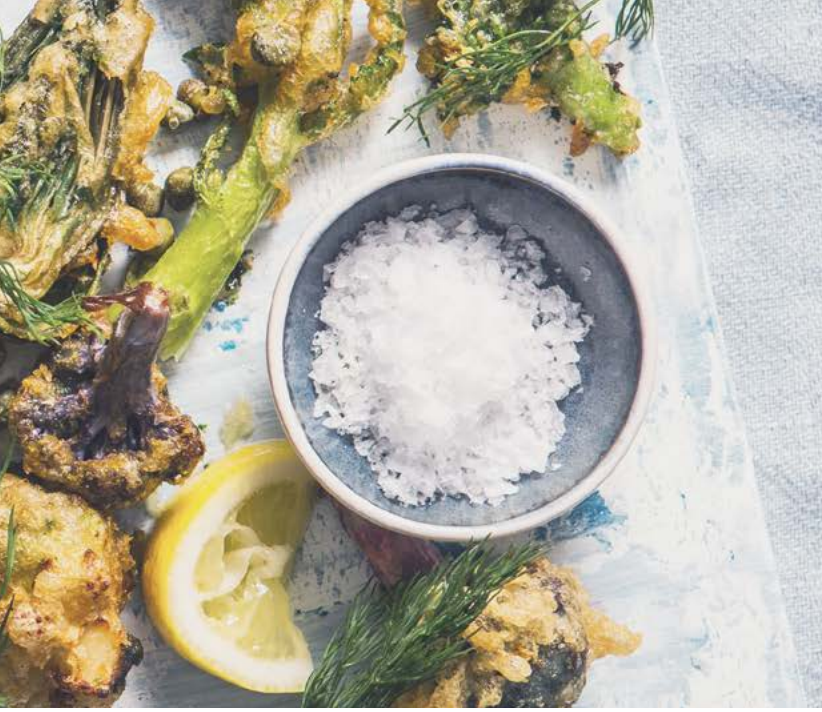

ALIVE!

SALT IN CIRCULATION

FROM DEAD SEAS to living ones, embedded in white veins in the depths of the earth to its surface, salt is one of the world's most precious commodities. At one time salt was traded ounce for ounce with gold. Salt coins were used as money. Salt was even used as part of a soldier's salary. Caravans traversed salt routes that extended from Morocco, through the Sahara Desert, to Timbuktu. Trade ships exchanged salt for spices and valuable products of the time. Salt was regarded as having the ability to repel evil and sustain life.

There are some foods that are edible and even delicious without salt, such as vine ripe tomatoes and watermelon. You may put salt on these foods, but it's not really a necessity right? Then there are foods that, at least to my palate, are inedible and tasteless without salt, such as potatoes, beans, tofu, and bread. If we think about it just for a second, we come to realize that while salt is no longer as precious as gold, it is still a valuable commodity in our kitchens.

Unfortunately, when ingredients become easily obtainable and inexpensive, humanity's imbalanced tendency is to overdo it. Salt's scientific name is sodium chloride and the average sodium intake in the United States is 5,000 mg/day with some areas of the country reportedly taking in 15,000-20,000 mg/day. In comparison, what is considered necessary, or the minimal requirement for sodium is thought to be about 500 mg/day. In other words, some Americans are ingesting 40 times more than what they absolutely need. That minimal requirement is much lower than what is considered optimal intake or even a reduced sodium diet. The Daily Value for sodium is 2,400 mg/day (1 tsp of salt) or less, while a low sodium/restricted diet is 1,500-2,000 mg/day. These are figures that health care providers use to aid in determining what amount might be best for you.

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Patients are often told by their health care providers to reduce salt in their diet for various reasons. The two most common are hypertension and chronic kidney disease. Increased sodium intake is associated with elevated blood pressure as well as increased risk for cardiovascular disease and events such as heart attacks, strokes, and kidney problems. While sodium reduction is the nominal advice given to hypertensives, only about 50 percent of people with hypertension are salt sensitive. In these people, increased salt intake definitely affects blood pressure and cardiovascular disease events. The other half may not see drastic reductions in their blood pressure as a result of salt restriction, but as we will see, the benefit may be discernable in other ways. You don't have to

be salt sensitive or have elevated blood pressure to reap the benefits of a moderate intake of sodium.

