

“ANYTHING WORTH DOING TAKES MORE THAN A LIFETIME”¹
THE RESOLUTION OF THE SODIUM AND HEALTH DEBATE

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Over 120 years ago a Swedish scientist observed that the kidney produced a powerful factor that caused blood vessels to contract. Some 40 years later a professor at Johns Hopkins first describe what he called an appetite for salt. Thirty years later investigators from Columbia University described the relationship between our salt intake (appetite) and its relationship to that vascular factor from the kidney, the secretion of renin.

In that historical sequence of research observations lies the basis for today’s scientific session at the 2018 World Salt Symposium. Each of the speakers will address evidence from research studies of the past two decades that have been at the forefront of identifying the relationship of salt intake to health outcomes and the cardiovascular and all-cause mortality risk associated with a reduced salt intake.

At the core of the Hundred Years War over salt and its health benefits is a fundamental principle that the advocates of sodium reduction have ignored, denied and/or forgotten...sodium is an essential nutrient! Without sodium, life is not possible.

I will open the discussion outlining the evidence from government sponsored surveys using measures of 24-hour urinary excretion (24hr U_{NaV}) that sodium is consumed across a safe range that is the same wherever you look in the world. Regardless of the culture, the food supply or culinary traditions each society consumes the same average level of sodium, approximately 3.6 gm/d (3600 mg/d). The lower limit of normal human consumption from these worldwide surveys is 2.7 – 2.8 gm/d. The upper level of sodium intake is at least 5 gm/d and maybe in healthy subjects much greater.

This data on worldwide sodium intake is based upon collections from over 500,000 subjects and 60+ countries and is the simple documentation that human’s sodium or salt intake is determined by physiology and **not** by the food supply. A normal range is the reflection of the control of sodium appetite by complex networks in our brain that respond to signals from our critical organs to assure an adequate intake needed to sustain the optimal perfusion of blood through our bodies. The Johns Hopkins scientist’s original description of the brain’s control of sodium appetite was the genesis of the neuroscience research today that is characterizing in detail how those signals in the brain respond to low intake and the outbound message when intake is too low to correct sodium consumption to a safe level.

My colleagues will provide the data from an array of studies that have identified the adverse health consequences of an inadequate of sodium. Their evidence drives the conclusion that the

past public policy of lowering sodium intake increases the risk of cardiovascular and all-cause mortality. The evidence also demonstrates the futility of a national policy, like that of the UK, to reduce the food supply's sodium content as a means to lower the population's intake. The brain will always win out over politics and misdirected policy.

Finally, I will share our recent publication of an intent in the US to carry out a randomized controlled trial of reduced sodium intake with measures of health outcomes as the endpoints. That is the study that should have been completed long before our respective governments set upon a policy of low sodium for all.

1. **Bertolt Brecht**, German poet, playwright, and theatrical reformer. 1898-

1956