

# Letters to the Editor

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## Lowering Sodium Intake Can Help Reduce Hypertension

**Original Article:** Evaluation and Management of the Patient with Difficult-to-Control or Resistant Hypertension

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TO THE EDITOR: The authors of this article state that the most common reason for failure to control blood pressure in persons with resistant hypertension is "suboptimal therapy." They postulate that this occurs because physicians prescribe inadequate doses of antihypertensives or do not add additional agents. The authors correctly point out that a diuretic should be included as one of these drugs. This class of medications is effective because of its sodium wasting and fluid diuresis effect.

Unfortunately, they do not emphasize the critical role sodium intake plays in the pathogenesis, as well as the difficulty in control of hypertension, only mentioning sodium in three sentences. The evidence supporting a causal connection between dietary sodium intake and the development of hypertension is conclusive.<sup>1</sup> The American Public Health Association, the American Medical Association, and numerous others have called for a minimum 50 percent reduction of sodium in processed and restaurant foods.<sup>2-4</sup>

Most older patients with hypertension are "sodium-sensitive." Americans consume roughly 4,000 mg of sodium per day.<sup>2</sup> This amount is more than two times the recommended upper limit of 1,500 mg daily for the 70 percent of adults who are either middle-aged and older, black, or have hypertension.<sup>5</sup> Even modest reductions of sodium intake (a reduction by 1.5 g per day) can significantly reduce the need for antihypertensive medications.

Most of the sodium Americans consume is added by others; over three fourths come

from processed and restaurant foods. The Center for Science in the Public Interest recently reported that of 102 adult meals consumed at large U.S. chain restaurants, 85 had more than 1,500 mg of sodium, 49 had more than 3,000 mg, 17 had more than 4,500 mg, and four chain restaurants had at least one meal that contained more than 6,000 mg.<sup>6</sup> The saltiest meal contained 6,916 mg of sodium, the equivalent of more than four days worth of sodium.

We believe that physicians and patients need to become more educated about the salt content of processed food and restaurant meals and to modify eating habits. Physicians should encourage patients to choose low-sodium meal options in restaurants and empower them to ask for meals to be prepared without added salt. Restraining from using the saltshaker or using salt substitutes is insufficient.

Cutting sodium intake in half in the U.S. population could potentially save at least 150,000 premature deaths and lead to an estimated reduction in direct medical costs of \$18 billion annually in the United States.<sup>2</sup> Physicians can play a large role in helping their patients meet that goal, and, in doing so, will be facing patients with far less difficult-to-control or resistant hypertension.

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**IN REPLY:** We agree that sodium plays a key role in the pathogenesis of hypertension and that reducing sodium consumption is an important component of the management of high blood pressure. Indeed, reduction of sodium intake is one of five major lifestyle recommendations we discussed in our article (and featured in the Strength of Recommendation Taxonomy [SORT] table), all of which are important. The first of three prominently featured key clinical recommendations for practice (and the only one which we assigned an A evidence rating) was that lifestyle modifications (including sodium restriction) should be recommended for reducing blood pressure, even in patients receiving multiple medications. The advice to implement a low-sodium Dietary Approaches to Stop Hypertension (DASH) diet was also listed as the first step in the table outlining the approach to management of the patient with difficult-to-control or drug-resistant hypertension.

Unfortunately, advice from physicians to reduce sodium is often not very effective.<sup>1</sup> To achieve the magnitude of sodium reductions seen in trials is largely impractical in primary care.<sup>1,2</sup> Additionally, the blood pressure response to sodium restriction in an individual patient is usually small and dependent on whether a patient is truly sodium-sensitive, which is difficult to predict clinically.<sup>3</sup> In the clinical care of patients who have hypertension that is difficult to

control, pharmacologic therapy intensification is often what is required.

Drs. Daly and Havas aptly point out that it is not on the individual clinical care level but on the population level that reduced sodium intake will have its most profound impact. Even small reductions in the nation's overall sodium intake will have large effects on cardiovascular disease morbidity and mortality.<sup>4</sup> As Dr. Havas argued in another paper, most of the sodium consumed is not what a person adds from saltshakers, but sodium added during food processing and in restaurants; thus, a population-level solution (such as legislation and regulation) is needed.<sup>4,5</sup>

Lastly, Drs. Daly and Havas contend that if physicians help patients meet the goal of reducing their sodium intake in half, they will be facing patients with far less difficult-to-control or resistant hypertension. It is worth adding that unless we are also able to slow the obesity epidemic, getting control of blood pressure on a population level will remain a daunting task. We thank Drs. Daly and Havas for their thoughtful letter.

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