Your Shower Water

The body is a sponge and will absorb toxins from your shower.

Your body can absorb more chlorine in a 10 minute-shower than from drinking the same water all day!

"A long, hot shower can be dangerous. The toxic chemicals are inhaled in high concentrations." —Bottom Line – August 1987, J Andelman, Ph. D. Chlorine is a toxic chemical. It is used in water treatment plants in almost all areas of the United States to reduce and kill forms of biological agents, such as bacteria and viruses found in water systems. Chlorine is harmful to you when you drink it and when it is absorbed into your skin and inhaled into your lungs when you shower. It has been estimated that the "shower steam" in your bathroom can contain up to 100 times the amount of chlorine than the water, because chlorine evaporates out of water at a relatively low temperature. If you bathe or shower in unfiltered tap water you are inhaling and absorbing chlorine into your body.

"We conclude that skin absorption of contaminants in drinking water has been underestimated and that ingestion may not constitute the sole or even primary route of exposure." –American Journal of Public Health, May, 1984, Vol. 74, No. 5.

"Taking showers is a health risk, according to research presented last week in a meeting of the American Chemical Society. Showers – and to a lesser extent baths – lead to a greater exposure to toxic chemicals contained in water supplies than does drinking water. The chemicals evaporate out of the water and are inhaled. They can also spread through the house and be inhaled by others." –New Scientist – 18 September 1986, Ian Anderson. "I tell my friends to take quick, cold showers", said Julian B. Andelman, Professor of Water Chemistry, University of Pittsburgh, who claimed that the longer and hotter the shower, the more chemicals build up in the air. –San Jose Mercury News, September 11, 1986.

In addition, The Center for Study of Responsive Law's, Troubled Water on Tap report, states that over 2,100 contaminants have been found in drinking water. Of those 2,100, 190 are known to cause adverse health effects. In total, 97 carcinogens, 82 mutagens and suspected mutagens (cause cell mutations), 23 tumor promoters and 28 acute and chronic toxic contaminants have been detected in U.S. drinking water. According to East

West magazine, consumers should purchase shower head filters which remove chlorine and other contaminants to prevent exposure to chloroform [and other toxic substances]." –Center for Study of Responsive Law, Consumers Research Magazine, East West, July 1989.

"Ironically, even the Chlorine widely used to disinfect water produces Carcinogenic traces. Studies indicate the suspect chemicals can also be inhaled and absorbed through the skin during showering and bathing." –U. S. News & World Report – 29 July 1991, Is your Water Safe – The Dangerous State of Your Water.

"Studies have documented the presence in the drinking water of many potentially toxic volatile organic chemicals (VOC's) – from chloroform and pesticides to carbon tetrachloride. Such findings have spurred investigations into the inhalation hazards these compounds may pose when released in the air during baths and showers. However, because shower and tub equipment, as well as other design features, differed widely in these experiments, air releases for a single VOC could vary up to 10-fold from one studied system to another." –John C. Little, Lawrence Berkeley (California) Laboratory, Science News, August 15, 1992.

"The steamy air of a shower contains significant amounts of a least two cancer-causing chemicals that evaporate out of water." –J Andelman, Professor of Water Chemistry, University of Pittsburgh.

"Almost two decades have passed since known or suspected human carcinogens were first found in municipal water supplies. One of them, chloroform, produced by the chlorination process, exposes millions of Americans. The potential for a major public health problem is unquestionably there, and yet, progress has been slow." –Dr. Peter Isacson, M.D., Professor of Epidemiology, Department of Preventive Medicine, University of Iowa College of Medicine.

"Skin absorption of contaminants has been underestimated and ingestion may not constitute the sole or even primary route of exposure." –American Journal of-Public Health –Dr. Halina Brown.

"Showering is suspected as the primary cause of elevated of chloroform in nearly every home because of the chlorine in the water. Chloroform [a known carcinogen] levels increase up to 100 times during a ten-minute shower in residential water" –Environmental Protection Agency – Dr. Lance Wallace.

"Many investigators have reported on the toxicity and unexpected high penetration rates of volatile organic chemicals." –American Journal of Public Health.

"A Professor of Water Chemistry at the University of Pittsburgh claims that exposure to vaporized chemicals in the water supplies through showering, bathing, and inhalation is 100 greater than through drinking the water." –The Nader Report, Troubled Waters on Tap – Center for Study of Responsive Law.

"The National Academy of Sciences estimates that 200 to 1000 people die in the United States each year from cancers caused by ingesting the contaminants in water. The major health threat posed by these pollutants is far more likely to be from their inhalation as air pollutants. The reason that emissions are high is because water droplets dispersed by the shower head have a larger surface-to-value ratio than water streaming into the bath." –Science News – Vol. 130, Janet Raloff.

What A Shower Filter Can Do

A shower filter reduces chlorine (and chloroform and pesticides to carbon tetrachloride) iron, lead, arsenic, mercury, hydrogen sulfide, and several types of bacteria, algae, fungi and mold.

When you shower with a shower filter you can say goodbye to dull hair and irritated, itchy skin.

Shower filters are easy to install and maintain. There are no special tools required. Simply remove your exiting shower head and install the filter before the shower head and put the shower head back on after the filter.

Shower filters are low maintenance: just keep track of the date you installed it, and depending on your water quality and how often its being used, replace it in three to six months. (Note: Bonnie always notices the need to replace our filter first as the feel of her hair changes as soon as the filter has stopped doing a quality job.)

