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The information contained herein includes both psychological and non psychological interventions. The delivery of psychological services requires a medical referral whilst non psychological services do not.

Each person is an individual and has a unique psychological profile, biochemistry, developmental and social history. As such, advice will not be given over the internet and recommendations and interventions within this website cannot be taken as a substitute for a thorough medical or allied health professional assessment or diagnosis.

Date Document Updated : April 2005

Water

Your Body's Preferred Beverage

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PLEASE NOTE

This article is for your information only. We have written it purely to bring the issue of drinking water quality to public awareness, please do not contact us for advice as we do not sell or have affiliation with water filter companies. Your local water purifier supplier can advise you to your specific requirements.

INTRODUCTION

At this point in time (2005), Australia has no Safe Water Act, no mandatory standards nor a legal definition of safe drinking water, merely guidelines.¹

Although water authorities have increased their filtration capabilities since the cryptosporidium outbreak in Sydney in 1998, our drinking water still passes through a pipe network that is over 100 years old.

Our world environment particularly the lack of care on the part of all human beings - and especially that of 'industry' leaves the subsequent state of our tap water as posing serious risks to our health and wellbeing as a species, let alone as individuals.

In Australia, thousands of tonnes of pesticides, herbicides, fertilisers and poisons are applied annually to land that drains into our rivers and streams. Sewage, whether raw or treated is a significant source of pathogens, parasites, viruses, and bacteria. Salinity and blue-green algae toxins are two other major problems facing Australia's supply of fresh water.¹

Pharmaceutical and personal care pollutants are two little thought of pollutants as being a threat to the supply of clean drinking water to the population. Yet, 90% of every drug that a person takes is either excreted from the body totally unchanged or else is broken down into its active metabolites before entering our sewage system and ultimately finding its way into the water supply.²

Moisturisers, cleansers, bubble baths, shampoos and fragrances, deodorants, mouthwashes, sunscreens etc., often contain chemicals that have been proven to be harmful to our endocrine, neurological, respiratory and immune systems.² **This vast chemical potpourri eventually returns to us every time we turn on the kitchen tap.....**

All of these factors are toxic to fish and humans alike. Humans tend to be more resilient though fish disappear; humans get cancer and the like, and then disappear.

WHY DO WE NEED WATER?

Did you know that a mere 2% drop in body water can trigger fuzzy thinking, short term memory problems, trouble with basic math's and difficulty focusing on the computer screen or on a printed page?

Dehydration is the Number 1 trigger of daytime fatigue?

Even mild dehydration will slow down the metabolism as much as 3%?

In 37% of Americans, the thirst mechanism is so weak that it is often mistaken for hunger? (Source Kimberly Doukas, Florida, USA).