Excess sodium in the diet has been found to lower the risk of cardiovascular disease, independent of its affect upon blood pressure. In other words, whether reducing sodium reduces your blood pressure or not, increased sodium increases the risk of heart attack, stroke, and heart disease, which is a disease of the blood vessels. Increased sodium intake has a direct adverse effect on the cells that make up the inner lining of our blood vessels. These are called endothelial cells. Sodium can promote stiffness in these cells. The cells stiffen in an effort of nature to protect the endothelial cells. As what once was a flexible pipe stiffens, the pressure needed to pump the fluid through the pipe increases. Excess sodium in the bloodstream increases oxidative stress, meaning that damage is being done at a cellular level resulting in impaired performance of those cells. These damaging effects can occur independently of blood pressure.

A thin protective lining covers endothelial cells. This protective layer is very important to the integrity of the lining of the blood vessels. Increased dietary sodium damages this protective layer, which in turn initiates the process of atherosclerosis or hardening of the arteries. The results of a meta-analysis and systematic review reinforced that high salt intake is associated with significantly increased risk of stroke and total cardiovascular disease. The research leads us to face the fact that if the average American would reduce their salt intake, potentially thousands of lives would be saved.

Be honest, how do you feel when some cherished food item or ingredient is being wrung from your grasp? Yeah, I get it. Trust me, that is not my intent. I would like to share a larger perspective to the salt saga. The level of saltiness of foods is something that the human palate adapts to. It takes the taste buds approximately a month and a half to two months to adapt. Our taste buds habituate to what is familiar. This means that food will not always taste bland. If you are one of those 5,000 mg of sodium a day kind of people, cutting your intake in half may initially taste blah. But maybe not. You see, the average American obtains 75% of their salt from processed foods and restaurants (including fast food). Salt used in home cooking is rarely a part of the problem. Sodium is just one essential mineral. Research has found that when sodium is balanced with other nutrients, especially potassium, magnesium, and calcium, not only is blood pressure reduced and controlled, but there is a decrease in cardiovascular events. Picture a weight balance. On one side is the excessive amount of sodium consumed. That side of the scale is definitely tipped. On the other side we have our inadequate intake of the other minerals mentioned. We have an unbalanced scale and sodium is left to do damage rather than just simply benefit us. However, when we increase our intake of those minerals the balance evens out and even though we may not have drastically reduced sodium, it still has less of a negative impact on our physiology.

The average amount of potassium consumed in America is about 1/4th of the recommended intake. Clinical and epidemiological trials have found consistently that when dietary intake of potassium increases, blood pressure decreases, and incidence of heart attacks and strokes are reduced. Abnormal heart rhythms, ventricular fibrillation, and even diabetes are associated with lower potassium levels. “People with the highest ratio of sodium to potassium in their diets had double the risk of dying of a heart attack people with the lowest ratio, and they had a 50 percent higher risk of death from any cause.”[1]

Magnesium is another mineral that Americans typically don’t eat enough of. The combination of reducing sodium while increasing potassium, magnesium, zinc, and calcium has additive effects as far as improving circulation and heart health. Magnesium is a natural vasodilator and reduces the oxidative stress that occurs in a high sodium diet.

Nature packages potassium, magnesium, zinc, and calcium with low levels of sodium in many plant foods. Dark green leafy vegetables, nuts, avocados, and beans are samples. Replacing processed foods in the diet with unprocessed, whole, plant-based foods will literally transform your health in many ways: decreased kidney stone formation, stronger bones, and improved health of the blood vessels which increases circulation.

1. “Health Risks and Disease Related to Salt and Sodium,” Harvard T.H. Chan School of Public Health, https://www.hsph.harvard.edu/nutritionsource/salt-and-sodium/sodium-health-risks-and-disease.

RISË RAFFERTY, RDN

Risë is a Registered Dietitian Nutritionist. Her understanding of how significantly diet and lifestyle impact one’s health and happiness fuels her passion to help, educate, and inspire others.