Resources

Current Distiller Information

Here is a link to current pricing and details on the Distillers mentioned in this report:

http://www.road-to-health.com/water/deals

Our Favorite Shower Filter

We recommend that you obtain and use a shower filter to remove chlorine and other toxins from your shower water. The one we have had the most success with is the Sprite Universal Slim Line. We have found them at various times at these retailers:

Home Depot Bed, Bath and Beyond Amazon.com And direct from the Sprite Company http://www.spritewater.com



This photo is of a Sprite filter, cut away to show the filtering material.

Disclaimer:

We are REQUIRED to advise you to make no movement toward improving your health without first consulting a medical professional.

Why Water Fluoridation Must Be Ended

From a talk given by Paul Connett, Ph.D. on November 13, 2007 Water fluoridation needs to be ended because it is unethical, not sensible, not effective for helping teeth, and not safe for the public. Let us review each of these important points.

Unethical: When a state or local government forces its population to drink fluoridated water – supposedly to help prevent child tooth decay – it is doing something that no individual doctor can ethically do; and that is force a citizen to take a medication against his/her will and without informed consent. There is no control of the dose received (i.e. how much water a person is drinking) and there is no monitoring for adverse side effects, even though some people are far more susceptible to the toxic effects. So, this is very bad medicine.

Not Sensible: Breast milk, which is a baby's perfect food, is very low in fluoride, having only about .004 parts per million (ppm) fluoride. The fluoridation of the tap water forces people to drink tap water that has 1 ppm, which is about 250 times as much fluoride as nature provides in its perfect food, breast milk. If nature – breast milk – is right, then water fluoridation is wrong, and infant formula made by mixing in fluoridated tap water will deliver hundreds of times more than the natural amount of fluoride to the baby.

Not Sensible, Different Point: The "product" that is used for water fluoridation is usually hazardous industrial waste from phosphate fertilizer plants. There have been no studies indicating that the use of such fluoride waste products is safe or that it helps prevent tooth decay; but it is not sensible to expect that the addition of hazardous fluoride waste to our tap water is needed to prevent tooth decay in young children. Child tooth decay is not caused by a deficiency of hazardous waste in our tap water.

Not Effective: Studies done by *independent* researchers – not fluoridation promoters – in the U.S., Canada, Australia, New Zealand and Europe show that there is no correlation between tooth decay rates and water fluoridation. Water fluoridation provides no statistically significant benefit. ...As to harm? Read the next section.

Not Safe. Harmful to teeth and to Health In General: Damage to the tooth enamel, originally called "mottled teeth," eventually came to be

recognized as damage caused by fluoride and is now properly called "dental fluorosis." Today, we realize that we are getting fluoride from many other sources besides the water; it is in the industrial pollutants, and it is in many processed foods and beverages, often at levels higher than it is in the water. So, our fluoride exposures and the resulting problems are way out of control. The American Dental Association's claims that dental fluorosis is just a cosmetic problem is seriously false; fluorosis of enamel is a sign that injury is occurring to the dentin as well, and to bone and connective tissue throughout the body. The Newburgh – Kingston study (1945) found almost twice as many cortical bone defects in fluoridated Newburgh compared with the non-fluoridated town, Kingston. Several studies have found a link between water fluoridation and a higher rate of hip fractures in the elderly. Fluoride interferes with the proper formation of collagen, which is the most important structural protein in the body; our bones, connective tissue, skin and arteries are made of collagen. Hence, fluoride serves as a hidden "aging factor." Over 40 animal studies have found that fluoride damages the developing brain. Over 12 human studies have now proven that higher fluoride levels will lower intelligence (lower IQ levels) in children and produce a higher rate of mental retardation. Fluoride acts as a major endocrine disruptor, adversely affecting such vital functions as the thyroid. Young babies are especially susceptible to the thyroid disrupting effects of fluoride, and so are people who are iodine deficient. This raises concern because iodine deficiency is common in the US, where about 12% of the population is iodine deficient. Hypothyroidism - low thyroid function – has been linked to depression, a rampant problem in the U.S. and elsewhere.

The National Research Council (NRC) Report of March 2006: This report, 586 pages long, and with 1,000 scientific references authoritatively confirms the many concerns listed above and much more. The report concludes that current water safety levels for fluoride are not protective enough. It criticizes the Environmental Protection Agency's (EPA's) regulation safety threshold for fluoride in drinking water, which is 4 ppm. Water levels above the EPA's threshold are illegal. But that 4 ppm threshold should be lowered in order to protect the public health, the report states. Clearly, the report's thrust collides with the very notion of water fluoridation, which *forces* the public to drink a fluoride waste pollutant that has been added to its tap water.

Corrupt Politics: Despite the National Research Council's (NRC's) detailed report, so far the EPA has failed to act to lower the safety threshold in order to protect our water. EPA seems to be protecting the status quo rather than protecting our health. EPA should set its Maximum Contaminant Level Goal (MCLG) for fluoride in water close to zero and it certainly should be much less than 1 ppm. (Informed people seek water at 0.2 ppm or less. But setting such an honest, science-based goal would stop water fluoridation, since water fluoridation forces everyone to drink 1 ppm or more of fluoride.

For citizens approaching our state and city elected officials on the fluoridation issue, the NRC report of 2006 gives citizens an impressive summary of the scientific case that water fluoridation should now be ended. *Paul Connett, Ph.D. is the Executive Director of the Fluoride Action Network (FAN). FAN's web site, <u>www.FluorideAlert.org</u> is a rich resource of information on fluoride and its health effects. 1500 professionals from around the world have already signed on to a Professionals Statement to End Fluoridation on this web site. Doctors, dentists and other professionals wishing to sign on to this statement should go to the web site, scroll down to the Professional's statement, and sign on.*

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