

# Structured Water: Its Healing Effects On The Diseased State

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**Disclaimer:** The site where this article is published sells devices to structure water.

## Abstract on Structured Water Research:

Structured water is found in the cytoplasm of healthy tissue. It has a high solubility for the body's minerals, so minerals and vitamins, which are formed with structured water, tend to go from the digestive tract and bloodstream into the tissues. Structured water can be formed using lights, magnets, temperature changes, (quartz crystals, pyramids and sounds. Structured water formed with blue light or North Pole magnetic energy is slightly alkaline and has an increased surface tension.

Water structured with yellow and red light, south pole magnetic energy or within a pyramid is slightly acidic and has a decreased surface tension. The two types of structured water each have increased mineral solubilities and different healing effects on the body. North pole magnetic energy and water is known to stop the growth of pathogenic bacteria and cancer tumors while south-pole magnetic energy and water enhances organ functions and endocrine excretions.

The structured water research will investigate the physical, chemical and biological characteristics of water structured under different conditions of light, temperature, magnets, quartz crystals, pyramids and sounds. The physical changes in dielectric conductivity and surface tension will be investigated. The chemical changes in the pH and mineral solubilities will be correlated with the different biological actions found for each type of structured water.

## Formation Of Structured Water

All light structures water. Light centered in the blue, violet and ultraviolet end of the spectrum will produce an alkaline structured water. Examples of these kinds of light are sunlight at high noon (blue) bilirubin light (blue) and germicidal light (U.V.). Light centered in the green part of the spectrum; early morning and late afternoon sunlight, tree shade and KIVA Lights structure water at a neutral pH. Light centered in the yellow and red end of the spectrum produces an acid structured water. Examples of these kinds of light are incandescent light bulbs (yellow), cool white fluorescent tubes (yellow), warm white fluorescent tubes (yellow) and Gro-Lites (pink) (Bachechi, 1982 p. 14).

North-pole magnetic energy structures water and amino acid solutions to an alkaline pH and increases water surface tension. South-pole magnetic energy structures water amino acid solutions to an acid pH and decreases water surface tension (Davis & Rawls, 1979 pp. 85-86 and Rees, pp. 26-27). A decrease in surface tension is also found with water placed under a pyramid (Schul & Pettit, 1975 pp. 91-92).

Structured water has a higher solubility for minerals than bulk water. Water activated by KIVA Lights (Bachechi, 1984), red light and electrical discharge from a neon & mercury filled vial (Gauquelin, 1969) and south-pole magnetic energy (Davis and Rawls, 1979 p.89) will dissolve calcium deposits found in hard water and boiler scale. These three types of activated water are structured to an acid pH and have an increased solubility for structure-maker ions -- ions that cause water to become more highly structured.

Structure-maker ions are all multivalent ions and monovalent ions the size of sodium or smaller.

These are  $\text{Li}^{+1}$ ,  $\text{Na}^{+1}$ ,  $\text{H}_3\text{O}^{+1}$ ,  $\text{Ca}^{+2}$ ,  $\text{Ga}^{+2}$ ,  $\text{Mg}^{+3}$ ,  $\text{Al}^{+2}$ ,  $\text{Er}^{+3}$ ,  $\text{OH}^{-1}$ , and  $\text{F}^{-1}$ . ions which are more soluble in alkaline structured water are called structure-breaker ions and include all monovalent ions, the size of potassium or larger. These are  $\text{K}^{+1}$ ,  $\text{NH}_4^{+1}$ ,  $\text{Rb}^{+1}$ ,  $\text{Co}^{+1}$ ,  $\text{Br}^{-1}$ ,  $\text{I}^{-1}$ ,  $\text{NO}_3^{-1}$ ,  $\text{BrO}_3^{-1}$ ,  $\text{IO}_3^{-1}$ ,  $\text{ClO}_4^{-1}$ . (Mikesell 1974,pp. 2-3). These solubility differences are reflected in the cells ionic make-up. The cytoplasm of healthy tissues have a slightly basic pH and a high potassium to sodium ratio while the bloodstream, nucleus and extracellular fluid is more acidic with a higher sodium content (Mikesell, 1974 pp. 5-14).