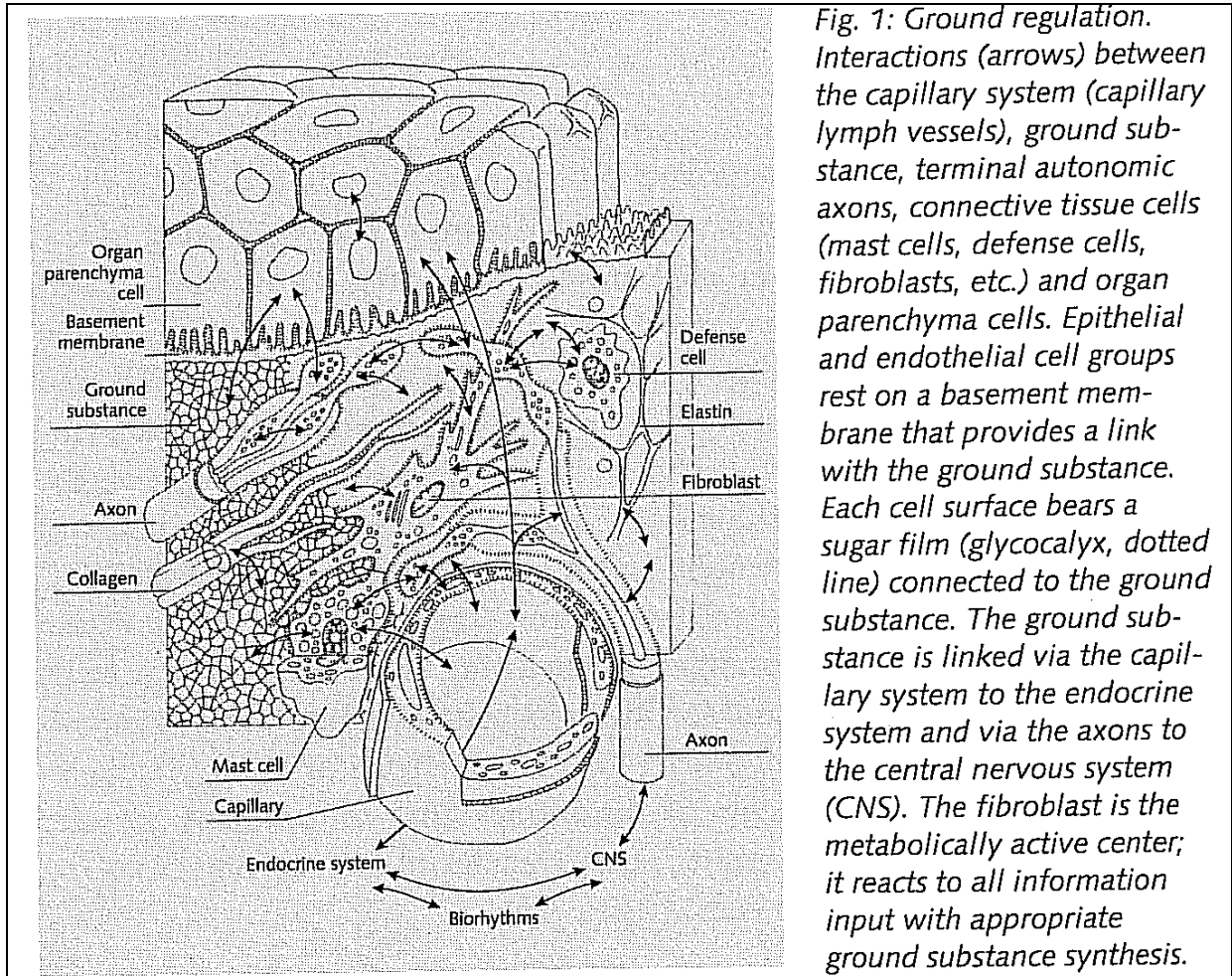
Given the trend for adoption of the American 'fast food fads', one can assume that Australians fall into the same category.

Every cell in our bodies relies on good, clean water to transport essential nutrients to tissue and organs and for elimination of toxins / metabolic wastes. Water in fact makes up to 75% of our body. The 'average' 70kg male has around 42L of water in his body, or 60% of body weight. This water comprises approximately 28% of intracellular fluid (i.e. fluid inside the cells), 11L of interstitial fluid (i.e. fluid between the cells), and 3 L of blood plasma.³ There is a subtle difference between the intracellular water and extracellular water matrix within our bodies.

And the difference to what is real water and what can be loosely described as "fluids" is huge.

Coffee, tea, (some herbal teas may be ok), alcohol, soft drinks, 'energy' drinks, cordials, fruit and vegetable juices (although they are fluids) are not suitable replacements for clean, energised water.

Too few people realise that many of the ailments they suffer from are merely a lack of adequate hydration that is, they simply do not drink enough good, clean water!^{4, 5}



