SALT IS A DRUG by Ron Brown, Ph.D.

SALT is the common name for sodium chloride or table salt. We hear much today about the need to reduce our salt intake in order to improve our health, especially to reduce hypertension in "salt-sensitive" people. But as more people begin to accept the idea that too much salt is unhealthy, the belief persists even among healthcare professionals that the human body requires some daily salt intake for health. This belief is false and dangerous, as this article will explain. Although the human body requires sodium as a micronutrient, which is available naturally in sufficient amounts in unsalted food, it has no need for any sodium chloride whatsoever. Salt is not a nutrient—it is a drug that poisons the body! Approximately 80% of our salt consumption comes from sodium chloride added to our food by manufacturers before it even reaches our table. Sodium chloride contains two elements, sodium and chlorine. There are many poisonous drugs that also contain sodium, such as sodium fluoroacetate (rat poison), sodium hydroxide (lye), and sodium hypochlorite (bleach). Fortunately, we are not in the habit of sprinkling our food with these poisons in order to provide our body with needed sodium.

Unfortunately, we make an exception with sodium chloride. As a drug, sodium chloride is also poisonous to the body, but because this drug has been used as an antibiotic for centuries to preserve food, we have grown accustomed to its use.

Sodium chloride is an ionic compound that is synthesized when oppositely charged atoms or ions of sodium and chloride join together through an electrostatic ionic bond. More ionic bonds are formed as additional sodium ions and chloride ions attach to sodium chloride, building up a salt crystal lattice. When this sodium chloride crystal dissolves in water, the ionic bonds in the lattice are broken apart by water molecules, releasing the positively-charged sodium ions and negatively-charged chloride ions. These released ions retain their opposite charges and continue to attract each other as constituents of sodium chloride's chemical structure, but in an aqueous state. Similarly, water may change to an aqueous state (liquid), crystallized state (ice) or vaporized state (steam), but it still retains its chemical structure as water.

The body needs a continuous supply of sodium ions and chloride ions to perform various biological functions, so aqueous sodium chloride which contains both types of ions seems suitable to fill that demand. But there is a problem. The biochemical functions and locations in the body that require positive sodium ions are separate from those functions and locations requiring negative chloride ions. For example, one of the most important uses of free sodium ions in the body occurs in the nervous system. The exchange across cell membranes of positive sodium ions with negative potassium ions generates action potentials which send electric current throughout the nervous system. Without sufficient quantities of free sodium ions and other ionic electrolytes obtained in the diet, this biochemical reaction cannot occur, and the body cannot function.

Unfortunately, wherever sodium ions go in aqueous sodium chloride, the chloride ions are attracted to follow right along. If you have a cup of salt water, you can't pour out only the portion of the water with sodium ions or only the portion with chloride ions. The charged ions never clump together in fluid, but maintain their electrical equilibrium by distributing themselves evenly throughout the aqueous solution. Thus, positive and negative ions in an aqueous state of sodium chloride remain interconnected in the same chemical proportions as they do in the crystallized state. The sodium chloride in salt water also retains the same taste as the sodium chloride in salt crystals. Only industrial methods like electrolysis can neutralize and remove the chloride ions from aqueous sodium chloride, which produces chlorine gas when an electrical current is run through salt water (brine).

All sodium chloride ingested by the body is either already in an aqueous state or is quickly converted to an aqueous state in the body's fluids. But how will the body manage to avoid having the oppositely charged chloride ions follow along wherever sodium ions are needed in the body, like in the nervous system? How can the body neutralize and remove the chloride ions from the ingested aqueous sodium chloride without having access to an industrial strength electrical current, as in electrolysis which also releases poisonous chlorine gas? It can't! And that explains why ingested sodium chloride is useless to the body as a nutrient.

Unlike natural food, sodium chloride cannot provide any free sodium ions to the body, no matter how much it dissolves in water because sodium ions remain electrostatically attached to chloride ions in an aqueous state. Sodium chloride is consumed, circulated, and excreted as sodium chloride, without ever changing its chemical structure, regardless how much it changes between an aqueous and crystallized state. This type of inert chemical reaction never occurs in a nutrient that is metabolized by the body; it commonly occurs when a poisonous drug is consumed and eliminated.

