

reach for more food to solve our need for “energy.” Iodine depletion may be the real cause of our low-energy feeling, but drinks, power bars and fast foods are big money-generating markets compared to iodine supplementation for only pennies a day.

The body's redox balance



Healthy metabolism depends on a proper exchange of protons and electrons during chemical reactions on the cellular level. A molecule acquiring electrons and protons undergoes *reduction*;

a molecule releasing them undergoes *oxidation*. Complex organisms like humans and animals need more reduction than oxidation (hence the importance of anti-oxidants), as reduction makes more electrons available for energy production. The *redox balance* refers to the cells' electron uptake: With too much oxidation and not enough reduction, the cells lose electrons and therefore energy. *Oxidative stress* refers to too much metabolic oxidation, which results in lowered cellular energy. The toxic load of environmental pollution, preservative-laden food and chemically laced water in our present-day lives is creating oxidative stress in our bodies. *This fatigue is occurring on the very level of our cells*, whose mitochondria are less and less able to make the energy molecule ATP on which the health of the cells and our bodies depends.

Iodine to the rescue

Thyroid hormones contain actual molecules of iodine. *All of our cells, muscles and organs depend on thyroid hormones to work properly.* Deprived of iodine, the thyroid cannot make its hormones, and without thyroid hormones our entire system slows down. With iodine, our metabolism runs like a well-oiled machine.

Essential as it is, we only need this dynamic element in very small amounts. Doctors once prescribed iodine routinely for their patients. But as the pharmaceutical industry grew more powerful and began to market its ever-growing variety of new chemical drugs to physicians, the value and utility of iodine became a thing of the past. In fact, modern medicine has created a phobia around iodine, claiming that any amount taken internally upsets the thyroid. So as to regulate iodine, the traditional Lugol's formula (5% iodine, 10% potassium iodide) can no longer be bought over the counter.

Iodized salt contains *iodide* (iodine in combination with another element) and is meant to address our need for trace amounts of iodine. Does it supply enough? Not for the toxicity loads we face today: bromine, chlorine, fluorides, and other oxidative stressors depleting us of ATP. *Magnascent* iodine is a DEA-permitted 2% iodine solution in consumable form that the body can readily use. Created electromagnetically, it was discovered by an aerospace engineer. People who supplement with nascent iodine report a feeling of well-being, higher energy, clearer thinking, better sleep and digestion. Iodine used in clinical practice by physicians like David Brownstein, MD has produced dramatic results for patients with a range of physical ailments. To learn more read Dr. Brownstein's book: *Iodine – Why You Need It, Why You Can't Live Without It.*

In medical school in the 1980s, Dr. Brownstein was taught that doctors should not prescribe iodine. In real practice, he began a journey that revealed its vital importance to human health. The good news is that practitioners in many health-related fields are now waking up to the benefits of iodine, as are ordinary people themselves. A simple way to improve and maintain our overall sense of well-being!



Iodine: The body's little helper

Once upon a time people took iodine drops to stay healthy. Recuperating from illness at the seashore (where iodine vapor is found in the air) was a common practice. Some even say that the use of iodine to treat goiter in the early 1800s (a specific agent for a specific condition) marked the birth of Western medicine. So how has it happened that iodine is all but forgotten today – even avoided by doctors – and so terribly misunderstood?

Every single one of the body's trillions of cells contains and depends on iodine. If (as many scientists believe) life originated in the ocean, then our need for iodine may derive from this long-ago time. Iodine is an element found in seawater, in soil and air near the ocean, and in certain rocks and sediments, but it is not abundant. Modern-day farming and deforestation have depleted much of the earth's soil of its naturally occurring iodine. Apart from eating fish, seaweed, and spending lots of time in or near the ocean, it is difficult for most people the world over to get enough iodine.

In the 1920s, the U.S. government came up with iodized salt as an answer to the high incidence of goiter (enlarged thyroid) being found in the land-locked Midwestern states. Today, however, we are advised to avoid salt, and the presence of a certain trio of elements in our lives has increased our need for iodine more than ever.