Structured water has a decreased solubility for dissolved gases. KIVA Light activated water has a decrease in the amount of dissolved chlorine gas, that which remains is turned into a chloride ion (Bachechi, 1984). Magnet activated water has a decrease in the dissolved oxygen and nitrogen (Davis & Rawls, 1975 pp. 118-119). Water with 1.2 ppm dissolved nitrogen, which is exposed to either a North Pole or South Pole magnet, loses half of its dissolved nitrogen. The same water, which is exposed to an alternating north-pole south-pole electromagnet, has one quarter the original amount of dissolved nitrogen (Davis & Rawls, 1979 p. 88).

Structured water can be formed using lights, magnets, temperature changes, quartz crystals, pyramid energy, sounds and minerals. The effect of lights should first be studied since all laboratory experiments are done under some kind of artificial lights - usually either cool white fluorescence, warm white fluorescence or incandescent bulbs. Since these three lights are centered in the yellow end of the spectrum, all structured water data will be biased toward an acid pH condition. Therefore structured water experiments on the changes in pH, dielectric conductivity and surface tension should be done on incandescent bulbs, Gro-Lites, warm white and cool white fluorescent lights, KIVA Lights, bilirubin lights and UV germicidal lights in order to find out the amount each light will bias subsequent experiments on other water structuring energies.

It could be that standard lighting conditions for structured water experiments should be all cool whites, all KIVA Lights or even that experiments should only be done in the dark. The activation of water by a KIVA Light, because it is centered in the green, structures both the acid and the alkaline ions. The North Pole and south pole magnetized water will structure both the acid and alkaline ions.

One explanation for the decrease in the dissolved gas content of KIVA lighted and sun energized water is that the acid structured water, with its decreased surface tension, opens the water bonding up and allows the dissolved chlorine to escape into the atmosphere. The alkaline structured-water is more soluble for  $\text{H}_3\text{O}^{+1}$ ,  $\text{OH}^{-1}$ ,  $\text{NH}_4^{+1}$ ,  $\text{NO}_3^{-1}$ ,  $\text{Cl}^{-1}$ ,  $\text{ClO}^{-1}$ , ions. The hydrogen ions and hydroxyl ions will react with chlorine to form  $\text{Cl}$  ions and  $\text{ClO}_4^{-1}$  ions, with nitrogen to form  $\text{NH}_4^{+1}$  and  $\text{NO}_3^{-1}$  and will react with oxygen to form additional hydrogen and hydroxyl ions. Dissolved  $\text{CO}_2$  will react with hydrogen ions to form carboxylic acid ( $\text{HCOO}^{-1}$ ).

The structuring of water can be done using both light and magnetic energy. Parccardi demonstrated this by stirring a vial of low-pressure neon with a drop of mercury around in a beaker of water. The mercury, rubbing on the wall of the vial produces a slight electromagnetic current, which causes the neon to discharge a red fluorescent light. This produces an acid structured water which dissolves boiler scale (Gauquelin, 1969). The inert gases, subjected to pressure and a magnetic field, have been used on water, juice or as whole body irradiation to cure a variety of diseases (Cook, 1980 pp. 1-7).

Changes in temperature have been used to structure water. An increase in temperature is used in making cell salt solutions. Each successive dilution is prepared by either raising the temperature 10 degrees Centigrade or shaking a bottle 2/3's full of the salt solution 40-50 times. This forms hydration shells around each of the ions, which causes an increased separation between the ions and structures the water around the ions (Mikesell, 1974 pp. 14-16). A decrease in temperature is used in structuring vortexya water.

Water is vortexed, under vacuum, at 4 degrees Centigrade with CO<sub>2</sub>, O<sub>2</sub> and trace minerals, which combine with the oxygen and with the carbon dioxide (Baumgardner pp. 5-7). This creates both acid and alkaline structured water with an increased solubility of the trace minerals. Freshly melted snow and water, which has been boiled and quickly cooled, is degassed to the point where the water becomes structured. This kind of water is more biologically active, shows an increased surface tension, density and viscosity and a decrease in electrical conductivity. (Maugh II, 1978 p. 414)

Minerals will structure water. Silica gel will cause an alkaline structuring of water with an increased surface tension and solubility of potassium structure-breaking type ions (Mikesell 1974, pp. 7-9). Hunza water is composed of all the sea waters minerals except NaCl and has a decreased surface tension (Flanagan, 1984).

Pyramid energy will produce acid structured water with a decrease in surface tension if water is placed inside a pyramid. The pyramid's effect on water has been attributed to an increase in the water's dipole moment. (Schul-Pettit, 1975 pp. 91-92 & 102-105). Quartz crystals structure water for several reasons. They will impart pyramid energy to water because their points are at the pyramid angle of 76 degrees.