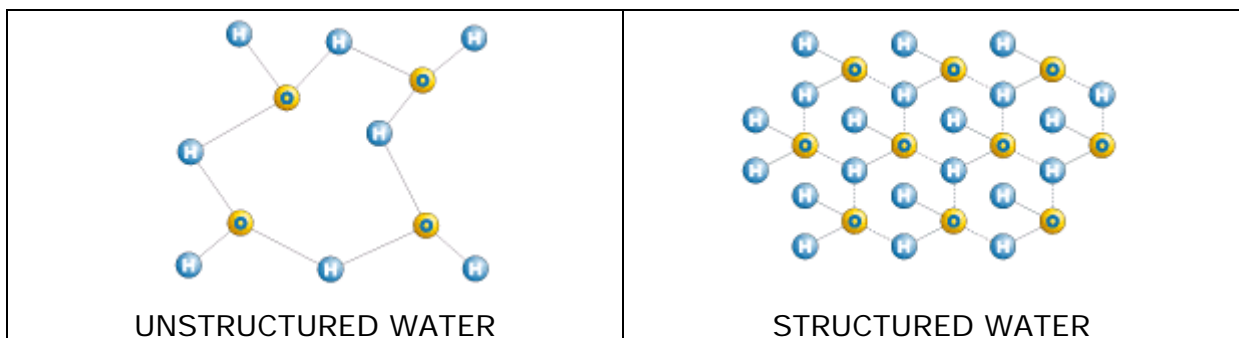
Source: From "Homotoxicology and The Ground Regulation System" by Hartmut Heine

The human body has a delicate balance mechanism called homeostasis: **the state of equilibrium (balance between opposing pressures) in the body with respect to various functions and to the chemical compositions of the fluids and tissues. The processes and adaptative responses through which such bodily equilibrium is maintained is called allostasis,** and the body's requirements, although able to cope with short-term variations, cannot cope with persistent changes as these will alter cellular electrolyte concentrations with serious consequences to health. (i.e. concentrations of potassium, sodium, calcium, etc.)

Daily requirements for ingestion of water vary (1.5 - 5 Litres) depending upon age, sex, weight, occupation, climate and lifestyle. It is easy in tropical climates for instance to lose 2 litres of water or more a day in sweat without exercise. In temperate climates and for those people in a sedentary lifestyle, around two litres per day of pure water (excluding coffee, tea and beverages) is the rule of thumb. Dehydration is the number one stressor of the human body or for that matter, any living organism!

Coffee, tea, etc, are excluded because they act in the body as diuretics and encourage fluid loss. Additionally, caffeine containing 'fluids' inhibit a most important enzyme system PDE (phospho-di-esterase) that is involved in learning, vision and memory development, an obvious 'no-go' for children and adults with neurodevelopmental disorders (Autism Spectrum Disorders, ADHD), learning disabilities (dyslexia, dyspraxia), behavioural disorders and Alzheimer's disease!³

Pure, energised water has a highly organised structure essential to life, which is not found in the 'dead' water of our polluted, 'treated' and piped water system. Nature's water is truly 'the stuff of life'. Next to oxygen, good, clean, healthy water is our most required nutrient for life to exist at all.



Water analysis is unfortunately an expensive technology and somewhat unreliable - simply because there is as yet no set and universally accepted water safety tests. That is, there is no global agreement on exactly **what** to test for!

For instance, in the UK in August 2004, it was found, with specific analysis of the water coming out of the kitchen tap, that Prozac was a major constituent of the water supply. Hardly surprising when one thinks of the number of people prescribed the drug in the UK (up to 24 million prescriptions per year).⁵

In 2001, Canada decided to introduce stricter rules for pharmaceutical manufacturers after finding birth control hormones, antibiotics, and other pharmaceuticals in Ottawa's drinking water. Manufacturers now have to comply with environmental standards. Although one could say that "the horse has already bolted" in terms of the damage done to the human gene pool, it would appear that the Canadian government is at least trying to prevent further damage.

Throughout the world, independent laboratory testing of water supplies has revealed that our drinking water contains a vast array of chemicals designed to alter the physiology of the human body.^{7, 8, 9} Of major concern in this regard is the fact that synthetic oestrogen hormones are taken by millions of women worldwide as oral contraceptive control or hormone replacement therapy. Both natural and synthetic oestrogen enter sewage plants in large quantities as do oestrogen mimicking chemicals originating from surfacants and plasticisers. The results of this are now evident in the feminisation of male fish and the fact that the average sperm count of human males has dropped more than 50% in the past 50 years! Even more alarming is the increase in incidence of male babies being born without fully developed or in some cases undifferentiated sexual organs that is, they are neither male or female!

German scientists report that from 30-60 drugs can be found in a typical water sample if anyone took the time to do the proper testing.

What are the long term effects of drinking, day after day, a dilute cocktail of pesticides, hormones, pain killers, tranquilisers and chemotherapy agents?