In pharmacology, a drug's response in the body, more accurately described as the body's response to an inert poison, is called the drug's pharmacodynamics, and the body's absorption and elimination of this poison is known as the drug's pharmacokinetics. Pharmacology texts clearly list the pharmacokinetic and pharmacodynamic properties of sodium chloride, confirming its use as a drug and a poison. As with all other drugs, adverse effects of sodium chloride use are listed in medical books. Sodium chloride's retention and excretion by the body places a large strain on kidneys and other organs, damaging tissue and raising blood pressure as the body retains water in extracellular tissue to dilute salt.

Chronic heart failure is often a result of the left ventricle of the heart giving out from forcing against the resistance of high blood pressure in the arteries due to increased blood plasma volume from sodium intake. It is likely that artery elasticity in younger people who consume salt helps prevent high blood pressure as their arteries dilate to compensate for extra plasma volume. However, as arteries lose elasticity with age, increased plasma volume from salt intake raises blood pressure. According to the INTERSALT study, the Yanomami tribe of Brazil consume no salt, and their blood pressure averages only 95/61 mmHg, which does not rise with age.

Water retention or edema that occurs in the cornea and other components of the eye from salt intake probably contributes to myopia or nearsightedness as the distorted eye shape causes errors of refraction. Patients on Kempfer's salt-free rice diet reported improved vision. Sodium chloride, which is also used to melt ice off our roads, is highly irritating and poisonous to delicate human tissue as observed if salt gets in the eye or in a wound. This explains why the body tries to protect tissue from harm by diluting salt with water. Water retention in the peripheral body parts like the ankles shows up as edema, and accumulated fluid retention in the abdomen contributes to ascites. Consuming yet another drug, a diuretic to suppress water retention from salt intake, ignores the underlying cause of the problem, undermines the body's defense mechanism to dilute salt, and increases the risk for additional drug-induced adverse effects like dehydration.

It is commonly believed among healthcare professionals that children suffering from cystic fibrous have a genetic defect that requires treatment with large daily doses of sodium chloride to replace the large quantity of sodium expectorated in mucous by the children's lungs. It never occurs to these professionals that their sodium chloride treatment may be worse than the disease. For example, it may be that sodium chloride poisons the body and acts as an epigenetic factor which stimulates the genetic sodium defect and generates the copious expectorant in cystic fibrous as the body attempts to rid itself of this poison. Like many other drugs that induce lung disease, salt intake is strongly linked to asthma. Saline solutions administered to patients often have adverse effects including pneumonia, pulmonary edema, increased blood pressure, higher pulse and respiratory rate, vomiting, anxiety, and acute cardiac failure. By contrast, natural coconut water containing balanced amounts of sodium and other electrolytes does not have these adverse effects when administered intravenously in emergency cases. Understanding that sodium chloride is a drug rather than a nutrient or a harmless flavor enhancer and food preservative is an important step in increasing the public's awareness and preparedness to reject this dangerous poison that is ubiquitous in our food supply. The chemical form in which we ingest sodium and other needed elements is critical to that element's bioavailabilty and utilization to build and maintain health. For example, we need to take oxygen into our lungs to breathe, and water contains oxygen, but if we attempt to fill our lungs with water to supply oxygen we will drown. Likewise, we need to ingest natural sodium and natural chloride in our diets to remain healthy, but if we attempt to supply these with sodium chloride, we only poison our bodies while our nutritional need for usable sodium and chloride remain unfulfilled. Natural, unsalted foods are our best source to supply these elements.

Finally, some people might object that eliminating sodium chloride removes the iodine added to it as well which is necessary to consume for health. Yet, usable iodine is present abundantly in the same natural foods, such as dark green leafy vegetables, that supply natural sources of sodium, calcium, and other elements.