The silica dioxide will increase the water's viscosity when water is placed between two silica plates (Peschel, G. & P Belouschek, 1979 p. 9).

Crystals have a piezoelectric energy, which varies depending upon their orientation in the earth's magnetic field. Pierralos found a pulse rate of 9/mm. with the leading edge of a crystal facing south, 6/mm. facing west, 4/mm. facing north and 14/mm. when facing east (Pierralos, 1971 p.18). The crystal's piezoelectric energy will also amplify the variations in pressure caused by sound while the pyroelectric energy will reflect variations in heat produced by different frequencies of light. Water treated on top of pyramids and with Ralf Bergstresser's pyramid energized aluminum plates should be tested to see how the water is structured.

Sound structuring of water needs to be tested. Keely found that striking a resonate chord of an object in three octaves, the third, sixth and ninth of a chord scale would produce a variable effect. The sixth would cause the matter to condense while the ninth would have an expanding or levitating effect (Sykes 1964 pp. 20-21, Richards 1983 p. 2, & Richards 1984 p. 12).

The structuring of water by these various means should be measured by looking at changes in pH, oxidation-reduction potential, dielectric conductivity, UV spectrophotometry, surface tension, viscosity, density, freezing temperature, ice crystal formation, dried crystal formation, mineral solubilities, biological activity and healing abilities.

### Kiva Lights

Chemical mechanisms on Orié Bachechi's eight year study of the effects of full spectrum Kiva lights submitted to One for his use in grant proposals and the designing of future experiments.

Kiva light removes dust and static electricity from the air while holding the humidity between 45 and 55%. This balances the positive and negative ion contents in a room. Rooms, which are dry and dusty, are depleted in negative ions while rooms, which are very humid, have few positive or negative ions.

The Kiva light produces highly active water molecules, which precipitate the dust (positive ions), and excess humidity (negative ions) to produce a room, which has an equal balance of, charged positive and negative ions. Negative ion studies show a balance of positive and negative ions increases oxygen absorption in man.

The Kiva light changes the pH of water. This change comes from the light structuring or activating the water to form free radicals or highly reactive positive and negative ions within the water. These charged ions will react with other water molecules to form ionized chains of water molecules and will ionize dissolved gases and minerals. Dissolved minerals become more highly soluble because there are more water hydration shells around each mineral. This increase in the charged molecule changes the chemical strength of the dissolved minerals and changes the pH of the water. Dissolved gases become ionized in structured water. Kiva lights change dissolved chlorine gas into chloride ions by the structured water ionizing the  $\text{Cl}_2$  molecules into two Cl free radicals which then react with two H free radicals to form two HCl molecules. This reaction will change the water to a more acid pH.

Dissolved  $\text{CO}_2$  gas will become  $\text{HCOO}^{-1}$  (carboxylic acid) while dissolved  $\text{O}_2$  will react with H free radicals to become two basic hydroxyl ( $\text{OH}^{-1}$  ions).

Kiva lights seem to inhibit several well-known free radical organic and biochemical reactions. Epoxy glue will not bond under Kiva light but will stick when placed under incandescent lights.

These reactions probably need an acid environment to go from the free radical condition to the ionic or covalently bonded state. Fats and oils do not become rancid under Kiva lights so meat and vegetables do not spoil as readily with Kiva light as they do under acid causing yellow or pink lights.

Kiva lights are modified 4-foot fluorescent Vita-Lites which when placed over the kitchen sink structure the tap water and the food prepared in the kitchen. People using these lights in this manner experience periodic detoxification reactions, which include a slight fever and diarrhea.

Many diseased conditions are improved by this use of structured water including poor circulation, high blood pressure, cellulite loss, dry skin, kidney and gall bladder stones, toxicity, anemia, ulcers, blood sugar regulation, arthritis, and paralysis (Bachechi, 1982).

In the body, poor circulation, high blood pressure, arterial sclerosis and cellulite from cholesterol deposits are dissolved after KIVA activated water has been used for cooking. Also skin becomes softer and less wrinkled.

Cholesterol deposits are due to free radical oxidation while skin wrinkles are caused by free radical cross linkage of collagen molecules.

Arthritis, kidney stones and gall bladder stones are alleviated by a rebalancing of the calcium metabolism.

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