Iodine's dangerous relatives

Enter the *halogens*. Bromine, fluorine and chlorine are three elements in the periodic table that are



similar to iodine in their atomic structure, reactivity and electromagnetic charge. When ingested, these elements (called *halides* in their compound forms) become *thyroid blockers*, mimicking iodine as they actually displace it and

impede its use. Bromine, fluorine and chlorine are being increasingly incorporated into modern life: Bromine and fluorine are found in prescription drugs, fire-retardant fabrics and in food-container coatings and linings. Bromine is not only sprayed on crops as a pesticide, but now replaces iodine as a flour conditioner in bread and baked goods. Fluorides are ubiquitous, used in toothpaste and added to public water supplies, allegedly to prevent tooth decay. They are also found in Teflon linings (think of pots and pans), soft drinks (phosphate syrup), and play a big role in major industries (metals refining, defense contracting, fertilizers). Chlorine is used as a bleaching agent in household detergents and as a disinfectant in hot tubs and swimming pools. Iodine, however, can be used even more successfully in swimming pools, as demonstrated by the 1963 Stanford University experiment, in which swimmers by far preferred iodine over chlorine in the water.

Hypothyroidism: a growing problem

Exposed as we are to the other halides, our need for proper iodine uptake has become critical. Thyroid hormones are the building blocks for the entire hormone system, and the thyroid gland (located in the throat) regulates all of the body's metabolic activity. It cannot produce its hormones – T1, T2, T3 and T4 – without iodine. (The numbers refer to iodine atoms contained in each hormone.) *Hypothyroidism* (low thyroid activity) has become prevalent in many countries, with a multitude of



symptoms ranging from fatigue and depression to hair loss and infertility. Iodine levels in Americans today are 50% lower than they were 40 years ago, and more than 70% of the world's population is affected by iodine-related disorders.

Our reproductive glands depend heavily on iodine. Breasts not only need it to develop and lactate, they have an advanced mechanism for storing iodine, and will even compete for it against the thyroid. Without enough iodine, breasts may become fibrocystic (developing lumps) and/or cancerous. Not only does our glandular system require and store iodine, it is also necessary for tissues of the stomach, the eye, the salivary glands, intestines, skin, blood cells and the brain. (T4 is crucial to brain development.) Children who grow up in low-iodine regions have lower IQs than those who do not. The W.H.O. recognizes lack of iodine to be the single biggest cause of preventable mental retardation.

Iodine's anti-disease functions



Iodine is known for its anti-bacterial properties, which is why hospitals use it as a disinfectant. Yet it has anti-viral and anti-parasitic properties too, and by inducing *apoptosis* (regulated cell

death) in tissues of the thyroid, breast, ovaries and prostate, it plays an important anti-cancer role in the body. (Cancer cells do not die as normal cells do; they continue to replicate and divide.) The rising rate of breast and prostate cancer is escalating right alongside rising iodine deficiency.

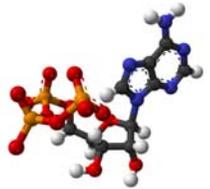
The reality is that the RDA (recommended daily allowance) for iodine does not meet the needs of most Americans today. Elevated levels of the other halogens in our bodies serve to inhibit the work of iodine: bromine actually binds to the body's iodine

receptors, toxifying the thyroid by replacing its iodine stores. Today we need more iodine than ever, not only for proper thyroid function, but also for its crucial biochemical role in other organs – which includes promoting *apoptosis* and overall cell regulation.

Lack of iodine can lead to serious disease. Goiter, characterized by a visible lump in the throat, is an inflamed thyroid "looking for" iodine. *Graves' disease* and *Hashimoto's disease* are auto-immune conditions stemming from iodine deficiency. Cancers of the breast and reproductive glands can be held in check by iodine, as can *skeletal fluorosis*, a progressive and often crippling condition that may be the real cause of arthritis and osteoporosis, and is the long-term result of fluoride lodging in the body's joints and bones.

Iodine and ATP: our cellular fuel

One of the jobs of thyroid hormone is to stimulate our mitochondria (tiny engine-like organs in our cells) to produce *adenosine triphosphate* or ATP – the energy molecule that fuels our trillions of cells. ATP is needed on a constant basis, and an inability to make enough of it results in ongoing fatigue. Iodine, an essential ingredient of thyroid hormone, helps to produce ATP. As iodine's halogen cousins displace and block it, we may become prone to a host of chronic and/or auto-immune dysfunctions, including low energy, brain fog, muscle and joint pain. *ATP is the food molecule for our trillions of cells.* When they can't get enough of it, our overall energy drops ... and our reflex is to boost ourselves with caffeine, candy or food.



It's no wonder then that we find Starbucks, junk food and fast food on every corner, and energy drinks and protein bars are constantly marketed to us. It's no wonder we are becoming increasingly obese as we