The answer is of course - no one knows.

CHLORINE AND FLUORIDE ARE POISONS!

Chlorine is one of the most reactive elements in nature and is found in free form only in volcanic gas. It has been linked to high blood pressure, anaemia, diabetes and is a contributor to heart disease. Even in the minute quantities that chlorine is used to kill germs, it undermines the body's defences against atherosclerosis - the hardening and thickening of the arteries.¹ Unfortunately, disinfection of public water supplies is essential.

When chlorine is added to water it reacts with dissolved organic matter to produce over 100 chlorinated organic compounds, including several mutagens such as the halomethanes and hydroxyfuranomes. Some of these compounds, such as chloroform are highly volatile.

Heating chlorinated water releases chloroform. Taking too hot a shower without adequate ventilation means that you will be breathing in chloroform as well as absorbing it through the skin. An increase in depression has been attributed to this absorption and inhalation. People with sensitive skin and dry hair are advised to install a shower head filter since chlorine bonds chemically with the skin and hair causing dryness, itchiness and flaky skin.¹ Drinking chlorinated water has been linked to increased cancer risk.⁸

TOXIC CHEMICALS FOUND IN CHLORINATED WATER

COMPOUND	COMMERCIAL USE	POTENTIAL HEALTH EFFECTS
MX (chlorinated furanone)	Nil	Potent Mutagen; Carcinogen, Genotoxin
Chloroacetic Acids	Herbicides, Soil Sterilant	Carcinogen
Chlorophenols	Preservatives, Germicides, Mothproofing, Anti-mildew	Liver Damage; Neurological Damage; Carcinogen
Chlorpicrin	Grain Fumigant, Soil Sterilant	Mutagen: Highly irritant to skin and eyes
Cyanogen Chloride	Fumigation	Highly Poisonous: Similar toxicity to cyanide
Halocetonitriles	Insecticides	Metabolises to Cyanide; Carcinogen; Mutagen; Foetal Deformities
Chloral hydrate	Sedative and Hypnotic Drug	Mutagen, Carcinogen - toxic to the liver
Chloroform (THM)	Industrial Uses	Carcinogen; Toxic to the liver and kidneys; depresses the central nervous system
Bromoform (THM)	Industrial Uses	Toxic to the liver and kidneys; depresses the central nervous system
Bromodichloromethane (THM)	Nil	Stillbirths and Birth Defects

Source : The Above Table Is From "Australia's Drinking Water- The Coming Crisis" by John Archer¹

A granulated, activated carbon water filtration system will remove chlorine and chlorine by-products from your water, as well as suspended matter, organics and pesticides, but does not eliminate fluoride.

Fluoride has been implicated in the leaching of metals from cookware, pipes and other sources. Sodium fluoride as utilised in the treatment of drinking water is a by-product of aluminium production. Aluminium ingestion has of course been linked to Alzheimer's Disease in those who are genetically predisposed or those with dysfunctional detoxification processes.

WHAT EFFECT DOES FLUORIDE HAVE ON THE BODY?

DENTAL FLUOROSIS

A defect in the formation of tooth enamel in children which results in mottled teeth. This is not reversible and remains for life. It is believed that when decay does set in these teeth are difficult to fill. Dental fluorosis can occur from 0.4 ppm of fluorine.

SKELETAL FLUOROSIS

Early symptoms are back stiffness, pains in the bones and joints, sensations of burning, pricking, and tingling in the limbs, muscle weakness, chronic fatigue, gastrointestinal disorders, and reduced appetite. X-rays show abnormal calcium deposits in bone and ligaments. Osteoporosis develops in long bones and bony outgrowths may occur. Eventually the victim may be crippled and the vertebrae fuse together.

FRACTURES

Researchers at the University of Bordeaux in France studied 3578 people of 65 years or older living in South Western France. They reported that the risk of hip fracture was significantly higher when levels of fluoride in the water exceeded 0.11 ppm.

