

Dear Health Care Professional,

An increase in dietary potassium, coupled with a decrease in sodium intake, is an important dietary choice to help reduce the risk of high blood pressure according to a scientific review article published as a supplement to the July issue of the *Journal of Clinical Hypertension* (JCH). The paper authored by Mark C. Houston, MD, Director of the Hypertension Institute at Vanderbilt University School of Medicine concludes that if Americans were able to increase potassium intake alone, the number of adults with known hypertension might decrease, as might mortality numbers related to cardiovascular diseases for which hypertension is a major modifiable risk factor.



The JCH paper discusses the role of diet in managing high blood pressure, and cites data from major studies such as the landmark Dietary Approaches to Stop Hypertension (DASH) trial and the international INTERSALT study. In addition, this review article provides an overview of potassium recommendations by The Institute of Medicine (IOM), the American Heart Association (AHA), and the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-7).

Some of the "take home" messages from the JCH article that you can consider in your practice include:

- Diet plays an important role in reducing the risk of high blood pressure.
- Most Americans consume double the maximum daily amount of sodium and about ½ the daily amount of potassium recommended by current guidelines.
- An increase in potassium with a decrease in sodium is an important dietary choice to help reduce the risk of high blood pressure.
- If Americans were able to increase potassium intake alone, the number of adults with known hypertension might decrease.
- A dietary intake that is high in sodium and low in potassium is a major contributor to the risk of hypertension, a major public health issue in the United States.
- According to observational studies even small increases in potassium intake (750-1000 mg per day) may result in meaningful decreases in the risk of high blood pressure.
- Potassium can influence blood pressure by increasing sodium excretion from the body.

Please read on for an overview of the key points from this scientific review article.

Enjoy!

Sincerely,



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The JCH review article reminds us that high blood pressure is a major public health concern affecting over 72 million Americans—nearly 1 in 3 adults—yet only 35% are able to control it. High blood pressure is associated with an increased risk of death and illness from stroke, coronary heart disease, heart failure and end-stage renal disease.

Diet and Blood Pressure Management

According to several epidemiologic and clinical studies, diet plays an important role in determining blood pressure. Diet therapies such as weight loss, reduced sodium intake, increased potassium intake and a diet rich in fruits and vegetables are known to lower blood pressure. Notably, in the landmark Dietary Approaches to Stop Hypertension (DASH) trial, which provided all meals to participants, blood pressure was significantly reduced in those with normal and high blood pressure. The DASH diet emphasizes fruits, vegetables, and low-fat dairy, and is rich in potassium, magnesium, and calcium. More on the DASH trial is available [here](#).

Potassium and Blood Pressure

The INTERSALT study, a cross-sectional study of over ten thousand adults from 52 diverse sites in 32 countries around the world, found that potassium excretion was independently associated with a reduction in blood pressure, even after adjusting for sodium excretion, body mass index and alcohol intake. This epidemiological, cross sectional study showed that potassium intake as measured by 24-hour urinary potassium excretion is an important determinant of population blood pressure, independent of sodium. An increase of 1173-1564 mg potassium per day was associated with approximately a 2-3 mmHg reduction in systolic blood pressure.

While many intervention studies have focused on high levels of potassium intake, according to observational studies, even small improvements in potassium intake (750-1000 mg per day) may result in meaningful decreases in the risk of high blood pressure. A decrease in blood pressure of 2-3 mmHg, may translate into an important risk reduction of stroke and other cardiovascular disease events.

In accord with epidemiological, observational, and clinical data supporting the blood pressure lowering benefits of dietary potassium, a recent scientific statement from a leading health professional organization highlights the importance of increased potassium intake and the DASH diet as effective strategies for blood pressure lowering. According to several meta-analysis studies, a significant inverse relationship between potassium intake and blood pressure was found in people with and without high blood pressure.

Potential Mechanism

Potassium can influence blood pressure by increasing sodium excretion from the body. According to Houston, increasing dietary potassium and serum potassium within the physiologic range stimulates the blood vessels to dilate by hyperpolarizing the endothelial cells through stimulation of the sodium pump and opening potassium channels. The paper cites other proposed mechanisms including natriuresis, increased sodium/potassium ATPase activity, and more.

Leading Health Professional Organization Recommendations

Leading health professional organizations such as JNC-7, the Institute of Medicine and the American Heart Association, recommend a daily potassium intake of 4700 mg/d, which is consistent with the level provided in the DASH diet. This level is the average total potassium intake in clinical trials and the highest dose in the one available dose-response trial. There is no risk for the generally healthy population with normal kidney function to have a potassium intake at or exceeding 4700 mg/d since excess amounts are readily excreted.

Conclusion

Diets resembling the DASH diet—rich in fruits and vegetables—may have a significant impact on hypertension and coronary heart disease. As indicated by the authors, an increase in potassium coupled with a decrease in sodium is an important dietary choice to help reduce the risk of high blood pressure. Decreasing the risk of high blood pressure is one factor that can help reduce the risk for stroke, coronary heart disease, heart failure and end-stage renal disease, and remains an important public health challenge that may benefit from a healthful diet and lifestyle.

New Promise® SuperShots® for blood pressure*

More than 30 clinical studies and several meta-analyses of these studies have shown that increasing dietary potassium levels to a target of 4700 mg a day as part of a diet low in sodium can reduce the risk of high blood pressure across a range of ages and ethnic backgrounds.

On average, Americans consume twice the recommended daily amount of sodium and only half the recommended daily amount of potassium. New Promise® SuperShots® for blood pressure are unique functional shots that deliver a good source of potassium in every bottle. Promise® SuperShots® are designed to supplement a healthy eating plan rich in fruits and vegetables to help adults achieve a diet high in potassium.



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- Low in sodium (no added sodium)
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* Diets containing foods that are good sources of potassium and low in sodium may reduce the risk of high blood pressure and stroke.

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