IMMUNE DEFICIENCY

Dr. Sheila Gibson from the University of Glasgow, showed that fluoride, at levels comparable to those found in the blood of people living in fluoridated areas, decreased the migration rate of human white blood cells (leukotaxis). (Also inhibits phagocytosis - another defence mechanism) This adversely affects the immune system. Dr. Gibson found that only a six-hour exposure of white blood cells to as little as 0.1 parts per million fluoride inhibits the white blood cell migration rate by 21 percent.

One part per million inhibits the white blood cell migration rate by 85 per cent and 2ppm has a conclusive 0 percent relative migration rate. This indicates that a continued use of fluoride in the drinking water could result in the total destruction of the immune response.

CANCER

Cancer researchers have found a 17% rise in 16 yrs of cancers in towns in the USA which are fluoridated in comparison with those which are not. A rise in a rare bone cancer, osteosarcoma, was recorded in men under 20 in fluoridated areas. This was confirmed in studies on rats in 1989 by the US National Toxicology Program.

GENERAL SIDE EFFECTS

George L. Waldbott, founder and chief of allergy clinics in four Detroit hospitals, reported treating at least 500 patients who he concluded reacted negatively to fluoridated water. The symptoms included muscular weakness, chronic fatigue, excessive thirst, headaches, skin rashes, joint pains, digestive upsets, tingling in the extremities, and loss of mental acuity. Waldbott used double-blind tests to determine whether fluoride was the cause of symptoms in many of his cases. In each of these patients, the symptoms disappeared when the fluoride was taken away without the patient's knowledge and reappeared when it was reintroduced.

OTHER AILMENTS INCLUDE

- Destruction of about 60 enzymes including cytochrome C and cholinesterase which handle oxygen.
- Genetic change in sperm and other cells.
- Downs Syndrome increase of 250% with 70% developing cataracts
- Infant mortality, spontaneous abortions and miscarriages increase
- Infant birth defects increase
- Goitre

It should be noted that there are quantitative differences in toxicity between children and adults. This is due in part to age-related differences in absorption, metabolism, detoxification and excretion of xenobiotic compounds.... Differences in size, immaturity of biochemical and physiological functions in major body systems, and variation in body composition (water, fat, protein and mineral content) all can influence the level of toxicity.⁹

In short, children are more sensitive to the chemical cocktail we call "water" today.

WHAT CAN WE DO TO IMPROVE THE QUALITY AND SAFETY OF OUR DRINKING WATER?

Besides the necessity for mandatory water quality testing to an agreed standard in our toxic world that we have created, care of the environment must be brought to public awareness and taught from the school level onward to industry. We need to remember that what we tip down the drain comes back to us through the water supply and the food chain.

Usage of toxic chemicals needs to be limited and methods of environmentally friendly disposal must be developed. Pharmaceuticals with a specific half-life on elimination need to be developed in order to be environmentally friendly.

Filtration of water at the point of use is increasingly becoming a necessity in home and work environments and there are many water filtration units on the market. Working out which model suits your individual requirements can be confusing.

FACTORS TO CONSIDER WHEN PURCHASING A WATER FILTRATION UNIT ARE:

1. **Your Locality:** Every region in Australia is subject to the peculiarities of that region in terms of natural run off from mineral deposits; local industry; pharmaceutical and personal care product usage etc. Make it your business to know what your local water supply contains - water authorities are obliged to undertake testing upon reasonable request.
2. **Your Individual Susceptibility:** Because of our biochemical individuality, everyone is sensitive to something. People with specific problems will need to be especially wary of the water that they are drinking (For instance, those suffering from Alzheimer's disease, learning disabilities and neurodevelopmental delay as discussed above).
3. **Your Usage Requirements:** 1- 5 litres with adjustments for such things as climate, type of work or activity being undertaken and the number of people in the household etc.
4. **The Type of Filter:** This will depend upon all of the factors mentioned so far..... Your water purifier company can do water quality testing for your specific region and individual requirements. Discuss it with them, but do make sure that they are certified to do so by a third party for your own assurance.
5. **Budgetary Constraints:** Whether or not you wish the whole house water supply to be filtered or an under sink or above sink unit etc.

A three stage water filter system that filters, alkalises and re-energises the water is the most cost efficient and health conscious option our current technology appears to hold for home use.

Are you drinking enough pure, energised water per day for your daily requirements?

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